

ISTANBUL TECHNICAL UNIVERSITY ★ GRADUATE SCHOOL

**INNOVATION MANAGEMENT IN DESIGN-INTENSIVE FAMILY FIRMS
FROM OFFICE FURNITURE MANUFACTURING INDUSTRY: A DYNAMIC
CAPABILITY PERSPECTIVE FROM AN EMERGING MARKET**



Ph.D. THESIS

Selin GÜLDEN

Department of Industrial Design

Industrial Design Programme

DECEMBER 2022

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İSTANBUL TEKNİK ÜNİVERSİTESİ ★ LİSANSÜSTÜ EĞİTİM ENSTİTÜSÜ

**OFİS MOBİLYASI İMALAT SANAYİSİNDEKİ TASARIM YOĞUN AİLE
FİRMALARINDA İNOVASYON YÖNETİMİ: GELİŞMEKTE OLAN BİR
PAZARDAN DİNAMİK YETENEK PERSPEKTİFİ**

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To my family,

FOREWORD

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December 2022

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ABBREVIATIONS

BMI	: Business Model Innovation
B2B	: Business-to-Business
B2C	: Business-to-Customer
CAQDAS	: Computer Assisted Qualitative Data Analysis Software
CEO	: Chief Executive Officer
DC	: Dynamic Capability
DCA	: Dynamic Capability Approach
DCF	: Dynamic Capability Framework
DIC	: Dynamic Innovation Capability
DMO	: The State Supply Office (Turkey)
EIS	: European Innovation Scoreboard
ERP	: Enterprise Resource Planning
EU	: European Union
FB	: Family Business
FEMB	: European Federation of Office Furniture
FF	: Family Firm
GDP	: Gross Domestic Product
GII	: Global Innovation Index
IFERA	: International Family Enterprise Research Academy
IT	: Information Technology
ITT	: Innovation through Tradition
LMT	: Low- and Medium-tech
MNE	: Multinational Enterprise
MIT	: Ministry of Industry and Technology
MOSFED	: Turkish Furniture Associations Federation
NPD	: New Product Development
OECD	: Organization for Economic Co-operation and Development
OMSIAD	: Turkish Office Furniture Industry and Businessmen Association
QDAS	: Qualitative Data Analysis Software
RBV	: Resource-based View
R&D	: Research and Development
PR	: Public Relations
S&T	: Science and Technology
SEW	: Socioemotional Wealth
SME	: Small and Medium-sized Enterprise
SAP	: Systems Applications and Products in Data Processing
STI	: Science, Technology, and Industry
TMT	: Top Management Team
TPTO	: Turkish Patent and Trademark Office
TEYDEP	: Technology and Innovation Support Programs
TUBITAK	: The Scientific and Technological Research Council of Turkey
UN	: United Nations
US	: United States
WIPO	: World Intellectual Property Organization



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INNOVATION MANAGEMENT IN DESIGN-INTENSIVE FAMILY FIRMS FROM OFFICE FURNITURE MANUFACTURING INDUSTRY: A DYNAMIC CAPABILITY PERSPECTIVE FROM AN EMERGING MARKET

SUMMARY

This study aims to explore four aspects: the strategies of design-intensive family firms to manage innovation, the effect of *familiness* – unique resources and capabilities of a firm resulting from family involvement – on this process, how these strategies change in the business environment of an emerging market through a dynamic capability perspective, and, finally, how design acts as an innovation driver and contributes to the development of these dynamic innovation capabilities. Notably, it contributes to the growing research on innovation in family firms by studying the effect familiness in a business organization on managing innovation, a design-intensive organization's efforts to discover and manage new product and/or service opportunities and to make improvements to existing processes and systems through a *dynamic innovation capability* (DIC) perspective. DIC refers to the analysis of firm's processes of using resources to adapt to market change, capacity to sense/shape and seize opportunities, and to orchestrate resource manipulation by reconfiguring/transforming.

Research on innovation in family firms shows the unique approaches considering their innovation activities and have controversial findings that are needed to be theoretically and empirically explored. This study therefore proposes an extended and detailed further research to the following: the attributes and structure of the decision-making and evaluation process of family managers, strategic behaviors of the family firms such as internationalization, new product development, mergers and acquisitions, and also innovation decision behaviors and heterogeneity among family firms with qualitative methods. In addition, , there is little research in emerging markets on innovation in family firms, and the applicability of those contributions from a developed to an emerging market with unstable and heterogeneous behavior is widely discussed in the literature, thus the studies in emerging markets have considerable significance. In addition, there is a significant gap in the literature to understand how family firms' capabilities are shaped by constantly changing environment, and how they survive in this competitive market, thus dynamic capability approach is a suitable theoretical perspective that significantly contributes to their adaptation to dynamic business environments. Moreover, design-intensive firms, which rely on creativity and innovative contributions for managing design, are important for gaining competitive advantage in dynamic environments, and therefore it is crucial to study in detail their founding/controlling family members' role and involvement in innovation with the interest in preserving family name and identity across generations. Nevertheless, those unique features and complex behavior of design-intensive family firms can only be apprehended by a qualitative approach, which is generally disused in the literature.

The objectives of this study comprise contribution to theory and practice in the fields of family business, innovation, and design, and therefore are aligned with exploratory approach. This qualitative research has two main phases: (1) the first phase, a comprehensive review of literature, four expert interviews, and a pilot study, and (2) the second phase, a multiple-case study.

The first phase aims to uncover the themes and theories, embody a base, focus the research purpose and strategy, generate ideas and framework, and determine the practicability of research design. In this phase, first, the literature review builds a theory-based conceptual framework, and then expert interviews bring insights on family business and innovation in the selected context, and finally, a pilot case is investigated in detail for further refinement of the research design. Since the nature of this study requires a multi- and cross-disciplinary approach to review the literature, the basis of this research is established by the overview on (1) family business research and familiness, (2) research perspectives on family business innovation, and (3) dynamic capability perspective. The four experts in this study are sampled through the criteria of either (1) being a member of firms, (2) having experience working in/with firms, (3) having experience, or (4) representing other areas (e.g., supplier) in the selected industry. The expert interviews facilitate understanding of the significance of the research purpose, uncovering of the contextual themes, and the discovery of the unseen and less mentioned themes in the case interviews. The pilot case study with one of the sampled firms leads this study towards a deeper exploration of family involvement (familiness) through a more systematic theoretical perspective (dynamic capability view).

The second phase aims to explore the under-researched phenomena of design-intensive family firms from office furniture manufacturing industry in an emerging market, Turkey and their dynamic innovation capabilities through a multiple-case study. The primary data is retrieved from in-depth semi-structured interviews with three sampled firms. The selection criteria were (1) being owned and governed by a family for at least two generations, (2) operating in an emerging market, (3) operating in a specific-industry context for design and innovation, (4) having design/innovation activities and strong financial performance at both national and international level, and (5) availability for open access. Eight interviews were conducted with three firms – four at Case A, two at Case B, and two at Case C, using a guide in line with the research questions of this study, and the interviewees include both family and non-family members of these firms. The interview protocol has four parts including questions (1) aimed at tracking the historical evolution of the company, (2) focusing on the extent of family involvement in the company's decision-making processes, and the contribution of familiness, (3) aimed at identifying the relationship between how dynamic capabilities are created/changed and how innovations are managed, and (4) focusing on the role of design in the creation of dynamic innovation capabilities. The secondary data was collected through document analysis of the sampled cases including firm websites, archival files, projects reports, corporate presentations, and videos.

The overall data analysis technique adopted includes a within-case analysis for the first phase, to explore the unique and emergent patterns of each case, and cross-case analysis for the second phase, to compare the common themes. The analysis of DIC and familiness was performed through the coding elements based on prior literature and obtained qualitative data of each case and was facilitated by MAXQDA 2020, a qualitative data analysis software program. In within-case analysis, case narratives are

prepared by breaking the text into several parts, according to the initial conceptual framework (three dimensions of familiness and three forms of dynamic innovation capability). These sections include profiles of cases, the narratives of each case, focusing on the company background, analysis of familiness dimensions (involvement, essence, organizational identity), analysis of dynamic innovation capabilities (sensing, seizing, reconfiguring) gained through changes in the business environment in the emerging context, and discussion on the influence and role of familiness in each form of DIC - namely sensing, seizing, and reconfiguring. In cross-case analysis, the discussion is displayed through a systematic approach, which acknowledges the patterns between cases (Case A to C) and categories (familiness and dynamic innovation capabilities), and discusses these in relation to the research questions and prior knowledge in the literature.

This study explores the strategies of design-intensive FFs to manage innovation. These strategies and their decision-making processes are analyzed through the development of DICs and how they are affected by familiness. Firstly, the findings from the case study FFs reveal thirteen recurring behaviors. These recurring behaviors are categorized into three types of strategy. The first type are three strategies for *sensing* opportunities: (1) visiting fairs for design feedback and idea exchange, (2) monitoring trends and international markets, and analyzing changes in industry, (3) managing ideas with support of internal and external stakeholders. In the second type, there are six strategies for *seizing* opportunities: (1) strengthening production know-how through experience and technological investment, (2) establishing design and R&D center for external support, (3) adopting organic structure for product development, (4) adapting automated system for operation, (5) building corporate brand awareness at international level, (6) creating social responsibility projects that fit with firm identity. In the final type, there are four strategies for *reconfiguring* assets and structures: (1) adding new service for e-commerce sales, (2) adapting know-how for fully customized product mechanisms, (3) planning for institutional structure, (4) changing business model for innovation. In the second section of the study, the role of design on FFs' DICs is explored and its contribution to this development process. The findings from the case study FFs reveal three roles of design that contribute to these capabilities. These are (1) idea generation through external resources; (2) value addition through high-quality products; (3) vision accumulation through the founder. These findings highlight the interaction between design and innovation practices of FFs and provide insights on how a manufacturing company could achieve innovation. Firstly, for *sensing* opportunities, the collaborative approach to idea generation through external sources is used. Secondly, for *seizing* opportunities, the value addition is achieved with high-quality products often through investment in production technologies and process innovations. Finally, for *reconfiguring* assets and structures, the vision for innovation is adopted through the founder.

Consequently, the strategies revealed as recurring behaviors provide insights for manufacturers, family managers, and design professionals; and propose a guideline for newly established manufacturing firms in a design-intensive industry, or for first-generation FFs, from an emerging market. The following are critical for innovation: (1) for *sensing* opportunities, being open and critical to the external environment and new ideas, (2) for *seizing* opportunities, having production know-how, controlled operation, organic product development, corporate identity, and social awareness, and (3) for *reconfiguring* assets, and structures, being adaptive to technology, willing to change, and continuous learners of new ideas.



OFİS MOBİLYASI İMALAT SANAYİSİNDEKİ TASARIM YOĞUN AİLE FİRMALARINDA YENİLİK YÖNETİMİ: GELİŞMEKTE OLAN BİR PAZARDAN DİNAMİK YETENEK PERSPEKTİFİ

ÖZET

Bu çalışma dört hususu araştırmayı amaçlamaktadır: (1) tasarım yoğun aile firmalarının inovasyonu yönetme stratejileri, (2) ailesellik - bir firmanın aile katılımından kaynaklanan benzersiz kaynakları ve yetenekleri - kavramının bu süreç üzerindeki etkisi, (3) dinamik yetenek perspektifi aracılığıyla bu stratejilerin geliştirmekte olan bir pazarın iş ortamında nasıl değiştiği ve son olarak (4) tasarımın bir inovasyon itici gücü olarak nasıl hareket ettiği ve bu dinamik inovasyon yeteneklerinin geliştirilmesine nasıl katkıda bulunduğu. Bu çalışma, özellikle, bir iş organizasyonundaki aileselliğin inovasyonu yönetme üzerindeki etkisini, tasarım yoğun bir organizasyonun yeni ürün ve/veya hizmet fırsatlarını keşfetme ve yönetme çabalarını ve dinamik inovasyon yeteneği perspektifiyle mevcut süreç ve sistemlerde iyileştirmeler yapma çabalarını inceleyerek aile şirketlerinde inovasyon üzerine artan araştırmalara katkıda bulunmaktadır. Dinamik inovasyon yeteneği, firmanın pazar değişimine uyum sağlamak için kaynakları kullanma süreçlerinin, fırsatları algılama/şekillendirme ve yakalama kapasitesinin ve yeniden yapılandırma/dönüştürme yoluyla kaynak manipülasyonunu düzenleme kapasitesinin analizini ifade etmektedir.

Aile şirketlerinde inovasyon üzerine yapılan araştırmalar, inovasyon faaliyetlerini dikkate alan özgün yaklaşımları ortaya koymakta ve teorik ve ampirik olarak araştırılması gereken tartışmalı bulgulara sahiptir. Bu nedenle bu çalışma, aile yöneticilerinin karar verme ve değerlendirme sürecinin nitelikleri ve yapısı, aile firmalarının uluslararasılaşma, yeni ürün geliştirme, birleşme ve satın alma gibi stratejik davranışları ve ayrıca aile firmaları arasındaki inovasyon karar davranışları ve heterojenliği gibi konularda nitel yöntemlerle genişletilmiş ve ayrıntılı bir araştırma önermektedir. Buna ek olarak, geliştirmekte olan pazarlarda aile şirketlerinde inovasyon üzerine çok az araştırma bulunmaktadır ve bu katkıların gelişmiş bir pazardan istikrarsız ve heterojen davranışlara sahip geliştirmekte olan bir pazara uygulanabilirliği literatürde yaygın olarak tartışılmaktadır, bu nedenle geliştirmekte olan pazarlardaki çalışmalar büyük önem taşımaktadır. Bunun yanında, aile şirketlerinin yeteneklerinin sürekli değişen çevre tarafından nasıl şekillendirildiğini ve bu rekabetçi pazarda nasıl hayatta kaldıklarını anlamak konusunda literatürde önemli bir boşluk vardır, bu nedenle dinamik yetenek yaklaşımı, dinamik iş ortamlarına uyum sağlamalarına önemli ölçüde katkıda bulunan uygun bir teorik perspektiftir. Ayrıca, tasarımı yönetmek için yaratıcılığa ve yenilikçi katkılara dayanan tasarım yoğun firmalar, dinamik ortamlarda rekabet avantajı elde etmek için önemlidir ve bu nedenle, nesiller boyunca aile adını ve kimliğini korumak amacıyla kurucu / kontrol eden aile üyelerinin rolünü ve yeniliğe katılımını ayrıntılı olarak incelemek gerekmektedir. Bununla birlikte, tasarım yoğun aile şirketlerinin bu benzersiz özellikleri ve karmaşık davranışları ancak literatürde genellikle kullanılmayan niteliksel bir yaklaşımla anlaşılabilir.

Bu çalışmanın amaçları aile şirketleri, inovasyon ve tasarım alanlarında teori ve uygulamaya katkı sağlamaktır ve bu nedenle keşifsel yaklaşımla uyumludur. Bu nitel araştırmanın ilk aşaması kapsamlı bir literatür taraması, dört uzman görüşmesi ve bir pilot çalışması; ikinci aşaması ise, çoklu bir vaka çalışması içermektedir.

İlk aşama, temaları ve teorileri ortaya çıkarmayı, bir temel oluşturmayı, araştırma amacına ve stratejisine odaklanmayı, fikir ve çerçeve oluşturmayı ve araştırma tasarımının uygulanabilirliğini belirlemeyi amaçlamaktadır. Bu aşamada, ilk olarak literatür taraması teoriye dayalı bir kavramsal çerçeve oluşturmakta, ardından uzman görüşmeleri seçilen bağlamda aile işletmeleri ve inovasyon hakkında içgörü kazandırmakta ve son olarak araştırma tasarımının daha da iyileştirilmesi için bir pilot vaka ayrıntılı olarak incelenmiştir. Bu çalışmanın doğası, literatürün incelenmesi için çoklu ve disiplinler arası bir yaklaşım gerektirdiğinden, bu araştırmanın temeli (1) aile şirketi araştırması ve ailesellik, (2) aile şirketi inovasyonu üzerine araştırma perspektifleri ve (3) dinamik kapasite perspektifi üzerine genel bakış ile oluşturulmuştur. Bu çalışmadaki dört uzman, (1) firmaların bir üyesi olma, (2) firmalarda/ firmalarla çalışma deneyimine sahip olma, (3) seçilen sektörde deneyime sahip olma veya (4) seçilen sektördeki diğer alanları (örneğin, tedarikçi) temsil etme kriterlerine göre örneklenmiştir. Uzman görüşmeleri, araştırma amacının önemini anlaşılmasını, bağlamsal temaların ortaya çıkarılmasını ve vaka görüşmelerinde görülmeyen ve daha az bahsedilen temaların keşfedilmesini kolaylaştırmıştır. Örneklenen firmalardan biriyle yapılan pilot vaka çalışması, bu çalışmayı daha sistematik bir teorik bakış açısıyla (dinamik yetenek görüşü) aile katılımının (ailesellik) daha derinlemesine araştırılmasına yönlendirmiştir.

İkinci aşama, gelişmekte olan bir pazar olan Türkiye'de ofis mobilyası imalat sektöründeki tasarım yoğun aile firmalarının az araştırılmış olgularını ve dinamik inovasyon yeteneklerini çoklu vaka çalışması yoluyla keşfetmeyi amaçlamaktadır. Birincil veriler, örneklenen üç firma ile yapılan derinlemesine yarı yapılandırılmış görüşmelerden elde edilmiştir. Seçim kriterleri (1) en az iki kuşaktır bir aile tarafından yönetiliyor olmak, (2) gelişmekte olan bir pazarda faaliyet göstermek (kolaylık ve aşinalık açısından ve yeni açıklanan CIVETS ülkelerinden biri olarak, Türkiye), (3) tasarım ve inovasyon için özel bir endüstri bağlamında faaliyet göstermek (önemi nedeniyle Türkiye'deki ofis mobilyası imalat sanayii), (4) hem ulusal hem de uluslararası düzeyde tasarım/inovasyon faaliyetlerine ve güçlü finansal performansa sahip olmak (Avrupa'da ilk 100 listesinde yer alma, tasarım/inovasyon ödülleri, vb.) ve (5) açık erişime uygun olmaktır. Vaka A'da dört, Vaka B'de iki ve Vaka C'de iki olmak üzere üç firmayla, bu çalışmanın araştırma soruları doğrultusunda bir rehber kullanılarak 45 ile 130 dakika arasında süren sekiz görüşme gerçekleştirilmiştir ve görüşülen kişiler bu firmaların hem aile hem de aile üyesi olmayan üyelerini içermektedir. Görüşme protokolü, (1) şirketin tarihsel gelişimini izlemeyi amaçlayan, (2) ailenin şirketin karar alma süreçlerine ne ölçüde dahil olduğuna ve aileselliğin katkısına odaklanan, (3) dinamik kabiliyetlerin nasıl yaratıldığı/değiştirildiği ve yeniliklerin nasıl yönetildiği arasındaki ilişkiyi tanımlamayı amaçlayan ve (4) dinamik yenilik kabiliyetlerinin yaratılmasında tasarımın rolüne odaklanan soruları içeren dört bölümden oluşmaktadır. İkincil veriler, firma web siteleri, arşiv dosyaları, proje raporları, kurumsal sunumlar ve videolar dahil olmak üzere örneklenen vakaların doküman analizi yoluyla toplanmıştır.

Benimsenen genel veri analizi tekniği, her bir vakanın kendine özgü ve ortaya çıkan örüntülerini keşfetmek için ilk aşama olarak vaka içi analizi ve ortak temaları karşılaştırmak için ikinci aşama olarak çapraz vaka analizini içermektedir. Dinamik

inovasyon yeteneği ve aileselliğin analizi, önceki literatüre ve her bir vakanın elde edilen nitel verilerine dayanan kodlama unsurları kullanılarak, bir nitel veri analizi yazılım programı olan MAXQDA 2020 ile gerçekleştirilmiştir. Vaka içi analizde, vaka anlatıları, başlangıçtaki kavramsal çerçeveye (aileselliğin üç boyutu ve dinamik inovasyon yeteneğinin üç biçimi) göre metin birkaç bölüme ayrılarak hazırlanmıştır. Bu bölümler, vakaların profillerini, her bir vakanın şirket geçmişine odaklanan anlatılarını, ailesellik boyutlarının analizini (katılım, öz, kurumsal kimlik), ortaya çıkan bağlamda iş ortamındaki değişiklikler yoluyla kazanılan dinamik inovasyon yeteneklerinin analizini (algılama, yakalama, yeniden yapılandırma) ve her bir dinamik inovasyon yeteneği biçiminde – yani algılama, yakalama ve yeniden yapılandırma – aileselliğin etkisi ve rolü üzerine tartışmayı içermektedir. Çapraz vaka analizinde tartışma, vakalar (Vaka A'dan C'ye) ve kategoriler (ailesellik ve dinamik inovasyon yetenekleri) arasındaki örüntüleri kabul eden ve bunları araştırma soruları ve literatürdeki önceki bilgilerle ilişkili olarak tartışan sistematik bir yaklaşımla sergilenmektedir.

Bu çalışma, tasarım yoğun aile firmalarının inovasyonu yönetme stratejilerini araştırmaktadır. Bu stratejiler ve karar alma süreçleri, dinamik inovasyon yeteneklerin gelişimi, ailesellikten nasıl etkilendikleri üzerinden analiz edilmektedir. İlk olarak, vaka çalışması aile firmalarından elde edilen bulgular on üç yinelenen davranışı ortaya koymaktadır. Bu yinelenen davranışlar üç tür strateji olarak kategorize edilmiştir. İlk tür, fırsatları algılamaya yönelik üç strateji içermektedir: (1) tasarım geri bildirimi ve fikir alışverişi için fuarları ziyaret etme, (2) trendleri ve uluslararası pazarları izlemek ve sektördeki değişiklikleri analiz etme, (3) iç ve dış paydaşların desteğiyle fikirleri yönetme. İkinci türde, fırsatları değerlendirmek için altı strateji vardır: (1) deneyim ve teknolojik yatırım yoluyla üretim bilgi birikimini güçlendirme, (2) dış destek için tasarım ve Ar-Ge merkezi kurma, (3) ürün geliştirme için organik bir yapı benimsemek, (4) operasyon için otomatik bir sistem uyarlama, (5) uluslararası düzeyde kurumsal marka bilinirliği oluşturma, (6) firma kimliğine uygun sosyal sorumluluk projeleri oluşturma. Son türde ise, varlıkların ve yapıların yeniden yapılandırılması için dört strateji bulunmaktadır: (1) e-ticaret satışları için yeni hizmet ekleme, (2) tamamen özelleştirilmiş ürün mekanizmaları için bilgi birikimi uyarlama, (3) kurumsal yapı için planlama, (4) inovasyon için iş modelini değiştirme. Çalışmanın ikinci bölümünde, tasarımın aile firmalarının dinamik inovasyon yetenekleri üzerindeki rolü ve bu gelişim sürecine katkısı araştırılmıştır. Vaka çalışması aile firmalarından elde edilen bulgular, tasarımın bu kabiliyetlere katkıda bulunan üç rolünü ortaya koymaktadır. Bunlar (1) dış kaynaklar aracılığıyla fikir üretimi; (2) yüksek kaliteli ürünler aracılığıyla değer katma; (3) kurucu aracılığıyla vizyon birikimidir. Bu bulgular, aile firmalarının tasarım ve inovasyon uygulamaları arasındaki etkileşimi vurgulamakta ve tasarım yoğun sektörde faaliyet gösteren bir imalat şirketinin gelişmekte olan bir pazarda inovasyonu nasıl başarabileceğine dair içgörü sağlamaktadır. İlk olarak, fırsatları algılamak için, dış kaynaklar aracılığıyla fikir üretmeye yönelik işbirlikçi yaklaşım kullanılmaktadır. İkinci olarak, fırsatları değerlendirmek için, genellikle üretim teknolojileri ve süreç inovasyonlarına yatırım yapılarak ve nadiren Ar-Ge, tasarım ve ürün inovasyonlarına yatırım yapılarak yüksek kaliteli ürünlerle katma değer elde edilmektedir. Son olarak, varlıkların ve yapıların yeniden yapılandırılması için, inovasyon vizyonu, çoğunlukla eğitim durumu ve kişilik özellikleriyle ilgili olarak kurucu aracılığıyla benimsenmektedir.

Ek olarak, bulgular, aile firmalarının sürekli olarak süreç inovasyonuna vurgu yaptığını göstermektedir. Yapılan vaka çalışması, gelişmekte olan bir pazarda bir

imalat endüstrisinde bulunan bu firmalardaki ürün yeniliğinin, yeni ortaya çıktığını ve henüz ilk aşamalarında olduğunu ortaya koymaktadır. Ancak, tasarımın entegrasyonuna paralel olarak, firmaların odağının üretimden ürün ve/veya hizmete kaymakta olduğu görülmektedir.

Sonuç olarak, yinelenen davranışlar olarak ortaya çıkan bu stratejiler, üreticiler, aile yöneticileri ve tasarım profesyonelleri için içgörü sağlamakta ve tasarım yoğun bir sektörde (örneğin mobilya, aydınlatma, mutfak gereçleri) yeni kurulan imalat firmaları veya gelişmekte olan bir pazardaki birinci nesil aile firmaları için bir kılavuz önermektedir. Hem aile hem de tasarım yöneticilerine yönelik öneriler (1) fırsatları algılamak için dış çevreye ve yeni fikirlere açık ve eleştirel olma, (2) fırsatları yakalamak için üretim bilgi birikimine, kontrollü operasyona, organik ürün geliştirmeye, kurumsal kimliğe ve sosyal farkındalığa sahip olma ve (3) varlıkları ve yapıları yeniden yapılandırmak için teknolojiye uyumlu, değişime istekli ve yeni şeyler için sürekli öğrenen olmanın inovasyon için kritik olduğu şeklinde özetlenmiştir.

Bu çalışmanın çeşitli kısıtları bulunmaktadır. İlk olarak, çalışma Türkiye'deki firmalara odaklanmaktadır ve bu nedenle bulgular yalnızca gelişmekte olan pazarlar için doğrulanabilir ancak daha fazla genelleme için sınırlı veri ortaya koymaktadır. İkinci olarak, çok disiplinli bir yaklaşımla birçok temaya odaklanan derinlemesine çoklu bir vaka çalışması olduğundan, zaman sınırlaması daha fazla içsel veri elde edilmesini engellemektedir. Bu çalışma diğer gelişmekte olan piyasalara da genişletilebilir; böylece bulgular daha geniş bir bağlamda doğrulanabilir. İleride yapılacak çalışmalara diğer tasarım yoğun sektörler de dâhil edilerek örneklem büyüklüğü genişletilebilir. Gelecekteki araştırmalar aynı çalışmayı gelişmiş pazarlarda da uygulayabilir, böylece karşılaştırmalar yapmak mümkün olabilir. Boylamsal bir çalışma, dinamik inovasyon yetenekleri ve ailesellik boyutlarındaki değişimleri ve bunların nedenlerini daha ayrıntılı olarak ortaya koyabilir.

1. INTRODUCTION

1.1 Subject of the Thesis

This thesis is a contribution to the understanding of innovation management in family firms (FFs) from emerging market (i.e., Turkey), operating in office furniture industry. The aim is to explore how and to what extent family plays a role in the development of dynamic capabilities and resources as part of management and engagement of innovation in design-intensive FFs from emerging markets.

There is a vast literature on family business (FB) and innovation. However, literature concerning both fields is still at early stages (De Massis et al, 2013; Duran et al, 2015). Hence much remains unexplored concerning how FFs engage in innovation activities. For instance, Gupta et al. (2008) state most previous studies conducted in developed markets, thus there are few research in emerging markets. In addition, scholars such as Wright et al. (2005) pay attention to the applicability of the contributions from a developed to an emerging market, thus studies in emerging markets have considerable significance for innovation and management. Therefore, this thesis may further contribute to the existing body of knowledge as it is conducted in an emerging market, Turkey, which is also an under-researched country, according to De Massis et al. (2012).

Therefore, firstly, this study aims to explore the effect of family on the business in managing innovation through a dynamic capability perspective. Notably, it tries to explore the unique resources and capabilities of a firm resulting from family involvement (e.g., Habbershon and Williams, 1999), known as *familiness*. The term familiness is studied and analyzed by involvement, essence, and organizational identity dimensions (Zellweger et al, 2010). The nature and effect of the familiness dimensions are both positively and negatively identified from a largely neglected emerging market perspective. Moreover, this study also explores the management of innovation activities of design-intensive FB by analyzing firm's processes of using resources to adapt to market change (Eisenhardt and Martin, 2000), and capacity to

sense/shape and seize opportunities, and to orchestrate resource manipulation (Teece, 2007), known as *dynamic capability* (DC).

To sum up, this study contributes to the growing research on innovation in FBs by studying the effect familiness in a business organization on managing innovation, a design-intensive organization's efforts to discover and manage new product and/or service opportunities and to make improvements to existing processes and systems (Cooper and Kleinschmidt, 1987) through a dynamic capability perspective. It tries to find a gap in the literature by researching with a qualitative methodology, exploring associations and interactions between the themes of the study, and recommending further research to extend theory and practice.

1.2 Research Background

Family mostly affects how firms are created, survive, and have success. Family business (FB) research has substantially grown since 2000 (Xi et al, 2015), remains in a rather infant but improving state (Kraus et al, 2012) and is likely to increase (Prencipe et al, 2014; Zahra, 2016). The most ever-present organizations in the world are FBs, approximately two thirds of all globally operating companies, that essentially affect the global economy (De Massis et al, 2015; La Porta et al, 1999; Serrano-Bedia et al, 2019). Almost 80-90% of private businesses in the United States (US) are FFs having 57% of the employees (Caspar et al, 2010), they are even more significant with 65% of employment and GDP in Europe, with (Botero et al, 2015), and affectively contribute the development of South and East Asia, Latin America, and Middle East economies (Memili et al, 2015). It is also revealed that at least 80% of business are held by families in Asia, Europe, Latin America, and the US (Poza and Daugherty, 2014). For this reason, the unique behavior of family firms (FFs) is increasingly studied (De Massis et al, 2015) for different economies (e.g., Chirico and Nordqvist, 2010; Howorth et al, 2010). Turkey is one of these different economies as an unstable and heterogeneous emerging market. Therefore, this study analyzes the cases of FFs in Turkey. As FFs are very significant for the global economy, it is also possible to find some research related to the field of innovation management and new product development (NPD) particularly dealing with the issue of FB and how they practice organization and management (e.g., Cassia et al, 2011; Craig and Moores, 2006; Litz and Kleysen, 2001).

Innovation is also a significant competitive advantage for businesses in a constantly changing environment (Dess and Picken, 2000; Tushman and O'Reilly, 1996), and for most scholars, the performance of a firm is related with its capability to innovate (Mone et al, 1998). Innovation, in its broadest sense, comes from the Latin - *innovare* - meaning to make something new, and it is all about change. Several different definitions of innovation as an intricate concept can be found in the literature (Tidd and Bessant, 2017). Innovation can be basically conceptualized as all the activities of a firm including creation, design, manufacture, marketing, and launching of a new product/service, process, or business model (Freeman, 1982). "An innovation is the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations" (Mortensen and Bloch, 2005). The Oslo Manual, developed by OECD (Organization for Economic Co-operation and Development), provides guidelines for collecting and interpreting data for innovation that has been widely adopted by researchers in innovation and management studies over the past two decades (OECD, 2018). According to this guideline, it is important to know significant factors such as interaction between actors and the flow of knowledge in the innovation process other than research and development (R&D). As innovation is the key to competitive advantage as a driver of business performance (Trott, 2017), to ensured economic prosperity (Porter, 1980) and to long-term survival (Schumpeter, 1934), research on innovation in the field of family business has gained interest by numerous scholars (e.g., De Massis et al, 2012; Fuetsch and Suess-Reyes, 2017; Hatak et al, 2016; Röd, 2016). As long-term survival through the success of generations is one of the basic goals of family businesses (Chua et al, 1999), innovation becomes very crucial.

Family firms are mostly considered to have dual features as both being moderate and having determined goals and being less innovative than other businesses, and as constituting the 50% of the most innovative businesses in Europe (Borden et al, 2008). In some recent studies, innovation strategies of the FFs are mapped using where questions to understand where to find the innovation resources (existing bases, new domains, searching, etc.), how questions to understand how to manage the innovation process (open/closed approach), and what questions to understand what to innovate (product/service, process, business model, and radical/incremental) (De Massis et al,

2015). The key findings show that FFs invest less considering innovation inputs (e.g., Asaba, 2013; Block, 2012; Sciascia et al, 2015), FBs have unique approaches considering innovation activities that are needed to be theoretically and empirically explored (e.g., Kotlar et al, 2014a, 2014b), and FFs show controversial findings considering innovation outputs (e.g., Chin et al, 2009; Westhead, 1997). This study believes that the approaches of FFs in Turkey contribute to the exploration of this empirical and theoretical knowledge. A subsequent review of the literature between 2001 and 2015 also studies the innovation process of a FF with the focus on its uniqueness and distinct variables and proposes a conceptual framework showing the antecedents of innovation in FF (Röd, 2016). The defined *innovation process* has multi stages of *input, activity, and outputs*, that are also highlighted as business system (Crossan and Apaydin, 2010; De Massis et al, 2013; Lumpkin et al, 2011). According to Röd (2016), the antecedents of that multi-staged innovation process are *family goals and behavior, family dynamics, attributes of family members, family's attitude towards others, and family ownership, management and governance* including *generational effects*, which are defined as family system. In addition, those family and business system are also affected by context which can be defined as local and national conditions, industry, and company size (Röd, 2016). In another review paper on innovation in FFs, the effect of family on innovation process and family firms being less innovative are also revealed as key findings (De Massis et al, 2013), while another meta-analysis paper trying to understand whether non-family firms are more innovative than FFs states that FFs make less innovation investment but successfully innovate with higher outputs because of the engagement and control of family (Duran et al, 2015). Thus, these reviews propose to study the innovation process of FFs in more detail (De Massis et al, 2013), and to define the unique features of FFs more clearly (Duran et al, 2015).

In addition to the importance of innovation and FB, extended further research is proposed by Kotlar et al. (2014b) to study the attributes and structure of the decision-making and evaluation process of the family managers, strategic behaviors of the FFs such as internationalization, NPD, mergers, and acquisitions, and innovation decision behaviors and heterogeneity among FFs with qualitative methods. In sum, those future research opportunities would reveal significant insights for innovation managers about the influence of FFs on the management and organization of innovation, but also FFs

would apprehend strengths and weaknesses in their unique innovation process (De Massis et al, 2012).

Today, business environment is increasingly competitive, thus firms must continuously renew, reconfigure, and recreate their capabilities to survive and compete in this constantly changing market. Dynamic capabilities (DCs) are claimed by Teece et al. (1997) for those distinct qualities and abilities of firms. Even though, DC concept has gained a growing interest by scholars (Easterby-Smith et al, 2009; Karagouni, 2018), studies related to the research of DCs of FFs are scarce (e.g., Alonso et al, 2019; Barros et al, 2016; Wang, 2016a, 2016b). Thus, there is a significant gap in the literature to understand how FFs' capabilities are shaped by constantly changing business environment and how they survive in this competitive market. Since there are no studies based on how the system of capabilities work in FFs - specifically operating in office furniture industry - in Turkey, the significance of this study becomes evident. In the family business literature, some studies reveal the unique setting of FFs, which allows them to transform their strategies and reconfigure their capabilities in the dynamic environment (e.g., Chirico and Bau, 2014; Wang and Poutziouris, 2010; Zahra et al, 2004). FFs have strong interaction among family members, other members, and business, thus their DCs are significantly distinctive and affected by each FF's unique characteristics, including the mechanisms of *knowledge acquisition, and sharing, collective learning, and experience accumulation and transfer*, either positively or negatively (Chirico and Nordqvist, 2010). Recently, the scholars both from the fields of FB and innovation are also interested in why some family firms are more innovative with using diverse theories and making distinct contributions to the literature (De Massis et al, 2015; Randerson et al, 2015). Moreover, Benavides-Velasco et al. (2013) highlighted that DCs approach is a suitable theoretical perspective for FB research, and Wang (2016b) emphasized that DCs significantly contribute to FFs' adaptation to dynamic business environments.

Scholars dealing with innovation in FB literature recently address knowledge, resources, and capabilities as requirements of a firm to innovate. Those unique resources and capabilities are represented by *familiness*, as one of the most outstanding theories of FFs, which is fostered through the interaction of family and business system for competitive advantage (Daspit et al, 2017). Recently, innovation is also identified as a dynamic capability, which leads to a higher business performance (Chirico and

Nordqvist, 2010), by family business scholars (Eisenhardt and Martin, 2000). Nevertheless, the studies on innovation in FB with a DC perspective are rare (e.g., Alonso et al, 2018; Daspit et al, 2019; Park et al, 2019). Lichtenthaler and Muethel (2012) explore whether *family involvement* - the owner family's ability to influence firm behavior (Chrisman et al, 2012) affect a firm's level of sensing, seizing, and transforming capacity in innovation and provide new theoretical arguments related to *dynamic innovation capabilities* (DICs) (Helfat et al, 2007; Rothaermel and Hess, 2007; Teece, 2007). Their study shows that the degree of family involvement is positively related to sensing innovation opportunities and to transforming a firm's innovation processes, while it is insignificantly related to seizing innovation opportunities through quantitative research done with 119 medium-sized manufacturing family firms in Germany. De Massis et al. (2016) conceptualize a new product innovation strategy called *innovation through tradition* (ITT), identify its underlying capabilities of interiorizing and reinterpreting *past knowledge*, combining prior research on innovation, dynamic capabilities, and family business, and show the potential advantages of past knowledge in terms of *value creation and capture* through a qualitative case-study done with six long-lasting family firms in Italy. Fitz-Koch and Nordqvist (2017) offer a framework that enables an investigation of the nature of innovation capabilities in family firms with the socioemotional wealth (SEW) perspective in combination with DCs, showing connection between corporate *entrepreneurship*, *innovation*, a *family's noneconomic goals* (i.e., SEW), and *family businesses* (e.g., De Massis et al, 2015), and identify a positive reciprocal relationship between innovation capabilities (ICs) (sensing, seizing, and transforming capacity) and SEW (family control and influence, family members' identification with the firm, binding social ties, emotional attachment, renewal of family bonds to the firm through dynastic succession) within the FB, yielding synergies between financial wealth and SEW through a qualitative case-study done with a medium-sized family firm in Sweden. Alonso et al. (2018) examines *family firms' involvement* in innovation practices, including reasons and ways to innovate, drawing on the *dynamic capabilities framework* (DCF) adopting sensing, seizing and transforming in accordance with coordination/integration, learning and reconfiguring (Teece, 2007, 2014; Teece et al, 1997), complemented with the *antecedents of innovation* (i.e. Rothaermel and Hess, 2007) - intellectual *human capital* at individual level, *social capital* as R&D capabilities at firm level, and *cognition* as problem solving related impacts. Ways of

innovating are revealed as (1) *absorptive capacity* (identifying/assimilating external information and integrating technology/processes), (2) *adaptive capacity* (applying information, building alliances with external entities, improving tasks, processes and performance), and (3) *innovative capacity* (identifying new trends, updating, modernizing, learning, adapting), and reasons for innovating is also revealed as *solving problems* by extending firm life-cycle, achieving quality, adapting to changing environment and gaining competitiveness through a qualitative case study done with four family firms in Uruguay. Daspit et al. (2019) use a DC perspective to propose that *familiness* with its *structural dimension* (network ties, appropriable organization), relational dimension (trust, norms, obligations, identification) and its *cognitive dimension* (shared vision, shared language), affects both (1) *absorptive capacity*, which is a knowledge-specific dynamic capability, and (2) *innovation outcomes* in pursuit of competitive advantage. This study highlights the role of absorptive capacity in understanding how familiness affects innovation outcomes and elucidates the heterogeneity across FFs that results from non-family member involvement through a conceptual study. Park et al. (2019) investigate the nature of changes in external environment and the relationship between *changes* in the economic environment and *FFs' innovation* in response to the environmental shift, identify market conditions (competitors, customers and suppliers), technology (information, telecommunications and production process) and regulation (taxes, antitrust and global trade) as *innovation drivers* (Hult et al, 2004), which have positive effects on FF performance through a quantitative research done with 124 sampled FFs in the US. Thus, this study also questions how design contributes as an innovation driver of family firms in a constantly changing business environment.

Design creates distinct competitive advantage for businesses (Kotler and Rath, 1984), and industrial design enhances the value, utility, and appearance of a product (Hertenstein et al, 2005), thus positively affects the performance of businesses and lead to innovation (Gemser and Leenders, 2001). Design-intensive firms, which rely on the creativity and innovative contributions (Dell'Era and Verganti, 2010, 2011), are significant for competitive advantage in dynamic environments. For instance, these design-intensive firms have 12.2% of employees and 12.8% of GDP in Europe, according to a study done by the European Commission in 2013. Research on innovation in design-intensive firms highlights the need to manage design, for

innovation purposes and to increase recognition in the market (Dell'Era and Verganti, 2007; Dell'Era et al, 2008). Therefore, leading innovators in design-intensive industries tend to maintain long-term survival (Dell'Era and Verganti, 2007, 2010). Design-intensive firms are utmost significant due to the founding and controlling family members' role and involvement in innovation and their interest in preserving the family name and identity across generations (Dalpiaz et al, 2014).

In studies dealing with innovation in FBs, there are less qualitative than quantitative methodologies (Hair and Sarstedt, 2014), even though the complex and unique features of FFs can only be apprehended by a qualitative and comprehensive approach in search for the responses to the “how” and “why” questions (e.g. Bennedsen and Foss, 2015; Classen et al, 2014; De Massis et al, 2013). According to numerous scholars (e.g., De Massis and Kotlar, 2014; Nordqvist et al, 2009; Reay and Zhang, 2014), qualitative research approach in FB field is generally disused in publications, even though there are several proposals for the use and development of qualitative inquiry. In an analysis of most-cited articles in the field of FB research by De Massis et al. (2012), it has been found that 87.3% of empirical studies are quantitative whereas only 8.4% is qualitative. A literature review by Reay and Zhang (2014) also shows that only 78 of 656 articles use qualitative methods. According to Fletcher et al. (2016), the scholars have not yet comprehended the significance of qualitative method in FB research. Many scholars state the capacity of qualitative research to explain the complexity and tacit knowledge in the characteristics of FFs (e.g., Nordqvist et al, 2009; Reay and Zhang, 2014; Zellweger, 2017). Therefore, this study also embraces a qualitative approach as methodology using semi-structured in-depth interviews. It is stated that scholars do not have enough detailed knowledge on the issues of dilemma (Jackson, 1999; Miller et al, 2015), and paradox (Lewis, 2000; Smith and Lewis, 2011) in FFs. In addition to this, a very recent study by Kammerlander and De Massis (2020) also emphasizes the need to intensively use qualitative inquiry to explore the contextual and industry-specific aspects of FB behavior, and the paradoxes and tensions arising from the interactions between the family and the business systems.

To conclude, De Massis et al. (2016) additionally state that the issue of family involvement and its effect on innovation capabilities in dynamic environments are not examined in-depth but mostly shortened. Moreover, due to the acceptance of innovation as being affected by the family involvement, De Massis et al. (2015) reveal

the scarcity of studies dealing with FFs' innovation capabilities as a problem. With a capability-based perspective, the scholars systematically define the business having bundle of capabilities and thus analyze its resources and procedures as an approach to innovation studies (e.g., Eisenhardt and Martin, 2000; Teece et al, 1997; Zahra et al, 2006). As Teece and Pisano (1994) first stated, the studies might explore how a firm handles opportunity and reacts to changes with a DC perspective. Consequently, DC perspective is suitable to explore the effect of family involvement on innovation capabilities of FFs in dynamic business environments such as emerging markets.

1.3 Research Context

This thesis studies innovation in family business (FB) with a dynamic capability perspective in an under-researched context, which is recommended by scholars in the literature. De Massis et al. (2012) show that %73 of FB studies are conducted in Europe and US. However, the studies in less developed, developing, and emerging contexts are considered significant and need attention with their dynamic and unique social, political, and economic activities, structures and systems related with innovation and management (Rosa and Caulkins, 2013; Wright et al., 2005).

Since Wright et al. (2005) state the significance of emerging market as a challenge for study with its heterogeneity and uncertainty, this study focuses on Turkey as an emerging context. However, in the last 50 years, Turkey has been in a major transformation with significant improvement in economy and social well-being:

Turkey has successfully transformed herself from an essentially agriculture-based, closed economy relying on import-substitution and with a predominantly rural population, to a relatively industrialized country with an export-competitive economy, predicated upon free-market forces and with a population the majority of which is now living in urban centers. (Gürüz and Pak, 2002)

In addition, OECD Science, Technology, and Industry Scoreboard 2017 stated that Turkey has witnessed the most notable rise (up by almost 80%) in the R&D budget with 45% of gross domestic expenditure on R&D in 2015 (35% in 2005). It is also evident that Turkey experienced one of the highest and notable increases in the share of foreign value added in exports (OECD, 2017). According to Global Innovation

Index (GII), which aims to capture the multi-dimensional facets of innovation by providing a rich database of detailed metrics, Turkey is ranked 43 (GII, 2017), 50 (2018), 49 (GII, 2019), 51 (GII, 2020), and 41 (GII, 2021) in the last five years as an upper middle-income economy among 127 in total, which represent 92.5% of the world's population and 97.6% of global GDP. Turkey is among the selected economies changing their innovation landscape, systematically catching up, and hosting top science and technology (S&T) clusters (e.g., Istanbul) (GII, 2021). As of 2021, human capital and research (rank 26), and creative outputs (rank 35) are the areas that Turkey is relatively stronger (GII, 2021).

Moreover, European Innovation Scoreboard (EIS), which provides a comparative assessment of the research and innovation performance of the European Union (EU) Member States and the relative strengths and weaknesses of their research and innovation systems, states that Turkey is a moderate innovator, and its performance has strongly increased by 13.2% in 2018 relative to 2010 (EIS, 2020). According to European Innovation Scoreboard 2020, relative strengths of the Turkey's innovation system are firm investments (e.g. non-R&D innovation expenditures), innovation-friendly environment (e.g. opportunity-driven entrepreneurship), and innovators (e.g. SMEs product/process and marketing/organizational innovations, and SMEs innovating in-house), whereas relative weaknesses are employment impacts (e.g. employment in knowledge-intensive activities), intellectual assets (e.g. design and trademark applications), and attractive research systems (e.g. international scientific co-publications). EIS (2020) additionally reports that Turkey's positive structural differences from EU are more enterprise births, higher annual change in gross domestic product (GDP), and more total entrepreneurial activity. Less R&D spending enterprises, lower employment share in medium high-tech manufacturing and in knowledge-intensive services are Turkey's negative structural differences from EU (EIS, 2020). Furthermore, a new list of forthcoming emerging countries, named CIVETS (Colombia, Indonesia, Vietnam, Egypt, Turkey, and South Africa) includes Turkey (e.g., Blessing, 2022; Geoghegan, 2010; Wharton, 2011).

With the rise of knowledge economy, new determinants for economic growth and utilization of new information and communication technologies, innovation has become an increased focus of competitiveness. Turkey has a strong entrepreneurial culture and small and medium-sized enterprises (SMEs), especially family-owned,

represent the largest percentage, thus the issue of innovative and internationally competitive SMEs is very critical for growth and prosperity. The identified key challenges of Turkey to promote and support innovation, especially in innovative SMEs, were identified as R&D investment, knowledge intensity of manufacturing and internationalization. The access to finance and lack of internationalization were stated as two main obstacles with major challenges such as political instability and cultural attitudes (Napier et al, 2004). Additionally, Turkey has also a poor R&D performance (Elçi, 2005), and technology is mainly imported (World Bank, 2008).

The furniture industry is one of the leading sectors in Turkey in terms of value adding and increasingly contributing to economy by most use of local resources and least dependent to imported goods. In recent years, because of increasing urbanization, population growth, rising living standards, and opening new workplaces, the demand for furniture rises. Since one of the evaluation criteria of Global Innovation Index (GII) is design applications, Turkey has ranked first in the number of design applications, leaving many developed countries behind, and the furniture industry has played a major role in this with the highest number of applications among all sectors (DestekPatent, 2020). According to World Intellectual Property Organization (WIPO) (2018), 3.8% of the design studies in the world were carried out in Turkey, and Turkey comes third after South Korea and China among the countries that make the most designs, according to the evaluation considering the national income. In addition to this, WIPO puts Turkey in second place according to trademark applications after China (2018). Despite the tangible success in design, trademark and branding efforts, Turkey has not been able to create sufficient patent awareness, thus it hinders competitiveness (DestekPatent, 2020).

Even though the furniture industry in Turkey is emerging, there are many challenges arising mostly because of being an emerging economy. The problems of furniture industry in Turkey are presented in Central Anatolia Exporters Unions (OAIB) Furniture Sector Report 2017 as design, R&D, branding, lack of capital, government bid, expert procurement, lack of experience, physical inadequacy, informality, black economy, increasing export, taxes and incentives, energy prices, marketing, communication, contract manufacturing, production technologies, bureaucracy and legislation; whereas the solutions are presented as achieving international standards and quality, increasing test laboratories, focusing on customer satisfaction, logistics

and packaging, valuing organization and education (OAIB, 2017). In another Furniture Working Group Report by T.R. Ministry of Development The Tenth Development (OKP) Report 2014-2018 (OKP, 2015), the problems and bottlenecks of the sector are revealed similarly as unfair competition (informality, non-protection of intellectual rights), (1) education, skilled labor force, employment, and lack of experience, (2) efficiency, management, and institutionalization, (3) design and R&D, (4) promotion, branding, and marketing, (5) raw materials, (6) sub-industry, (7) logistics and transportation, (8) public sector relations, and finally (9) capital and finance.

Despite all those problems, Turkish office furniture sector, as one of the youngest sectors in the industry, has shown incredible advance in terms of technology and competitiveness in the last ten years. Some local leading companies have reached an international level with design, production, marketing, and finance issues in mind; thus, it positively affected the small-scale producers of the sector in terms of quality, image, brand, and standardization (Adıgüzel, 2016). Adıgüzel (2016) also mentioned the most important sectoral issues such as design and marketing.

Hence, office furniture manufacturing industry in Turkey establishes a rich and thriving research context to explore how family firms manage innovation through dynamic capabilities in an unstable and emerging market, and this study may shed light to this under-researched issue for the contribution to theory and practice.

1.4 Aim of the Thesis and Research Questions

This study contributes to the growing research on family firms (FFs) by studying the effect familiness on managing innovation. The efforts and strategies of design-intensive FFs operating in office furniture manufacturing industry from an emerging market (i.e., Turkey) to manage new product and/or service opportunities and to make improvements to existing processes and systems is explored through a dynamic innovation capability (DIC) perspective (Figure 1.1). More specifically, the aim is to answer the following research questions:

RQ1: What are the strategies of design-intensive FFs to manage innovation in an emerging market?

RQ1a: What are the familiness dimensions (involvement, essence, organizational identity) of design-intensive FFs in an emerging market?

RQ1b: What are the DICs (sensing, seizing, reconfiguring) of design-intensive FFs in an emerging market?

RQ1c: How does familiness affect DICs of design-intensive FFs in an emerging market?

RQ2: How do DICs of design-intensive FFs change in the business environment of an emerging market?

RQ3: How does design contribute to DICs of design-intensive FFs?

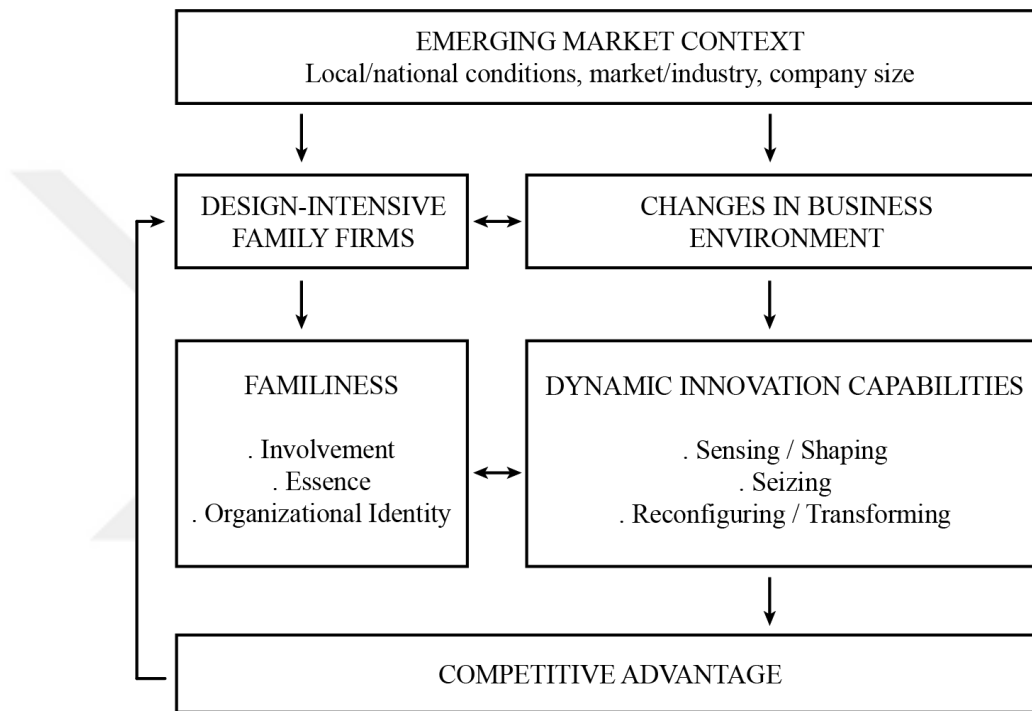


Figure 1.1 : Theoretical framework of the study (Author).

This study addresses these research questions through the case studies of four Turkish design-intensive FFs operating in the office furniture industry, as one of the youngest sectors in the industry that has shown incredible advance in terms of technology and competitiveness in the last ten years. The particularity of these four firms is that (1) familiness and its involvement into governance and management in these firms evolved and substantially changed over time, and (2) innovation in these firms is at the core of their competitive strategy, which leads them to reach an international level with design and production. All companies received prestigious international design awards (e.g., Good Design, German Design Awards, Interior Design Best of Year, IF Design Award, Reddot Design Award, A'Design Award) and they are all ranked in the FEMB JSA League Table Top 100 of European Office Furniture Companies prepared by

European Union and European Federation of Office Furniture (FEMB) according to sales of office furniture, market share, European sales, number of employees and sales per employees. Consequently, this study aims to answer the research questions through the analysis of purposefully sampled representative firms.

1.5 Scope and Value of the Thesis

Scholars from multidisciplinary backgrounds mostly show interest on family business (FB) that have a strong presence globally (Karagouni, 2018). Even though dynamic capabilities approach (DCA) (e.g., Eisenhardt and Martin, 2000; Teece et al, 1997) is suitable to investigate firms in a dynamic business environment and to address a research gap, studies to recognize DCs in the context of family firms (FFs) is scarce (Wang, 2016a, 2016b). Urbinati et al. (2017) argue that studies should try to explore DCs of FFs, which are highly dependent on unique features of each FF, namely *heterogeneity of family firms* (De Massis et al, 2014) and affected by events in the lifecycle of family business, namely *temporal family dynamics* (De Massis et al, 2014; Sharma et al, 2014). Thus, these features allow FFs to search, integrate and recombine knowledge for innovation. Urbinati et al. (2017) also believe that using DC framework will help understanding of innovation in FFs, discover good practices and approaches to innovate more successfully, and compete on international markets.

According to Alonso et al. (2018), future research opportunities in FB innovation literature are: (1) the findings of the studies to reveal positive and negative associations between family firms and innovation are inconclusive and limited (Duran et al, 2016), (2) FB literature lacks empirical support for various opposing theoretical frameworks (Zahra, 2016), and (3) FB scholars do not use the full potential of qualitative methodology (Feltcher et al, 2016).

This study will hopefully provide the following contributions to knowledge:

- First, it contributes to *family business research* by deepening our understanding on the effect of familiness to innovation strategies and behaviors of the firms.
- Second, this study contributes to *innovation management* research by revealing the strategies and recurring behaviors of FFs to manage innovation.

- Third, this study contributes to *dynamic capability* perspective used to analyze the innovation strategies and behavior of FFs. Thus, it recognizes the significance of this theory in the context of FB and innovation literature.
- Fourth, this study contributes to *design practice* and *design-intensive industry* literature by exploring the role of design on innovation strategies of FFs, and its contribution to this process.

The value of this study depends on following issues:

- First, this study focuses on how innovation is managed in FFs *through a dynamic capability perspective*, which is a rather neglected issue in the context of FB and innovation literature (e.g., Calabrò et al, 2018; Röd, 2016). In this respect, this study uses this perspective to illuminate the strategies and related capabilities of FFs during innovation processes.
- Second, this study responds to recent calls to consider the *heterogeneity of family firms* in studying their unique behaviors towards innovation (Chua et al, 2012; De Massis et al, 2015). In this respect, the study uses familiness theory from FB research these unique resources and capabilities of FFs resulting from family involvement.
- Third, *design-intensive industry* is overlooked by studies on FB innovation, even though design-intensive FFs are more directly involved in innovation than FFs from other industries (Dalpiaz et al, 2014). In this respect, this study uses design-intensive FFs as research scope.
- Fourth, this study is carried out in an under-researched *context of emerging market* by focusing on office furniture manufacturing industry in Turkey, since Wright et al. (2005) state the significance of emerging markets with their heterogeneity and uncertainty, and the need for attention with their dynamic and unique social, political, and economic activities, structures and systems related with innovation.

The research questions, the tools and theories used, and the significance of this study is presented in Figure 1.2.

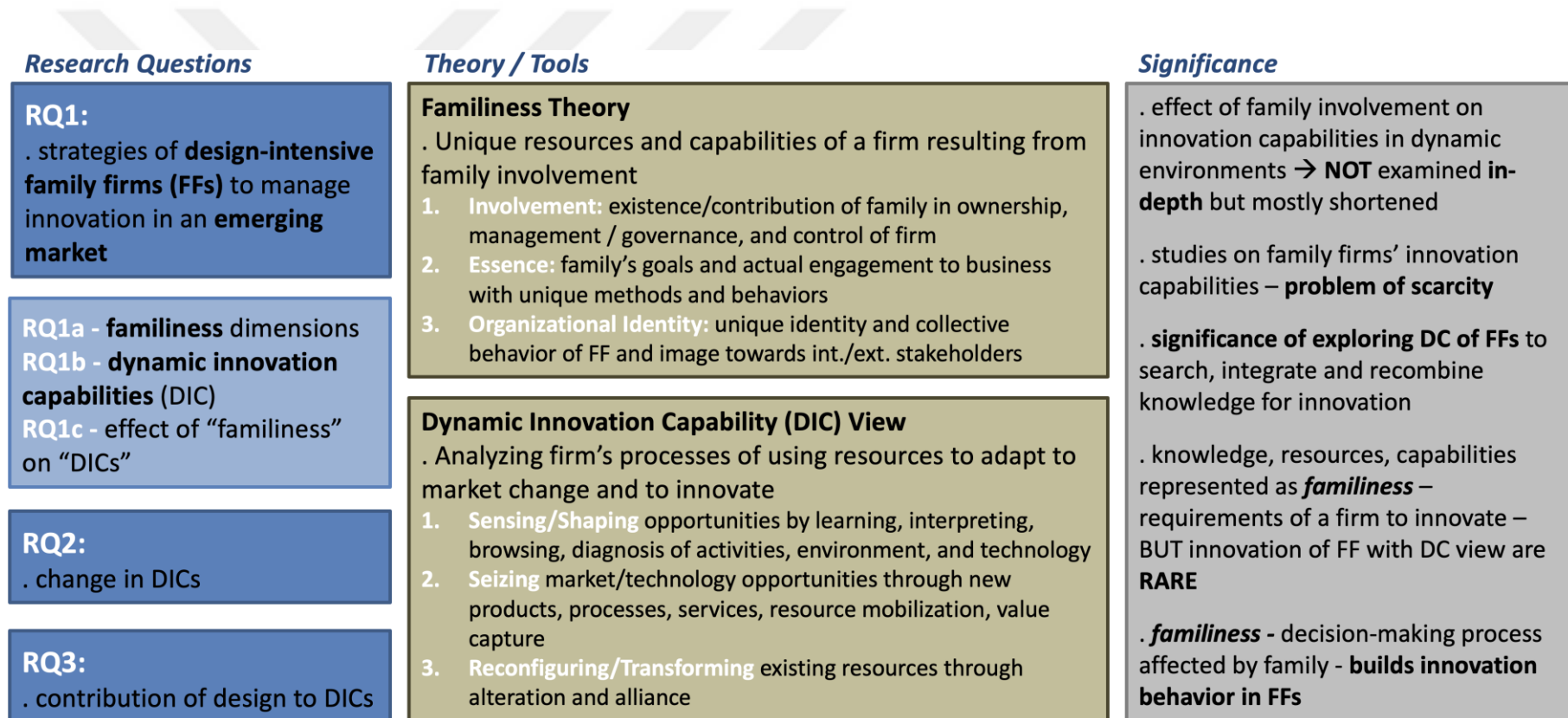


Figure 1.2 : Research questions, theory/tools, and significance of the study (Author).

1.6 Structure of the Thesis

This thesis consists of six chapters. *Chapter One* is the introduction. This chapter presents the subject of thesis, and the background of research, its context, and questions. It also reveals the aim, scope, value, and structure of the thesis.

Chapter Two is the literature review. This chapter overviews the relevant research in three main parts: (1) family business research and familiness, (2) research perspectives on family business innovation, and (3) dynamic capability perspective. It also establishes interrelations between these research streams.

Chapter Three is the research methodology. This chapter explains the purpose and strategy of the research, as well as its process. It also highlights the research design and methods on how the cases are selected, and how the data is collected and analyzed.

Chapter Four is the within-case analysis. This chapter discusses the case narratives of three design-intensive family firms from office furniture manufacturing industry in an emerging market. Each case section includes company background, analysis of familiness dimensions (sensing, seizing, reconfiguring), analysis of dynamic innovation capabilities, and a general discussion on how familiness affects dynamic innovation capabilities.

Chapter Five is cross-case analysis and discussion. This chapter entails the comparison of within-case analysis and discusses the findings in relation to the research questions.

Chapter Six is conclusions and recommendations. This chapter discloses the contributions and limitations of the study and suggests future research directions. It also gives recommendations for design practitioners and managers.



2. LITERATURE REVIEW

This chapter presents a literature review on (1) family business research and familiness, (2) research perspectives on family business innovation, and (3) dynamic capability perspective. This overview of relevant research builds a theoretical framework, defines where there is a gap in the existing body of knowledge, and establishes the basis of this research.

2.1 Overview of Family Business Research

The most ever-present organizations in the world are family businesses (FBs) that essentially affect the global economy (La Porta et al, 1999). Almost 80-90% of private businesses in the US are family firms (FFs) having 57% of the employees (Caspar et al, 2010), they are even more significant in Europe (Botero et al, 2015), and affectively contribute to the development of South and East Asia, Latin America, and Middle East economies (Memili et al, 2015). For this reason, the unique behaviors of FFs is increasingly studied (De Massis et al, 2015). Those unique behaviors of the FFs influence the whole business process (Dyer, 2003), from corporate management (Randoy and Goel, 2003), to internationalization (Zahra, 2003), also from entrepreneurship (Naldi et al, 2007), and to finance (Romano et al, 2001).

FB research is prone to growth (e.g., Benavides-Velasco et al, 2013; Lichtenthaler and Muetler, 2012; Zahra, 2016) leading to advanced research quality and emerging further issues to be explored (De Massis et al, 2013; Gedajlovic et al, 2012; Sharma et al, 2012). Since 80% of business is held by families in Europe, Asia, Latin America, and the US (Poza and Daugherty, 2014), FB research is significant for different economies (Chirico and Nordqvist, 2010; Howorth et al, 2010). According to International Family Enterprise Research Academy (IFERA), FFs dominate the business both in emerging and developed economies worldwide by constituting from 70% to 90% of all firms (IFERA, 2003) and 35% of businesses in the S&P 500 and Fortune 500 are FFs (Roessl et al, 2010), besides the exploration of their phenomenon with multidimensional attributes are underestimated, especially in different national and cultural contexts

(Zellweger, 2017). Especially, the family context and its influence on competition both positively or negatively and on success of the firm are disregarded in academic research (Astrachan, 2010), even though the notable explanatory potential of the family context is widely accepted by scholars (Dyer, 2003). Zellweger (2017) also points out that FFs are mostly SMEs, and their contribution to economy in terms of employment and gross domestic product (GDP) – measure of national income and output of a country – is about 40% to 70%. Thus, family firms become a wealth factor of economies since they also significantly contribute to innovation in emerging countries as well (Urbinati et al, 2017), and this study adopts an approach to explore this contribution in more detail.

2.1.1 Definition of family business

A business managed by the members of a family with a shared goal can be defined as a FF (Chua et al, 1999). Goal and Jones (2016) also define FFs that “the family business field is predicated on the desire of the family to keep the business family owned (reflected in control, leadership and involvement in management) and led over successive generations”.

Another well-accepted definition states that FFs are:

[...] governed and/or managed with the intention to shape and pursue the vision of the business held by a dominant coalition controlled by members of the same family or a small number of families in a manner that is potentially sustainable across generations of the family or families. (Chua et al, 1999)

The family control and the transgenerational outlook are two main aspects that stand out in FB definitions in the literature: “A family firm is a firm dominantly controlled by a family with the vision to potentially sustain family control across generations” (Zellweger, 2017). Even though there are some different definitions of FFs, this study prefers to define FF as a business that its vision is influenced by familiness and its mission is to long-term survival after the succession of generations (De Massis et al, 2012).

As Zellweger (2017) states, the arguments influencing the FB are the dimension of *ownership* related with the power of decision and direction of strategy, the dimension of *management* related with the infusion of value and the influence of decision-making, the dimension of *transgenerational outlook* related with the control of the

family, and the dimension of *later-generation control* related with the constitution of family. However, the creation of a clear dichotomy between family and non-family business and simplifications about FFs could lead to issues such as disregarding the heterogeneity in FFs, shortening the definition of family, and ignoring the multidimensional value of studying family involvement (Astrachan et al, 2002). The dimensions of family involvement, used as FB assessment tool in the literature, are identified by Astrachan et al. (2002) as (1) *the degree of family control* related with management, ownership and governance attributes; (2) *the complexity of family control* related with number of family owners, family managers, and their configuration in the business; (3) *the business setup* related with business philosophy either entrepreneur or investor, number of firms in control of family, and degree of business diversification; (4) *the philosophy of family control* related with non-economic goals of FB, and (5) *the stage of control* related with the temporal feature of FB such as the number of generations in the firm and the intention of internal family succession. These non-economic goals of FB in the fourth assessment tool of Astrachan et al. (2002) are later defined as socioemotional wealth (SEW) in the literature with (1) emotional attachment to firm, (2) nurturing of firm, (3) firm's public image, and (4) social ties dimensions (Gomez-Mejia et al, 2007).

To conclude, the scholars agree upon the significance of familiness to underline the unique and heterogeneous attributes of FB (e.g., Chua et al, 2012; Nordqvist et al, 2014; Westhead and Howorth, 2006) thus this study uses familiness theory to explore the strategies and behaviors of FFs.

2.1.2 Competitive advantage in family business

One of the typical strengths as a source of competitive advantage of FFs is proposed by Zellweger (2017) as its *resource advantage*, also called *familiness* (Habbershon and Williams, 1999) in the literature, including human capital related to tacit, long-term knowledge; financial capital related to loyal investors; and social capital related to unique networks with and support from all stakeholders. Familiness also has its *resource constraints* such as having only family managers limits the talent or family as the main source of financial capital limits the willingness to take risks (Zellweger, 2017). As Zellweger (2017) summarizes, as well as having resources advantages as one of the typical strengths of FFs, the issues of having lower agency costs, efficient

leadership, long-term orientation, commitment and support culture, identity and reputation can be stated as other typical strengths of FFs. In contrast, as well as having previously mentioned resource constraints as one of the typical weaknesses of FFs, the issues of having dependence on family, altruism-based agency costs, succession challenges, decline of entrepreneurial orientation, and role ambiguity can also be stated as other typical weaknesses of FFs. On the other hand, some attributes of FF characteristics might have both positive and negative effects such as conflict on management and ownership roles, family resources, long-term orientation, family culture, shared identity, and concurrent roles (Tagiuri and Davis, 1996). All these considered, family and business affect each other both positively and negatively, thus governance structures and strategic management should be organized in such a way to achieve competitive advantage (Zellweger, 2017).

Over the years, the scholars in FB research try to explore the strategic decision-making process in FFs and non-financial goals are considered as the defining element (Chua et al, 1999). These non-financial goals of FFs are described with the term, *socioemotional wealth* (SEW), including dimensions of *transgenerational control* related with family's intent to transfer the firm to future generations, *benevolent social ties* related with family members' value about generosity, support, kindness and loyalty in personal relationships, *identity and reputation* related with the value that family gets from firm's identification and influence over community, and *emotions and affect* related with family members' affection from their association with the firm or firm's success (Gomez-Mejia et al, 2007). Thus, the concept of SEW, its preservation and improvement are highly valued to explore the strategic management in FFs. The reason for this value can be summarized that the SEW viewpoint changes the priorities in strategic decision-making (1) by favoring a choice that preserves SEW rather than increasing financial capital, (2) by changing how actions are executed and monitored with the choice of a more incremental change and a closer monitoring, and (3) by observing the difference between the goal and the real outcome and whether the outcome satisfies the actors (Zellweger, 2017). Moreover, various studies suggest that family firms avoid diversification (Anderson and Reeb, 2003), avoid making investments in R&D (Chrisman and Patel, 2012), avoid selling their business interests and investments (Feldman et al, 2016), favor independency (Gomez-Mejia et al, 2007), and favor the expansion of financial capital for succession (Zellweger et al, 2012),

even though they might gain financial wealth, perform positively and reduce risk. This evidence shows the significance of SEW perspective in FF behavior.

The SEW perspective is very essential for strategic choices of FFs, nevertheless it falls short of conceptualizing the sources of competitive advantage (Zellweger, 2017), thus the organizational process that leads to performance is explored with a *process view* that reveals the link between family influence and competitive advantage, and also admits that family firms are more advantageous in innovation especially with their tacit knowledge about particular processes and their fast and strong adaptation in new things (König et al, 2013). The most significant perspective among process-based views is the *resource-based perspective*, which is related with the distinctive resources and capabilities resulting from the interaction between the firm and the family (Habbershon and Williams, 1999; Sirmon and Hitt, 2003), thus this study adopts a resource-based perspective.

2.1.3 Familiness and the resource-based view

Scholars dealing with innovation in FB literature recently address knowledge, resources, and capabilities as requirements of a firm to innovate. According to resource-based perspective, firms develop sustainable competitive advantage using resources that include both tangible and intangible assets with a dynamic approach. Those unique resources and capabilities are represented by familiness, as one of the most outstanding theories of family firms, which is fostered through the interaction of family and business system for competitive advantage (Daspit et al, 2017). The significance of resource-based perspective linking familiness resources with business strategies to reach competitive advantage can be seen in many studies. The sampled studies on familiness can be analyzed in Appendix A. Profound market knowledge as familiness resource linked with (1) market extension as business strategy leading growth in a declining market, (2) local network linked with exclusive connections leading fast development of large projects, and (3) long-term reliable financial capital linked with access new markets earlier leading pioneer advantage are three examples of positive family influence. On the other hand, decision-making process as familiness (1) resource linked with no new development leading resignation from the firm, (2) ownership culture linked with no new acquisition leading missed development opportunities, and (3) management team as a sole human capital linked with favor of

family members leading lack of innovation because of incompetent management are three examples of negative family influence, provided by Zellweger (2017).

Familiness, theorized from resource-based view (RBV), are proposed to exploit how FFs use embedded links based on family relationship to reach unique resources, thus, to build and to maintain value in the long term (Arregle et al, 2007). Hence RBV is a theoretical model that analyzes processes, assets, strategy, performance, and their relationships in the firm and/or business and then refine its complex, intangible and dynamic unique resources (Barney, 1991), Habbershon and Williams (1999) proposes RBV to FB scholars as an appropriate framework to research idiosyncratic FFs' advantages and capabilities to be found in their organizational processes. In addition, RBV suggests that firms are heterogeneous (Habbershon and Williams, 1999), firms' assets and capabilities have diverse arrangements and/or ranges (Hart and Banbury, 1994), firms's resources comprise tangible and intangible assets, individual and business skills, organizational processes, and knowledge (Barney, 1991), firm's collection of resources are always idiosyncratic (Collis & Montgomery, 1995), and firms' such collection of resources including organizational, social and individual phenomena are often neglected (Habbershon and Williams, 1999). Thus, familiness theory, which represents an inclusive concept of family involvement in relation to ownership, management, and transgenerational intention (Habbershon and Williams, 1999; Habbershon et al, 2003), emerges from a resource-based framework to better understand unique resources and capabilities of FFs to maintain competitive advantage. Pearson et al. (2008, p. 949) value the significance of this concept and state that "[the] identification and isolation of a construct [familiness] unique to family firms is both groundbreaking and important for family firm research."

In the FB literature, familiness theory is emerged to address unique resources of a firm resulting from family involvement concentrating on the relationship between family and business (Arregle et al, 2007; Pearson et al, 2008). The term familiness is first introduced by Habbershon and Williams (1999) to explain the unique resources of family firms, which are "complex, dynamic, and rich" and later defined by Habbershon et al. (2003) as "[...] the idiosyncratic firm level bundle of resources and capabilities resulting from the systems interactions between the family, its individual members, and the business" (p. 451). According to Habbershon and Williams (1999), history of a FF is inimitable, family's decisions are informal and socially complex, and also FF's

routines are intrinsic and causally ambiguous; thus FF acquires those unique resources and capabilities. The familiness concept later defined by Chrisman et al. (2003) as “[...] resources and capabilities related to family involvement and interactions” (p. 468), and those capabilities are seen as “[...] a special type of resource – specifically, an organizationally embedded, nontransferable, firm-specific resource whose purpose is to improve the productivity of other resources” (Makadok, 2001, p. 389).

Familiness refers to unified systems perspective including FF capabilities and competitive advantage, therefore familiness antecedents are also related to a unified systems model. This first model – adapted from the model of Grant (1991) – is proposed by Habbershon and Williams (1999) comprising six steps. Habbershon et al. (2003) later propose a unified system performance model combining the family business social system and the resource-based view of the firm to explain the familiness of the firm. The family business social system includes three components: (1) *family unit* (history, tradition, family life cycle), (2) *business* (strategy, financial structure), and (3) *individual family member* (interest, skill, life of family owner/manager); these components continuously interact in a loop, and this model is also affected by external stakeholders and environment (Habbershon et al, 2003). Later, referring to the resource-based view, this systemic model creates resources and capabilities, which are the result of the family factor.

In addition to the unified systems performance model (Habbershon et al. 2003) that considers family as a resource provider for performance, Sirmon and Hitt (2003) see this system as a two-level resource management process and add resource configuration as the second level of this process through selecting, deploying, bundling, leveraging, and shedding. The resources provided by the family include *financial capital* related with long-term safe but limited capital, *human capital* related with knowledge, capabilities and experience of all actors, *social capital* – later defined as an additional theory of familiness by Pearson et al. (2008) – related with network based relationships among all actors and organizations, *physical capital* related with all tangible assets such as properties, machinery and supplies, and *reputational capital* related with firms image of trust and loyalty (Sirmon and Hitt, 2003). Zellweger (2017) point out that these resources of familiness might not be included in every family firm and might be even a reason for competitive disadvantage. In the second level of resource management process, the family configures these resources by *selecting* the

best fit for culture and practice of organization, by *deploying* for new adoption, development, and execution, by *bundling* for internal combination, by *leveraging* for efficient use, and by *shedding* hesitantly because of emotional ties and commitment (Sirmon and Hitt, 2003). Zellweger (2017) points out that some of these configurations of resources such as selecting, bundling, and leveraging might be advantageous, however deploying new resources and shedding existing ones might be disadvantageous.

Chrisman et al. (2005) later offer the involvement of family and the essence of that involvement to explain the dimensions of familiness. Firstly, *involvement dimension* highlights the structural aspects of the term and deals with the existence and contribution of family members in the ownership, management/governance, and control of the firm (Chrisman et al, 2005). The distribution of ownership and the count of active family members are examined by involvement dimension (Sharma et al, 2012). This dimension brings an impartial appraisal and establishes a starting point to describe a business as FF (Pearson et al, 2008; Zellweger et al, 2010). Secondly, *essence dimension* highlights the system interactions between family and business involving family's unique methods, arrangement and integration of its synergistic resources and capabilities, as well as its transgenerational intention and vision (Litz, 1995; Chua et al, 1999; Chrisman et al, 2005; Irava and Moores, 2010). This dimension analyses family's goals and its actual engagement (Sharma et al, 2012), and explains different FF samples and their behaviours to apprehend their heterogeneity (Westhead and Howorth, 2007; Zellweger et al, 2010). In short, involvement dimension evaluates the family firm objectively, while essence dimension reveals the FF behavior. Thirdly, *organizational identity dimension* highlights how FF is explained and seen by family involving its pride, long-term orientation, social ties with community and its image (Zellweger et al, 2010). This dimension focuses on unique identity and collective behavior of family firm, embedded in firm's history and values, and projects its image towards internal and external stakeholders (Zellweger et al., 2010). The shared understanding of methods, actions and culture of the firm developed by firm members and the effect of this understanding on members, firm's strategy and change is described by the organizational identity dimension (Ravasi and Schultz, 2006). Organizational identity, recognized by Zellweger et al. (2010) as an additional

dimension to involvement and essence dimensions by Chrisman et al. (2005), helps to apprehend the business perception of the family.

A more recent study analyzing 78 peer-reviewed journal articles during the period from 2001 to 2015 on innovation in family businesses developed a conceptual framework that provides a holistic view of the multi-staged innovation process as input-activity-output (Crossan & Apaydin, 2010; Lumpkin et al, 2011) by incorporating the family system with contextual factors (e.g., performance hazards, kind of family involvement, and generational effects) and first and foremost the concept of *familiness* of the firm (Röd, 2016). Finally, family factors influencing the innovation stages are revealed as (1) *family goals and behavior* (long-term orientation and continuity, conservatism and risk-aversion, maintaining ownership and control, propensity for parsimony, monitoring power over managers), (2) *family dynamics* (interplay between older and younger generation, collective orientation and strong family ties, conflict of interest and nepotism), (3) *attributes of family members* (commitment, closeness to the firm and strong leadership), and (4) *family's attitude towards others* (enduring ties with internal and external stakeholders and the community, closure to external environment) (Table 2.1). An area of research proposed by Röd (2016) that remained untouched thus far reveals how family business innovation affects the family system and change the family members' goals, attitudes, and values across generations to understand more about transgenerational entrepreneurship and to gain insight into success factors and strategies of highly innovative family firms with a long-life span, thus this study aims to explore this gap in the existing body of knowledge by exploring the effect of family involvement in FF innovation.

Table 2.1 : Conceptual framework of family and business system (Adapted from Röd, 2016).

CONTEXT					
Local and national conditions, industry, company, size, etc.					
FAMILY SYSTEM	Family ownership, management and governance, generational effects				
	Family goals and behavior	- Long-term orientation and continuity	- Cassia et al., 2011, 2012; Kammerlander & Ganter, 2015	- Monitoring power over managers	- Cassia et al., 2011, 2012; De Massis et al., 2016a
		- Conservatism and risk-aversion	- Cassia et al., 2011, 2012; Craig et al., 2014b; De Massis et al., 2015b		
		- Maintaining ownership and control	- Cassia et al., 2011; Gomez-Mejia et al., 2014; Kammerlander & Ganter, 2015; Mille et al., 2015		
		- Propensity for parsimony	- De Massis et al., 2015b		
	Family dynamics	- Interplay between older and younger generation	- Litz & Kelysen, 2001; Hauck & Prügl, 2015; Kammerlander et al., 2015; Kammerlander & Ganter, 2015; Chrisman et al., 2015a; Frank et al., 2016	- Collective orientation and strong family ties	- Cassia et al., 2011, 2012; Craig et al., 2014a; Sanchez-Famoso et al., 2014; Chirico & Salvato, 2016
				- Conflict of interest and nepotism	- Cassia et al., 2011, 2012; Miller et al., 2015; Chirico & Salvato, 2016
Attributes of family members			- Commitment, closeness to the firm and strong leadership	- Craig et al., 2014a; De Massis et al., 2015b; Chirico & Salvato, 2016	
	Family's attitude towards others		- Enduring ties with internal/external stakeholders and the community	- Cassia et al., 2011, 2012; Miller et al., 2015	
				- Closure to external environment	- Cassia et al., 2011, 2012; Lazzarotti, 2013; Bennedsen & Foss, 2015; Chrisman et al., 2015a; De Massis et al., 2015b; De Massis et al., 2016b; Frank et al., 2016
BUSINESS SYSTEM	INPUT		ACTIVITY		
	- Investment in resources (Litz & Kleysen, 2001; Gudmundson et al., 2003; Kim et al., 2008; Sirmon et al., 2008; Chen & Hsu, 2009; Llach & Nordqvist, 2010; Munari et al., 2010; Munoz-Bullon & Sanchez-Bueno, 2011; Block, 2012; Chrisman & Patel, 2012; Kellermanns et al., 2012; Llach et al., 2012; Brines et al., 2013; Chen et al., 2013; Tsao & Lien, 2013; Beneito et al., 2014; Classen et al., 2014; Gomez-Mejia et al., 2014; Kotlar et al., 2014; Patel & Chrisman, 2014; Schmid et al., 2014; Ashwin et al., 2015; Choi et al., 2015; Kammerlander et al., 2015; Matzler et al., 2015; Millet et al., 2015; Nieto et al., 2015; Sciascia et al., 2015; Yoo & Sung, 2015)		- Strategy (Llach & Nordqvist, 2010; McAdam et al., 2010; Bergfeld & Weber, 2011; Cassia et al., 2011, 2012; Classen et al., 2012; Stubner et al., 2012; Kotlar et al., 2013; Pittino et al., 2013; Allison et al., 2014; Weismeier-Sammer, 2014; Nieto et al., 2015) - Leadership (Hsu & Chang, 2011; Kraiczky et al., 2014; De Massis et al., 2015b; Kammerlander & Ganter, 2015; Kracizy et al., 2015; De Massis et al., 2016a; Ingram et al., 2016) - Resource orchestration (Craig & Dibrell, 2006; Liang et al., 2013; Spriggs et al., 2013; Lodh et al., 2014; Sanchez-Famoso et al., 2014; Bammens et al., 2015; Memili et al., 2015) - Culture and structure (Dibrell & Moeller, 2011; Craig et al., 2014a) - Organizational knowledge & learning (Alberti & Pizzurno, 2013; Laforet, 2013; Chirico & Salvato, 2016; De Massis et al., 2016b)		OUTPUT
				- Form (Product, Service, Process, Business model) - Magnitude (Incremental, Radical) - Outcome	

Another systematic review of familiness concept after 13 years of its emergence by Weismeier-Sammer et al. (2013) presents their analysis with (1) theoretical perspectives, (2) development and impact of familiness, and (3) empirical approaches; and reveals that a broad theoretical view is absent. Adding to the suitability of systems theory stated by Frank et al. (2010), Weismeier-Sammer et al. (2013) also reference to the systems theory view of familiness, which examines the decision-making processes of family firms with the dimensions of involvement, essence, and identity; but also advances this view by providing the main structure of family firms and guidelines for their behavior. Since revealing the decision-making processes of family firms through involvement, essence, and identity dimensions induces innovative outcomes and competitive advantage (Gedajlovic et al, 2012), Weismeier-Sammer et al. (2013) propose qualitative in-depth case study as a promising research methodology to make a systematic classification of familiness through reflecting its heterogeneity.

Therefore, this study uses involvement and essence dimensions by Chrisman et al. (2005) as well as organizational identity, recognized by Zellweger et al. (2010) as an additional dimension, and the family system revealed by Röd (2016) for data analysis of *familiness* (Table 2.2).

Table 2.2 : Familiness dimension framework used in this study (Author).

Family Business Research	
Family Involvement - “Familiness”	
Major studies	(Cabrera-Suarez et al, 2015; Chrisman et al, 2005, 2012, 2015; Gomez-Mejia et al, 2011; Fitz-Koch and Nordqvist, 2017; Habbershon and Williams, 1999; Habbershon et al, 2003; Kammerlander and Ganter, 2015; Le Breton-Miller and Miller, 2006; Lichtenthaler and Muetler, 2012; Miller and Le Breton-Miller, 2005, 2014; Röd, 2016; Sciascia et al, 2015; Sharma, 2008; Sharma et al, 2012; Weismeier-Sammer et al, 2013; Zahra, 2010; Zellweger et al, 2010)
Definitions	“the unique bundle of resources a particular firm has because of the systems interaction between the family, its individual members, and the business” (Habbershon and Williams, 1999, p.11) - the idiosyncratic firm level bundle of resources and capabilities resulting from the systems interactions (Habbershon et al, 2003) - is linked to economic and non-economic performance as family seeks to maintain business through future generations (Chua et al, 1999) “resources and capabilities related to family involvement and and interactions” (Chrisman et al, 2003, p. 468)
Dimensions	1. Involvement
	- structural aspect of familiness capturing the presence of the family in the firm in terms of ownership, management, and control (Chrisman et al, 2012) - defined by examining ownership distribution or the number of family members active in the business (Sharma et al, 2012) - provides and objective assessment of the family firm, setting a threshold in defining a business as a family firm (Pearson et al, 2008; Zellweger et al, 2010)
	- Ownership - Governance / Management - Control
	2. Essence
	- actual activities between the family and the business system, unique processes, deployment and integration of resources and capabilities contributed to the business by the family in addition to the transgenerational vision (Chrisman et al, 2004; Chua et al, 1999; Irava and Moores, 2010; Litz, 1995) - family aspirations and actual involvement of family at the center of analysis (Sharma et al, 2012) - describe different types of family firms and behaviors, thereby capturing the heterogeneity of family firms (Westhead and Howorth, 2007) - reflects the behaviors that can embody the family firm (Zellweger et al, 2010)
	- Unique processes - Synergistic resources and capabilities - Transgenerational intention/vision
Dimensions	3. Organizational Identity
	- captures how the family defines and views the firm (Zellweger et al, 2010, 2012) and includes elements such as strong family firm pride, long-term orientation and community social ties, which facilitate the development of a strong family firm image - focus of family firm identity which is unique given the idiosyncrasy of the family, projecting an image towards internal and external stakeholders of the firm (Zellweger et al, 2010) - describes how organizational members develop shared understanding of the inner processes, workings and culture of the organization and how this understanding affects the behavior of these individuals, the organizational strategy and change (Ravasi and Schultz, 2006)
	- Family goals and behavior > Long-term orientation and continuity (Cassia et al, 2011, 2012; Kammerlander and Ganter, 2015) > Conservatism and risk aversion (Cassia et al, 2011, 2012; Craig et al, 2014; De Massis et al, 2016) > Maintaining ownership and control (Cassia et al, 2011; Gomez-Mejia et al, 2014; Kammerlander and Ganter, 2015; Miller et al, 2015) > Propensity for parsimony (De Massis et al, 2015) > Monitoring power over managers (Cassia et al, 2011, 2012; De Massis et al, 2016)
	- Family dynamics > Interplay between older and younger generation (Chrisman et al, 2015; Frank et al, 2016; Hauck and Prügl, 2015; Kammerlander and Ganter, 2015; Kammerlander et al, 2015; Litz and Kleysen, 2001) > Collective orientation and strong family ties (Cassia et al, 2011, 2012; Chirico and Salvato, 2016; Craig et al, 2014; Sanchez-Famoso et al, 2014) > Conflict of interest and nepotism (Cassia et al, 2011, 2012; Chirico and Salvato, 2016; Miller et al, 2015)
	- Attributes of family members > Commitment, closeness to the firm and strong leadership (Craig et al, 2014; De Massis et al, 2015; Chirico and Salvato, 2016)
	- Family’s attitude towards others > Enduring ties with internal and external stakeholders and community (Cassia et al, 2011, 2012; Miller et al, 2015) > Closure to external environment (Cassia et al, 2011, 2012; Lazzarotti, 2013; Bannedson and Foss, 2015; Chrisman et al, 2015; De Massis et al, 2015; De Massis et al, 2016; Frank et al, 2016)

2.2 Research Perspectives on Innovation in Family Business

Family business (FB) scholars value the importance of interaction between FB and innovation, yet the relevant literature is rather scarce. The studies addressing the effect of familiness on innovation demonstrate the significance of familiness, highlight the role of family's vision, identify process and outcome perspective of family in innovation, and describe value and criteria transfer from family to business (Weismeier-Sammer, 2014). These studies approaching familiness versus innovation interaction from an exploratory perspective allow a comprehensive understanding of familiness and prevent disadvantages of quantitative methodology in FB literature (Frank et al., 2010). Consequently, a qualitative methodology approach to FB innovation research acknowledges "new ways of studying family business phenomena, offering alternative understandings of social relationships in and around the family business and raising new research questions" (Dawson and Hjorth, 2012, p. 350).

2.2.1 Definition of innovation

Several different definitions of innovation found in the literature prove that it is an intricate concept (Tidd and Bessant, 2017). Innovation can be basically conceptualized as all the activities of a firm including creation, design, manufacture, marketing, and launching of a new product/service, process, or business model (Freeman, 1982). A rather old definition explains innovation as exploration and exploitation of business opportunities generating, recognizing, and implementing new products/services, and processes with a set of activities (Thompson, 1965), whereas the oldest definition states innovation as application of new ideas in products/processes (Schumpeter, 1934). Innovation is also argued as a timely method for offering a new thing in an organization or in a market as well as its invention and application (Porter, 1980).

Innovation is a tool for exploitation of change opportunity by entrepreneurs as stated by Drucker (1985). Following studies suggest that it has an output as new methods/techniques or new products/services (Porter, 1990), and it is a process of identification and realization of change opportunity, and value capture (Tidd and Bessant, 2009). While Drucker's (1985) definition is associated with management aspects and called administrative innovation; Tidd and Bessant's (2009) definition refers to technological innovation (Crossan and Apaydin, 2010). In the concept of

technological innovation, the set of activities include firm's design, manufacture, and launch of new product/service or technique (Freeman, 1982), R&D has a significant role (De Massis et al, 2012), and there are two distinguished types called product and process innovation (Utterback and Abernathy, 1975), as Tidd and Bessant (2017) also explain "[...] the things (products/service) which an organization offers, and change in the way in which they are created and delivered". Research and NPD create and turn technological knowledge into new manufacture, implementation, market and distribution of products/services and techniques (Chiesa, 2001).

The fourth edition of the Oslo Manual for innovation data (OECD, 2018) states that there are four innovation types, which embody the changing business environment: (1) *Product innovation* deals with changes in new/existing products and services, (2) *process innovation* deals with changes in techniques/methods of production and distribution, (3) *organizational innovation* deals with changes in methods of business model, firm policy, internal and external structure, and (4) *marketing innovation* deals with changes in procedures of design, publicity, and cost. These innovation activities enhance firm performance, thus competitive advantage and become relevant strategies for FFs (Braga et al, 2017). The most comprehensive definition of innovation in the literature, which is the most suitable to the focus of this study is as follows:

[...] the process of placing products on the market (goods or services); New or improved processes; Integration of structural changes regardless of the area (marketing, human resources, administration, management, or other) or implementation strategy (novelty or improvement, origin within the firm or resulting from an imitation process) and whose purpose is the creation of value to the firm. (Braga et al, 2017, p. 233)

2.2.2 Innovation in family business

As innovation is acknowledged as the key to competitive advantage as a driver of business performance (Trott, 2017), ensured economic prosperity (Porter, 1980) and long-term survival (Schumpeter, 1934), research on innovation in the field of FB gains interest by the scholars (e.g., De Massis et al, 2012; Röd, 2016; Fuetsch and Suess-Reyes, 2017). As the goal of long-term survival through the success of generations is one of the basis features of FBs (Chua et al, 1999), innovation becomes very crucial. The research on innovation in FFs has varied findings (De Massis et al, 2013), as

family firms are mostly considered to have dual features both as being moderate and having determined goals thus being less innovative than other businesses, and as constituting the 50% of the most innovative businesses in Europe (Borden et al, 2008).

Since there is an increasing popularity of studying innovation in FFs among the scholars of FB research (Bergfeld and Weber, 2011; Carnes and Ireland, 2013; De Massis et al, 2013), the common consent suggests that the uniqueness created by family involvement is both advantageous and disadvantageous for innovation. FFs are stated as more innovative than non-family firms (Craig and Dibrell, 2006; Llach and Nordqvist, 2010), whereas they are found to be less innovative as well (e.g., Chen and Hsu, 2009; Munoz-Bullon and Sanchez-Bueno, 2011). De Massis et al. (2013) mainly associate these indecisive results with the lack of qualitative studies on innovation in FB. The sampled literature review studies on innovation in FB can be seen in Appendix A.

The studies mostly attempt to map the innovation strategies of FFs to understand (1) where to find the innovation resources (existing bases, new domains, searching, etc.), (2) how to manage the innovation process (open/closed approach), and (3) what to innovate (product/service, process, business model, and radical/incremental) (De Massis et al, 2015a). A review of journal publications on innovation in FBs between 2004-2015 (Fuetsch and Suess-Reyes, 2017) analyzes the findings that: (1) FBs usually have exploitative innovations strategies with an incremental outcome, (2) R&D investments are negatively affected by familiness in spite of having diverse actors, and (3) FBs are willing to take financial risks, despite rarely investing in R&D. Fuetsch and Suess-Reyes (2017) also states that when FFs invest in R&D, they do it efficiently and that would be explained by eccentric traits and socio-emotional preferences of FFs. As an example of that behavior, FFs show innovative business performance with a conservative culture and a management style of support and care despite having an environmental pressure (e.g., industry momentum, risk of copy, ambiguity of technological improvements).

On the other hand, innovation in FFs would be negatively affected by the firm getting older but the succession of family members in charge may provide a positive chance for innovation based on the family culture, either being adaptive to change or being closely related with business. As practical and managerial implications proposed in this review article (Fuetsch and Suess-Reyes, 2017), FFs do not need large investments

on R&D for an innovation outcome, but they should use their own potential with joint innovation strategies by considering the environment and adapting to the market and competitors, by using and creating networks, by combining stakeholders and family members, by involving external specialists and consultants, and by strategically selecting the successors for innovation success.

A review study on innovation in FFs dealing mostly with technological innovation reveals that family negatively affects the innovation process, thus FFs are less innovative (De Massis et al, 2013), while another meta-analysis study states that FFs make less innovation investment but successfully innovate with higher outputs because of the engagement and control of family (Duran et al, 2015). On the other hand, a negative effect of family involvement on R&D investment is found by some scholars, whereas the evidence on the effect of family involvement on innovation outcome is mixed in some studies (De Massis et al, 2015b). Thus, these reviews propose to study the innovation process of FFs in more detail (De Massis et al, 2013), and to define the unique features of FFs more clearly (Duran et al, 2015). A subsequent literature review from 2001 to 2015 also studies the innovation process of FFs focusing on its unique and diverse variables and proposes a conceptual framework with the antecedents of innovation in FFs (Röd, 2016). The defined innovation process has multi stages of input, activity, and outputs (De Massis et al, 2013; Lumpkin et al, 2011): (1) *innovation input* as resources of innovation (e.g. R&D investments, personnel) (Lumpkin et al, 2011), (2) *innovation activity* as orchestration of resources (e.g. strategy, leadership, resource allocation, organizational culture, structure, organizational learning, and knowledge management) (Crossan and Apaydin, 2010); and (3) *innovation output* as form of innovation (product/service, process, business model), magnitude of innovation (incremental/radical) (Crossan and Apaydin, 2010), and organizational benefits (Lumpkin et al, 2011)

Also, the context such as organization type (e.g., family firm), local and national conditions (e.g., emerging market, developing country), industry (e.g. manufacturing, office furniture), and company size (e.g. large) affect the innovation process (Frank et al, 2010; Röd, 2016). For all these reasons, a qualitative and comprehensive approach relevant to previous theories and methods are needed to apprehend the complex and unique features in response to the “how” and “why” questions of innovation process

in FB research (e.g., De Massis et al, 2013; Classen et al, 2014; Bennesen and Foss, 2015).

Research on innovation in FB is fragmented and rather inconsistent (Duran et al, 2015). FFs are hesitant to risk, conventional and concerned with parsimony through unwillingness for innovation-related investment (Kellermans et al, 2012), innovation-related inquiry (Classen et al, 2012), and external innovation-related knowledge (Nieto et al, 2015), thus they are less innovative than non-FFs with mostly incremental innovations according to some studies. Whereas others indicate that FFs are more innovative (Chirico and Nordqvist, 2010), and take risks through a multifaceted perspective (Gomez-Mejia et al, 2007; Zahra, 2005). FFs have the ability of constant technology and market search through a long-term strategy (Bergfeld and Weber, 2011), while they have diverse attitudes and values for product innovation (De Massis et al, 2016) and are more innovative through high level of control (Duran et al, 2015).

The literature on innovation in family firms mostly focuses on innovation inputs such as R&D investments or innovation outputs such as new product/services and patents (De Massis et al, 2013). Innovation input related studies reveal that family firms invest less in innovation (e.g., Chen and Hsu, 2009; Chrisman and Patel, 2012; Kotlar et al, 2013), and, on the contrary, innovation output studies reveal that family firms have higher innovation performance (e.g., Block, 2012). This paradox, called as “family innovation dilemma”, forces the researchers to focus on “why” and “how” family firms behave in a “do more with less” way (Feranita et al, 2017).

The issue of *familiness*, defined by the decision-making process affected by family, builds the innovation behavior in family businesses (Frank et al, 2016; Weismeier-Sammer et al, 2013), such as the positive effect of their goal of sustainability and long-term survival (Le Breton-Miller and Miller, 2006), their vision of creating trust and strong social networks (Bennesen and Foss, 2015), and their informal but efficient structures in organization (Daily and Dollinger, 1992). Despite those positive attributes of the family firms towards innovation, the studies on the innovation outputs show some inconclusive results (De Massis et al, 2015), and the reasons would be the paradoxical issues of *familiness*; such as avoiding the take risks in order to protect family legacy (Gómez-Mejía et al, 2007), keeping the traditions and not trying new things (Miller and Le-Breton Miller, 2005), being averse to increase external capital

(Poutziouris, 2001) and to receive skills and knowledge from an external actor (Garcia and Calantone, 2002).

This phenomenon of having the potential to innovate but being averse to use it is called *ability-willingness paradox* in the literature (Chrisman et al, 2015). Family firms are unharmonious bodies formed by conflicting principles (Jackson, 1999; Lewis, 2000), such as family-enterprise (Fletcher, 2014), family-business, private-public, informality-formality (Nordqvist, 2012), ability-willingness (Chrisman et al, 2015) paradoxes. Thus, family business research should try to comprehend this complexity and to codify mostly overlooked tacit knowledge. Especially the ability-willingness paradox is the portrayal of unique features of family firms, thus apprehends and incorporates some arguments in family firm innovation literature (Carney, 2005; Sirmon and Hitt, 2003), but also reveals why family firms are not willing to innovate (because of, e.g., risk aversion, fear of losing control, or low performance aspirations). Those insights lead many researchers to explore how and why some family firms manage to overcome this paradox and succeed in innovation (De Massis et al, 2015a, 2015b).

As the *ability-willingness paradox* is most highly interested concept in the literature, the ability of a family is being related to the long-term direction and leadership, tacit knowledge, family values, social networks (Patel and Fiet, 2011), and thus all transformed liability assets (Bennedsen and Foss, 2015); whereas the willingness is being related to the family goals, motives, being averse to risk, fear of loss of control (Chrisman et al, 2015), and socioemotional concerns that can be defined as the non-economic goals of family firms (Gómez-Mejía et al, 2007). Those previously mentioned various economic and non-economic goals of the family firms lead to heterogeneity in innovation outcomes (Chrisman et al, 2015). For this reason, family firms are known as innovating incrementally (Carnes and Ireland, 2013; Hiebl, 2015), but in fact they can both have incremental and radical innovation outcomes (Sharma and Salvato, 2011) when both ability and willingness exist (Holt and Dasgupta, 2015).

Recently, the scholars both from the fields of family business and innovation are also interested in why some family firms are more innovative with using diverse theories and making distinct contributions to the literature (De Massis et al, 2015; Randerson et al, 2015), such as resource-based view, SEW, and familiness theory by family business researchers whereas agency theory excluding the family issue by innovations

researchers (Randerson et al., 2015) without practical and managerial implications (Drazin and Schoonhoven, 1996; Keupp et al., 2012) as being socially useless (Hodgkinson and Rousseau, 2009).

Urbinati et al. (2017) provide an overview recent and relevant studies in the growing body of research on innovation in FFs and develop a framework, which focuses on two internal knowledge sources of FFs including *internal R&D* and *tradition and past history* and two external knowledge sources including *clients/suppliers/competitors* and *universities/research centres*. This proposed framework argues that *dynamic capabilities* (Teece et al., 1997; Eisenhardt and Martin, 2000) are highly dependent on the *heterogeneity of family firms* (De Massis et al., 2014) and *temporal family dynamics* (Sharma et al., 2014; De Massis et al., 2014a) in terms of goal alignment, trust, altruism, and interpersonal contract, which are affected by events occurring during the lifecycle of a FB, such as trans-generational succession.

Calabro et al. (2019) later organize extant knowledge by integrating FF and mainstream innovation literature and presents various promising avenues for future research. On the other hand, Serrano-Bedia et al. (2019) also reveal the tendency of FF to pursue exploitative strategies with a focus on incremental innovations. Most recently, Cassado-Belmonte et al. (2021) organizes FB innovation literature into four theoretical roots (entrepreneurship, behavioral agency theory, RBV, agency theory) and five thematic clusters (FF, innovation, SEW, firm performance, internationalization). In sum, based on the limited attention devoted to the role of innovation capabilities and considering that the family influences the innovation process in different stages not only through financial and socioemotional goals but also through norms, attitudes, and values, a deeper understanding between the relationship of innovation and family is needed. Therefore, this study contributes to this lack of knowledge.

2.2.2.1 Innovation in the context of emerging markets

A large amount of research on innovation has mainly focused on developed countries whilst the innovation process in developing countries remains scarce (Chudnovsky et al., 2006). Besides, emerging markets have different innovative conditions such as weak investor protection, poor judicial systems, inefficient intellectual property protection, corrupt legal systems, under-developed capital markets and other

institutional weaknesses, and thus more hostile environment than developed countries, thus firm performances are unavoidably affected (Khanna and Palepu, 2000). Therefore, such differences and conditions originated from different contexts has become a field of study in the literature, besides large number of resources is increasingly invested for emerging markets by governments and economists (World Bank, 2008).

There are few studies attempting to combine DCs with firm strategy in an emerging market context. A quantitative study from emerging market, India, investigating the effect of innovation culture, product innovation, and process innovation on firm performance through DC perspective has several contributions to literature. Gupta and Gupta (2019) (1) highlight the significance of process innovation in emerging economies where there is a parallel growth of manufacture and service and product innovation has more importance in manufacturing sector, (2) observe the positive effect of innovation culture relative to the firm size where larger firms enhance their performance including internal and external stakeholders, and (3) debate innovation dimensions as key aspects of DCs in a fast growing business environment with ever changing competition. Lynch (2019), on the other hand, proposes several business options – fundamental, radical, adaptive, and opportunistic innovation strategies – for firms from emerging markets through a DIC perspective.

As previously mentioned, FB and innovation research emerges and is mostly conducted in developed countries, and it needs to be explored deeply in developing/emerging countries (Lopez Gomez, 2015). Thus, a project – Successful Transgenerational Entrepreneurship Project (STEP) - focusing on the development of FFs across generations in different regions, called, is launched in 2005 (Sharma et al, 2012). Nevertheless, another project – Culturally-Sensitive Assessment Systems and Education (CASE) – expanding the knowledge of FB to other regions, emerging markets is founded in the same year (Gupta and Levenburg, 2010; Gupta et al, 2008). However, a review paper by De Massis et al. (2012) studying 215 top-cited articles from 1996 to 2010, states that 27% of the empirical studies on family business belong to Asia, Australia, Latin America, and Africa. Recently, the studies increasingly address FBs particularly in developing, emerging, transition economies and show the significance of FB performance relative to innovation and entrepreneurship (Heck et al., 2008). Moreover, since FBs represent 50% of the global business, the studies on

FB and innovation in developing (emerging) countries are vital (Hermelo and Vassolo, 2012; Wright et al, 2005).

Drawing on the idea that FF performance depends on the context whether developed or emerging market (Perri and Peruffo, 2017), a study focusing on India attempts to comprehend the reason of weak regulations systems and governance entities, thus proposes to enhance institutional perspectives (Lodh et al, 2014). In this emerging context, having controlled management decisions, prosperous social and political asset, and access to raw materials are advantages of FFs for performance. The positive effect of family ownership on innovation productivity in India, as well as the positive effect of family ties on innovation outcomes, such as patents, in Taiwan (Hsieh et al, 2010) indicate similar findings in emerging contexts. Thus, in addition, scholars tend to resolve the interaction between family and R&D investment, especially in distinctive emerging markets, where financial asset and reputation of family is intrinsically linked with firm performance (Davis et al, 1997).

Correspondingly, family owners managing and deciding on firm strategy reduce traditional costs and increase R&D investments in emerging markets (Singh and Gaur, 2013). Moreover, with the effect of globalization, emerging markets experience growth by being the focal centers for manufacturing and R&D activities, rather than being only end markets (Gambardella et al, 2000; Scalera et al, 2015). This change additionally affects the global layout of competition where emerging countries becomes producers and exporters as well as being buyers and importers, expanding marketing, manufacturing, and R&D activities (KPMG, 2011). With pressure of fast-growing competition and low profit, business activity is changing towards emerging markets, where there is low-cost human and physical capital (Scalera et al, 2015).

While scholars attempt to study innovations in emerging economies such as Brasil, China, and India, and there are studies about design and innovation practices in emerging countries (i.e., China, Indonesia) (Zhang et al, 2016; Kembaren et al, 2014), there is no qualitative study found in the literature on innovation strategies of design-intensive firms operating in office furniture manufacturing industry from Turkey. Therefore, the focus of this study is FB and innovation research in an emerging market, Turkey.

2.2.2.2 Innovation in the context of Turkey

Turkey is described as an emerging economy (Ortiz et al, 2014; S&P Dow Jones, 2019; URL-1), as an upper middle-income country by World Bank (2008) and is one of the founding members of OECD in 1961, and G-20 major economies in 1999. Furthermore, in terms of various criteria, it is specified as an advanced emerging economy (FTSE, 2020). Moreover, according to the MSCI Emerging Markets Index, Turkey is listed for Europe since its inception in 1988 (MSCI, 2008).

Turkey is additionally considered as one of the forthcoming emerging economies, called CIVETS (Columbia, Indonesia, Vietnam, Egypt, Turkey, South Africa) by Economist Intelligence unit (EIU) in 2009 (Blessing, 2022). CIVETS are fast growing, have large young populations, are more stable in politics compared to past, value higher education, have enhanced finance systems and show economic growth. The key feature of CIVETS is the dynamic condition independent from external structures, thus they are called *tiger economies* (Blessing, 2022; Geoghegan, 2010). Since Turkey initiates meetings for access to EU in 2005 and strengthens business and investment interactions with EU in 2010, its improved economy and democracy during this process leads Turkey to be regarded as one of the CIVETS (Allen, 2011).

Regarding innovation, OECD Science, Technology, and Industry (STI) Scoreboard 2017 stated that Turkey has witnessed the most notable rise (up by almost 80%) in the R&D budget with 45% of gross domestic expenditure on R&D in 2015 (35% in 2005). It is also evident that Turkey experienced one of the highest and notable increases in the share of foreign value added in exports (OECD, 2017). According to Global Innovation Index (GII), which aims to capture the multi-dimensional facets of innovation by providing a rich database of detailed metrics, Turkey is ranked 43 (GII, 2017), 50 (2018), 49 (GII, 2019), 51 (GII, 2020), and 41 (GII, 2021) in the last five years as an upper middle-income economy among 127 in total, which represent 92.5% of the world's population and 97.6% of global GDP. Turkey is among the selected economies changing their innovation landscape, systematically catching up, and hosting top science and technology (S&T) clusters (e.g., Istanbul) (GII, 2021). As of 2021, human capital and research (rank 26), and creative outputs (rank 35) are the areas that Turkey is relatively stronger (GII, 2021). Moreover, European Innovation Scoreboard (EIS), which provides a comparative assessment of the research and innovation performance of the European Union (EU) Member States and the relative

strengths and weaknesses of their research and innovation systems, states that Turkey is a moderate innovator, and its performance has strongly increased by 13.2% in 2018 relative to 2010 (EIS, 2020). According to European Innovation Scoreboard 2020, relative strengths of the Turkey's innovation system are (1) firm investments (e.g. non-R&D innovation expenditures), (2) innovation-friendly environment (e.g. opportunity-driven entrepreneurship), and (3) innovators (e.g. SMEs product/process and marketing/organizational innovations, and SMEs innovating in-house), whereas relative weaknesses are (1) employment impacts (e.g. employment in knowledge-intensive activities), (2) intellectual assets (e.g. design and trademark applications), and (3) attractive research systems (e.g. international scientific co-publications). Turkey's positive structural differences from EU are more enterprise births, higher annual change in gross domestic product (GDP), and more total entrepreneurial activity. Less R&D spending enterprises, lower employment share in medium high-tech manufacturing and in knowledge-intensive services are Turkey's negative structural differences from EU (EIS, 2020). Another report proposing a perspective of global layout of innovation through empirical data by World Intellectual Property (WIPO) in 2019 reveals that Turkey has increasing number of scientific studies (10% in 20 years), and high concentration on patents because of few former patent activities (WIPO, 2019).

Nevertheless, Turkey values innovation with support programs, such as *Turquality* brand-building program offering incentives (i.e., R&D centers, design centers, start-ups) starting from 2004. TUBITAK (The Scientific and Technological Research Council of Turkey), KOSGEB (Small and Medium Enterprises Development Organization), Ministry of Development, Ministry of Economy, Ministry of Commerce, and several other institutions of government are involved in this program (URL-2). Bringing together the concepts of Turkey and quality, *Turquality* aims reach international benchmarks and create awareness on innovation, brand, design, and quality. Despite the increase in innovation activities and programs supporting R&D in Turkey, however it is not a leading country in terms of innovation and technological development. In fact, it is mostly dependent on imported technologies for increasing its innovation capabilities (Aydın and Erkarıslan, 2019).

Drawing upon the furniture industry, Turkey is 15th exporter, 12th manufacturer, 15th consumer, and 56th importer of the world in World Office Furniture Market Report

2019 by CISL (OMSIAD, 2019) (Table 2.3). The most five exported countries are Germany, Iraq, Saudi Arabia, Qatar, and Canada, whereas the most imported countries are Germany, China, Malesia, Italia, and Lithuania.

Table 2.3 : World office furniture market report 2019 by *CSIL** (Adapted by author).

	Production	Consumption	Import	Export	Population	GNP per person
Turkey	659 million USD (12th)	504 million USD (15th)	15 million USD (56th)	169 million USD (15th)	81 million	11000 USD

* *The Centre for Industrial Studies (CSIL)* is an independent research and consulting company specialized in applied economic research, evaluation of public investment projects, infrastructure project appraisal, support to development programs and policies, market analysis and SMEs economics.

World Intellectual Property Organization (WIPO) places Turkey as the 3rd country according to the total number of design applications, and 2nd according to the total number of brand applications in 2018. Moreover, the furniture sector (%28.8) has the highest number of design applications in Turkey, however, does not show that substantial success in patents (Table 2.4). The awareness about patents to have more market share and competitive power is suggested by The Role of Design and Patent in the Development of Furniture Sector Report - July 2020 (DestekPatent, 2020).

Table 2.4 : Turkish office furniture sector 2018 based on *Entrepreneur Information System** data (Adapted by author).

	Domestic sales	International sales	Workforce	Trademark applications	Design applications	Patent	Utility model
Turkish Office Furniture Sector	10 billion	2 billion	40000 people	193	142	2	16

* *Entrepreneurship Information System* is a project of collecting data on economic activities of enterprises in the administrative registers of different public institutions and organizations under the management of the Ministry of Industry and Technology in a database within the framework of common standards and the integration of these data.

Even though the furniture industry in Turkey is emerging, there are many challenges arising mostly because of being an emerging economy. The problems of furniture industry in Turkey are presented in Central Anatolia Exporters Unions Furniture Sector Report 2017 as design, R&D, branding, lack of capital, government bid, expert procurement, lack of experience, physical inadequacy, informality, black economy, increasing export, taxes and incentives, energy prices, marketing, communication, contract manufacturing, production technologies, bureaucracy and legislation.

Whereas, the solutions are presented as achieving international standards and quality, increasing test laboratories, focusing on customer satisfaction, logistics and packaging, valuing organization and education (OAIB, 2017). In another Furniture Working Group Report by T.R. Ministry of Development The Tenth Development Report 2014-2018 (OKP, 2015), the problems and bottlenecks of the sector are revealed similarly as unfair competition (informality, non-protection of intellectual rights), (1) education, skilled labor force, employment, and lack of experience, (2) efficiency, management, and institutionalization, (3) design and R&D, (4) promotion, branding, and marketing, (5) raw materials, (6) sub-industry, (7) logistics and transportation, (8) public sector relations, and (9) capital and finance.

Despite all those problems, Turkish office furniture sector, as one of the youngest sectors in the industry, has shown incredible advance in terms of technology and competitiveness in the last ten years. Some local leading companies have reached an international level with design, production, marketing, and finance issues in mind; thus, it positively affected the small-scale producers of the sector in terms of quality, image, brand, and standardization (Adıgüzel, 2016). Adıgüzel (2016) also mentioned the most important sectoral issues such as design and marketing.

Hence, office furniture manufacturing industry in Turkey establishes a rich and thriving research context to explore how family firms manage innovation through dynamic capabilities in an unstable and emerging market, and this study may shed light to this under-researched issue for the contribution to theory and practice.

2.3 Overview of Dynamic Capability Framework

Dynamic capability (DC) theory was first introduced by Teece and Pisano (1994) as “the firm’s ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments” (Teece et al, 1997, p. 516). Since they incorporate previously identified dimensions of innovation strategy to corporate strategy as a new approach called DC to highlight the significance of corporate learning. DC approach emphasizes (1) constantly changing business environment and (2) adaptation, integration, and reconfiguration of organizational ability, resource, and capacity roles of strategic management, which are associated with unique and inimitable needs (Tidd and Bessant, 2020). The term *dynamic* is defined as renewal of capabilities and critical timely responses of innovation to adapt

business environment and rapid technology change, where competitiveness and future market is unverified. Whereas the term *capabilities* is linked to the adaptation, integration, and reconfiguration of organizational abilities, resources and capacities to adapt changing environment (Teece et al, 1997).

DCs are later defined as firm's processes of using resources in order to adapt to market change (Eisenhardt and Martin, 2000), as capacity to sense/shape and seize opportunities, and to orchestrate resource manipulation (Teece, 2007), shared organization activity generating and modifying operation practices for competitive advantage (Zollo and Winter, 2002), and also capacity for a purposeful organization of resource base creation, extension, and modification for survival in changing conditions (Helfat et al, 2007). According to Helfat et al.'s (2007) definition, (1) the term *resource base* comprises all assets owned, controlled, and accessed by an organization, (2) the terms *capacity* denotes to task performance ability, (3) the term *purposeful* relates to the intention degree either tacit or explicit, and (4) the terms *creation, extension, or modification* applies to the alteration of organizational resource base. The sampled definitions of dynamic capabilities can be found in Appendix A.

As argued by Teece et al. (1997), the processes of organization and management entail a firm's competitive advantage, which is characterized by DCs. The basis of DCs is represented by three main factors: (1) *coordination/integration* – including management activities and external technology incorporation, (2) *learning* – including process of task performance, individual/organizational skills, and knowledge in routines/logic/patterns of activity, and (3) *reconfiguration/transformation* – including asset structure changes, and constant investigation of technologies/markets (Teece et al, 1997). As it is also defined in previous literature, the *coordination/integration* factor is related to *absorptive capacity*, which is the identification, adaptation, and commercial application of emerging external knowledge (Cohen and Levinthal, 1990), and the *reconfiguration/transformation* factor is referred to the studies of Amit and Schoemaker (1993). Whereas the *learning* factor is essentially a shared process occurring through imitation and joint contribution for new reasoning, patterns, and practices (Teece et al, 1997). Subsequently, Teece (2007, 2014) identifies three essential dimensions of dynamic capabilities approach (DCA): (1) *sensing/shaping* new opportunities by learning, interpreting, and browsing, diagnosis of activities, environment, and technology, (2) *seizing* market/technology opportunities through

new products, processes, services, resource mobilization, value capture; and (3) *reconfiguring/transforming* existing resources through alteration and alliance.

During the first twenty years of its emergence, DC concept has been used by vast number of studies not only by scholars of strategic management but also all fields in business administration, and recently even in family business (Barreto, 2010). Since DC literature centrally considers the changes in internal structure of firms, the studied element of change varies from resources and capabilities (Eisenhardt and Martin, 2000; Winter, 2003), operational routines (Zollo and Winter, 2002), resources and routines (Zahra et al, 2006), and capacities (Helfat et al, 2007). DCs comprise various examples leading acquisitions, alliances, and NPD for survival and competitive advantage of firms (Eisenhardt and Martin, 2000; Zollo and Singh, 2004), and these examples purposefully support some activities (Winter, 2003). Consequently, this study adopts a capability-based view to explore a firm's approach to innovation, and the forms of DCs are examined in the following section.

2.3.1 Nature and microfoundations of dynamic capabilities

Constantly changing business environments with global competition and organizational sources of innovation for sustained competitive advantage necessitates unique and inimitable DCs, which generate, encompass, renew, and protect firms' resource base (Teece, 2009). Teece (2009) separates DCs into the capacity of *sensing/shaping opportunities* as well as risks, *seizing opportunities*, and *reconfiguring/transforming opportunities* to maintain competitive advantage by asset enhancement and combination, which all three form a firm's dynamic innovation capability (DIC).

The existing literature recognizes processes and routines, which propose evident bases for DCs such as R&D teams, NPD practices, quality control procedures, and performance measures (Eisenhardt and Martin, 2000). These microfoundations supporting sensing, seizing, and reconfiguring capabilities involve all processes, routines, and structures of organization, as well as entrepreneurial activities. For instance, adaptation to business ecosystems, shaping through innovation and collaboration with other stakeholders, adaptation to market change and technological opportunities, new products/processes development, and sustainable business model design and implementations are revealed as microfoundations of strong DCs

(Eisenhardt and Martin, 2000). As a result, they summarize four main operations of DCs as (1) enhancing current resources, (2) generating new internal resources, (3) gaining external resources, and (4) releasing resources. Whereas Teece (1997; 2007) categorizes DCs into (1) sensing/shaping opportunity, (2) seizing opportunity, and (3) orchestrating resource manipulation. Four operations of DCs by Eisenhardt and Martin (2000) resemble *resource manipulation* concept by Teece (1997, 2007). Wang and Ahmed (2007) additionally summarize three components of DCs: (1) *absorptive capacity* - recognition, integration and commercial application of emerging external knowledge, (2) *adaptive capacity* - recognition of emerging market opportunities, alignment of firm resources and routines to changing business environment, and (3) *innovative capacity* – engagement of emerging ideas, new designs, advancing technologies, and creative procedures, which can be aligned with three categories of Teece (2007).

Since DC perspective contains diverse levels of analysis from management, organizational procedures, and decision-making processes to changes in business environment and competitiveness relations (Helfat and Peteraf, 2009), the microfoundations of DCs introduced by Teece (2007) provide a comprehensive framework including processes and structures of organization and management (Popadiuk et al, 2018).

Sensing microfoundations are related to identification, exploration, and interpretation of activities, and considered as processes of (1) internal R&D expression and new technology selection, (2) supplier and complementary innovation use, (3) advanced external science and technology use, and (4) target market, customer need change identification (Teece, 2007).

Seizing microfoundations – strategic decision-making - are related to product/service and process development, marketing and investment choice, and business model creation/selection, and established as (1) customer and business model representation, (2) firm boundary selection for control management, (3) decision-making procedure selection, and (4) loyalty built for irregular knowledge avoidance.

Reconfiguring microfoundations are related to orchestration of assets and corporate renewal, and combination of products/services, business models, and routines. Thus,

it is referred to (1) decentralization and destructibility, (2) core expertise, (3) knowledge management, and (4) governance (Teece, 2007).

Therefore, this study uses sensing/shaping, seizing, reconfiguring/transforming dimensions of Teece et al. (1997) and Teece (2007) for data analysis of *dynamic innovation capability* (Table 2.5).



Table 2.5 : Dynamic capability framework used in this study (Author).

Dynamic Innovation Capabilities (DICs)	
Major studies	(Eisenhardt and Martin, 2000; Helfat et al, 2007; Lichtenthaler and Ernst, 2012; Nelson, 2005; Rothaermel and Hess, 2007; Teece, 2007; Teece et al, 1997; Zahra et al, 2006, 2007)
Definitions	“the firm’s ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments” (Teece et al, 1997, p. 516) “the firm’s processes that use resources to match and create market change” (Eisenhardt and Martin, 2000, p. 1107) “the capacity of an organization to purposefully create, extend, or modify its resource base” (Helfat et al, 2007, p.4) - capacity to sense and shape opportunities, capacity to seize opportunities, and orchestrating resource manipulation (Teece, 2007)
Forms of DICs	1. Sensing / Shaping - ability to generate and identify new opportunities - scanning, creation, learning and interpreting activities - involves diagnosis and necessitates “learning about the environment and new technological capabilities” - monitoring changes in operating environments
	2. Seizing - firms’ activities of addressing these opportunities with new products and processes - adjustment of new technologies with markets and utilizations - requires both investments in development and commercialization activity - designing product architecture and business models, brand management
	3. Reconfiguring / Transforming - renewal of a firm’s resources to remain competitive over time - ability to renew and adapt innovation processes, to recombine and to reconfigure assets and structures as firm grows and as markets and technologies change - modification and recombination of existing resources, and orchestrating resource manipulation (i.e. managing complementary assets or reengineering processes)
Microfoundations of DICs	1. Sensing - Analytical systems (and individual capacities) to learn and to sense, filter, shape, and calibrate opportunities . Processes to direct internal R&D and select new technologies . Processes to tap supplier and complementor innovation . Processes to tap developments in exogenous science and technology . Processes to identify target market segments, changing customer needs and customer innovation
	2. Seizing – strategic decision skills/execution - Enterprise structures, procedures, designs, and incentives for seizing opportunities . Delineating the customer solution and the business model > selecting technology and product architecture > designing revenue architecture > selecting target customers > designing mechanisms to capture value . Selecting decision-making protocols > recognizing inflexion points and complementarities > avoiding decision errors and anticannibalization proclivities . Selecting enterprise boundaries to manage complements and control platforms > calibrating asset specificity > controlling bottleneck assets > assessing appropriability > recognizing, managing, and capturing cospecialization economies . Building loyalty and commitment > demonstrating leadership > effectively communicating > recognizing non-economics factors, values, and culture
	3. Managing Threats / Transforming - combination, reconfiguration, and asset protection skills - Continuous alignment and realignment of specific tangible and intangible assets . Decentralization and near decomposability > adopting loosely coupled structures > embracing open innovation > developing integration and coordination skills . Governance > achieving incentive alignment > minimizing agency issues > checking malfeasance . Cospecialization > managing strategic fit so that asset combinations are value enhancing . Knowledge management > learning > knowledge transfer > know-how integration > intellectual property protection

2.3.2 Family business through dynamic capability perspective

Business environment is increasingly competitive, and firms must constantly renew, reconfigure, and recreate their capabilities for catching up competition and market changes. Since the beginning of this concept called dynamic capabilities (DCs), research interest in DCs has remained at a high level (Easterby-Smith et al, 2009). Nevertheless, the research is mainly devoted to non-FBs (Chirico and Nordqvist, 2010; Chirico and Salvato, 2008), despite FBs represent the most common organizations across economies (König et al, 2013). Therefore, a significant gap in the literature is found on FFs' capabilities in changing and competitive environment.

In FB literature, some scholars agree on FFs' unique setting that leads to the reconfiguration of capabilities and adaptation of strategies for success (i.e., Zahra et al, 2004; Wang and Poutziouris, 2010). Thus, DCs are also unique in FB since they result from interaction between business and family, that positively and negatively affect resource-recombination processes (Chirico and Nordqvist, 2010). The processes proposed by Teece (2004) as three modes of DC – sensing/shaping, seizing, transforming/reconfiguring – might be considered in the context of features associated with FFs (Gallucci et al, 2013), including familiness (i.e., Habbershon and Williams, 1999). In addition, Benavides-Velasco et al. (2013) also underline that the theoretical perspectives of RBV and DC advance FB research. Moreover, even though DC perspective offers significant contribution on how firms adapt to business environments, there are few studies dealing with DCs of FFs (Wang, 2016a, 2016b), and there are even more quantitative studies than qualitative ones (Hair and Sarstedt, 2014).

Even though dynamic capabilities (DCs) theory has a strong significance among scholars of strategic management (Karagouni, 2018) and DCs can help to comprehend the actual influence of family on managing the business for competitive advantage (Gallucci et al, 2015), there are few FB studies with DCs perspective (Chirico and Salvato, 2008; Chirico and Nordqvist, 2010). According to Chirico and Salvato (2008), FBs manage to create successful DCs such as skills acquisition, knowledge management, know-how, and learning with the help of their unique attributes of higher social capital and commitment for change, and lower conflict for interaction. In this respect, Janssen et al. (2018) aims to validate whether familiness affects the connection between DCs and performance, due to the lack of standard measures for the

functioning of capabilities in empirical research. As a result, they find out that DCs positively affects performance, and among DCs, learning is the most effective; and familiness mediates the connection between DCs and performance. It is also significant that the mediation effect of familiness might be greater if family business has clearer governance rules, and more agreement and willingness on issues such as future of business to enable the capability for setting up strategies (Janssen et al, 2018). Janssen et al. (2018) also state that familiness attributes of loyalty and pride are affected by performance, and family businesses try to adjust both economical and non-economic objectives in strategic decisions (Pearson et al, 2008), are willing to evolve in their managerial decisions using familiness as an associate for reconstructing their strategies.

The initial qualitative studies in FB research through DC perspective examine *value creation* in FB generated by entrepreneurial performance and knowledge through DC and discovers that the factor of *family inertia* prevents DCs as a propensity to resist change. This qualitative longitudinal multiple-case study with four FFs from Switzerland and Italy also reveals that family inertia is both positively and negatively affected by *paternalism* (attitude of not making changes) and entrepreneurial drive (attitude of keeping business change) that are embedded in FB culture (Chirico, 2007; Chirico and Nordqvist, 2010). Chirico et al. (2012) later continue to interpret the effect of paternalism on DCs and value creation with a simulation study on intricate decision-making processes in FFs and find that the combination of high family social capital and low paternalism is identified with high DCs and value creation. The relationship between parties for action and value creation in FF is defined as *family social capital* (Arregle et al, 2007). Based on the theoretical framework proposed by Chirico and Nordqvist (2010), Alonso et al. (2018) strongly relate FBs, changing business environment and DCs in their qualitative multiple-case study with 10 FBs in Western Australia. These three elements are then linked with *sources of competitive advantage* derived both from FBs and business environment, and *clusters of DC activities* - sensing/shaping, seizing, reconfiguring/transforming, thus they lead to competitive advantage and adaptation of FB. Moreover, Alonso et al, (2019) later offers another framework in a qualitative single-case study with a UK FF revealing the crucial bond between DCs, and knowledge-based attributes – including tacit/explicit knowledge, knowledge sharing, and problem solving for competitive advantage and innovation.

Another qualitative single-case study drawing on DCs theory with a six-generation FF in UK shows multigenerational ownership affects DCs in FFs (Jones et al, 2013). The findings state that *patient capital* (long-term investment resources), *flexible management structure*, and *mobilized social capital* (network resources) and *human capital* (skill resources) are unique assets of FF and *entrepreneurial cognition* – ability to make decisions on how to coordinate rare resources - is significant. Perlines and Araque (2015), on the other hand, develop a method to comprehend the relation between training and performance through DC perspective in a qualitative multiple-case study with six FFs in Spain and *training* is found to have a positive effect on DC and performance, as well as on endorsement of succession in FFs.

In conceptual research proposing a theoretical model to support FFs in the process of strategic decision-making through DCA, *familiness* (Habbershon and Williams, 1999) including experience, ownership, governance, and transgenerational intention, and *FF learning mechanisms* – including knowledge accumulation, integration, codification, and SEW preservation – are suggested as two factors for strategic decision-making in FFs (Barros et al, 2016). The four FF learning mechanisms included in this model are derived from the learning dimension of family DCs, whereas the other dimensions are coordination/integration and reconfiguration (e.g., Gomez-Mejia et al, 2007; Teece, 2014; Zollo and Winter, 2002).

In addition, Wang (2016a) examines the effect of *environmental dynamism* – changing business environment – and the role of *trust* on DCs of FFs in a quantitative study with 137 sampled FFs and finds that environmental dynamism is one of the emerging factors of DCs, whereas trust has a moderating role between environmental dynamism and DCs. In another quantitative study with 628 FFs from an emerging market, China by Wang (2016b), the positive effect of *social capital* on DCs of FBs is revealed. A more recent qualitative single-case study from an emerging market, with a Brazilian FF, displays the crucial effect of organizational paradigm, resource cognition, and organizational culture on family managers and their DC decisions, and FFs mostly set up their DCs corresponding with own organizational paradigm, not with context (Massa et al, 2020).

The effect of family involvement – including dimensions of ownership structure, corporate management structure, and family management structure – on DCs are found to be inconclusive in a quantitative study with 748 FFs in Spain (Camison-Zornoza et

al, 2020). A highly family-controlled ownership structure negatively affects, whereas management structure positively affects DCs. However, a strong family involvement in TMT and a family member CEO prevents this positive process, on the other hand an effective family board enables DCs. Similarly, another qualitative longitudinal single-case study with a Greek FF explores the effect of familiness resources in the evolution of DCs for business growth, and reveals product strategy, governance, networking/staffing, and financing as the dimensions reconfiguring familiness resources, thus influence DC processes – searching, seizing, and reconfiguring (Glyptis et al, 2021).

Most recently, a qualitative multiple-case study with 15 FFs from Germany, Austria, and Switzerland identify specific facilitators and inhibitors for DCs during the process of digital transformation. While paternalism, conflicting knowledge, and staff resistance act as inhibitors, cash opportunities, common strategy, and early success stories act as facilitators of DCs for digital transformation (Soluk and Kammerlander, 2021). All sampled studies on FB research with DC perspective in this thesis can be found in Appendix A.

2.3.3 Innovation in family business through dynamic capability perspective

Firms need to make entrepreneurial actions through managing resources and incorporating these resources into their processes for innovation and value creation (Sirmon and Hitt, 2003; Sirmon et al, 2007). Hence, dynamic capability (DC) perspective is proposed to generate value-creating innovation by resource reallocation and reorganization (Eisenhardt and Martin, 2000) and this perspective explores how entities endorse entrepreneurship and innovation over time (Teece et al, 1997). Thus, dynamic innovation capabilities (DICs) are vital for constant innovation (e.g., Pittino et al, 2013; Teece et al, 1997; Zahra et al, 2006), and compelling entrepreneurship (Covin and Slevin, 1991; Miller, 2011). The theoretical advances on social and cultural context of FFs lead to the significance of family involvement for entrepreneurship and innovation (Chrisman et al, 2015; De Massis et al, 2013; Fitz-Koch and Nordqvist, 2017; Nordqvist and Melin, 2010).

FFs combine both family and business goals (Chua et al, 2003; Kotlar and De Massis, 2013) and those family goals are accomplished by noneconomic and emotional values, which are also intended to affect innovation capabilities (Kammerlander and Ganter,

2015; Sciascia et al, 2015). Precisely, FFs take many risks to achieve innovation because family members desire to protect socioemotional wealth (SEW) (e.g., Chrisman and Patel, 2012; Chrisman et al, 2015; De Massis et al, 2013).

Innovation literature recently endorses FB literature to incline towards the issues of resources and capabilities of a firm to innovate, thus familiness is regarded as a noteworthy contribution to FB theories representing resources and capabilities generated by the interaction of business and family systems for competitive advantage (Daspit et al, 2017). Moreover, recently, innovation is recognized as a dynamic capability by FB scholars since it is an ability to advance new products, processes, organization, and marketing of a firm or to improve current ones (Chirico and Nordqvist, 2010; Eisenhardt and Martin, 2000). According to previous capability and innovation literature, three DIC factors of sensing, seizing, and transforming are classified by Lichtenhaler and Muethel (2012).

Several academic studies attempt to explore the effects of family involvement on DICs and discuss the links between FB research and DIC perspective. Lichtenthaler and Muethel (2012) explore whether family involvement affects a firm's level of sensing, seizing, and transforming innovation capabilities and provide new theoretical arguments related to *DICs* rather than stating innovation output in firms with family involvement. The findings of this quantitative study with 119 medium-sized manufacturing FFs in Germany show that *family involvement* (e.g., owner family's ability to influence firm behavior) is positively related to *sensing* opportunities and to *transforming* firm's processes, since it is not related to *seizing* opportunities. A more recent quantitative study with 154 FFs in Germany explores the effect of DCs on business model innovation (BMI) in FFs and how this effect is controlled by SEW. Weimann et al. (2019) identify that sensing and seizing capabilities are significant antecedents of BMI and SEW positively controls the relationship between DCs and BMI. Another quantitative study with 106 sampled FFs examines the role of generation in the effect of DIC on FB performance and reveals that the effect of DIC in second generation FBs is higher than the first (Hernandez-Perlines et al, 2021).

Besides, De Massis et al. (2016) conceptualize a new product innovation strategy called *innovation through tradition* (ITT) – core capabilities of sharing, interiorizing and reinterpreting previous knowledge and combine them with state-of-the-art technologies – through combining existing research on innovation, DCs and FB. This

qualitative multiple-case study with six long-lasting FFs in Italy recognizes advantages of previous knowledge in terms of creating and capturing value and develops a future research framework to improve the understanding of processes in ITT strategy. Fitz-Koch and Nordqvist (2017), on the other hand, examine the nature of DICs in FFs through SEW perspective and identify a positive relationship between DICs and SEW within FB, revealing the interaction between finance and SEW. This qualitative single-case study with a medium-sized FF in Sweden recognizes the quite positive interaction between three dimensions of DIC and five dimensions of SEW - (1) family control and influence, (2) family members' identification with the firm, (3) binding social ties, (4) emotional attachment, and (5) renewal of family bonds to the firm through dynastic succession.

Apart from the studies in developed markets, a qualitative multiple-case study by Alonso et al. (2018) investigates FFs' involvement on why and how to innovate through DC perspective with four FFs in Uruguay. *Solving problems* is considered as reason to innovate through longer firm life cycle, higher quality, adjustment to changing environment, and acquired competitiveness, whereas *absorptive capacity* (sense external knowledge, incorporate processes), *adaptive capacity* (apply knowledge, association with external structures, advance processes), and *innovative capacity* (sense emerging trends, learn, renew, reconfigure, transform) are revealed as ways to innovate. Another qualitative single-case study with a FF in Indonesia observes how knowledge management, DCs, and innovation performance processes interact for higher business performance, and the shows that the recurring process of mobilizing knowledge improves DCs and competitive advantage (Koentjoro and Gunawan, 2020).

A conceptual study by Daspit et al. (2019) offers a model stating that familiness affects absorptive capacity and innovation outcomes through DC perspective. This model indicates that the relationship between familiness and DCs is transformed by non-family members and the heterogeneity of FFs is clarified by this involvement. The sampled studies on innovation in family businesses with dynamic capability perspective can be found in Appendix A. Consequently, this study adopts dynamic capability (DC) perspective proposing value-creating innovation in FFs.

3. RESEARCH METHODOLOGY

This chapter presents the methodological framework of this study. It reflects a systematic research approach to address the research questions purposefully and strategically and to deliver the details of the research process. The chapter is structured as follows: Section 3.1 shows the purpose and strategy of the research. Section 3.2 presents the approaches to the research, while Section 3.3 discusses the design of the research and highlights the case selection, data collection, and data analysis.

3.1 Research Purpose and Strategy

Since this study aims to investigate an under-researched issue at the intersection of family business and innovation in a rather neglected context of emerging market, the research purpose of this thesis is exploratory. The objective of an exploratory research is to advance the knowledge of a phenomenon (Yin, 2009). In an exploratory research, scholars:

[...] become familiar with the basic facts, setting, and concerns; create a general mental picture of conditions; formulate and focus questions for future research; generate new ideas, conjectures, or hypotheses; determine the feasibility of conducting research; and develop techniques for measuring and locating future data. (Neuman, 2019, p. 15)

In addition, an exploratory approach allows to be flexible during the phases of data collection and research development, and it is very crucial to be conducted for under-researched topics and contexts (Blaikie, 2010). Thus, the research objectives of this study, which comprise contribution to theory and practice in the fields of family business, innovation, and design, are aligned with exploratory approach.

The use and involvement of theory in research is very crucial since it helps to make inquiries and decisions during the research process. Two main research strategies, either inductive or deductive, can be considered for the role of theory in a study (Bryman and Bell, 2007). According to Bryman and Bell (2007), the theory guides and

affects the collection and analysis of data in a deductive strategy used mostly in qualitative research; and the theory is built after the collection and analysis of data in an inductive strategy used mostly in qualitative research. While deductive strategy is more dominant in natural sciences through appropriate sampling size for generalization, inductive strategy is mostly developed in social sciences through contextual sampling for exploration (Saunders et al, 2012). However, theory and data are mostly revisited continuously and iteratively in any typical research by using both strategies (Bryman and Bell, 2007), and this research also adopts a flexible and alternative strategy between deductive and inductive.

This research strategy involves a grounded theory perspective where a preliminary conceptual framework is built as a theory-based guidance for the study (deductive strategy), then builds its own theory with the collection and analysis of data (inductive strategy) (Strauss and Corbin, 1997). In the former deductive phase, the selected theory-based concepts help the researcher to focus on the research purpose without getting lost in a vast of information, and to have an empirical ground for emergent theory (Eisenhardt, 1989). In the latter inductive phase, the data analysis helps the researcher to explore the research questions, to find emergent concept of the phenomena, and to build a theory.

3.2 Research Approach and Process

The research approaches can be classified as quantitative and qualitative, and more recently mixed method approach (Creswell, 2003). When studies pursue the exploration of a phenomenon rather than the numerical assessment of an observation, or when studies collect the data from natural rather than artificial environments, this approach is called qualitative (Bryman and Bell, 2007). Precisely, qualitative approach aims to make a social investigation (Denzin and Lincoln, 2005) and to comprehend the meanings associated to that social issue (Creswell, 2013). According to Creswell, a qualitative approach examines:

[...] people's experiences, inquiring into the meanings people make of their experiences, studying a person in the context of her or his social/interpersonal environment, and where not enough is known about a phenomenon for standardized instruments to have been developed or even ready to be developed. (Creswell, 2013, p. 33)

To sum up, when the study aims to get a comprehensive contextual overview (Miles and Huberman, 1994), and to gain deep explanatory aspects of an under researched context (Silverman, 2013), a qualitative approach is best suited for this exploratory study (Robson, 2002).

A qualitative and comprehensive approach with various stages relevant to the previous theories and methods are needed to apprehend the complex and unique features in response to the “how” and “why” questions of innovation in family business research (e.g., Bennedsen and Foss, 2015; Classen et al, 2014; Weismeier-Sammer, 2014). However, qualitative research approach in family business field is generally disused in publications, even though there are several proposals for the use and development of qualitative inquiry (e.g., De Massis and Kotlar, 2014; Nordqvist et al, 2009; Reay and Zhang, 2014). In an analysis of most-cited articles in the field of family business research by De Massis et al. (2012), it has been found that 87.3% of empirical studies are quantitative whereas only 8.4% is qualitative. A literature review by Reay and Zhang (2014) also shows that only 78 of 656 articles use qualitative methods. According to Fletcher et al. (2016), the scholars have not yet comprehended the significance of qualitative method in family business research. In addition to this, many scholars state the capacity of qualitative research to explain the complexity and tacit knowledge in the characteristics of family firms (Nordqvist et al, 2009; Zellweger, 2014). It is stated that scholars do not have enough detailed knowledge on the issues of dilemma (Miller et al, 2015; Jackson, 1999), and paradox (Lewis, 2000; Smith and Lewis, 2011) in family firms.

Fletcher et al. (2016) offer (1) paradoxes and dualities, (2) process and administration; and (3) context and industry-specific aspects in family business research that are mostly neglected however would be very significant and need qualitative approach. The interactions between individual, firm and family in family firms that would create paradoxes and dilemmas, the first issue proposed, would be uncovered with the help of qualitative research. The second issue, process, and administration deals with how the actors in family firms make decisions, act to resolve problems, set goals and strategies (De Massis and Kotlar, 2015), and plan tasks, also remains understudied and qualitative research would fill this gap. The third issue, context and industry-specific aspects dealing with the interaction of family firms with competitors, customers, suppliers, other stakeholders in different political, economic, socio-cultural, and

technological conditions and related with the unique behavioral characteristics of family firms, would also be extensively studied with the help of qualitative inquiry.

Consequently, a call for more qualitative research in the family firm innovation is noted by many scholars for the development of a comprehensive understanding of a phenomenon, and it is also crucial to consider the context embedded in it (Welter, 2011). Moreover, the findings should have implications that potentially affect the ideas and actions of the people in the practice (Fuetsch and Suess-Reyes, 2017). Hence, a qualitative approach is best suited for the purpose of this research.

Since this research has a flexible design approach, the research process of this thesis has evolved to a rather large extent. This change in the main title, aim of the study, field of research, reasons for change, academic activities, primary and secondary sources can be followed chronologically in Appendix B.

The research process has two main phases. The first phase includes a comprehensive review of literature, four expert interviews, and a pilot case study. A multiple-case study is conducted as the second phase with three office furniture manufacturers to explore how design-intensive family firms manage innovation through dynamic capabilities in an emerging market.

The first phase aims uncover the themes and theories, enlighten the setting, embody a base, focus the research purpose and strategy, generate ideas and framework, and determine the practicability of research design. A theory-based conceptual framework is built with literature review, insights on family business and innovation in the selected context are received with expert interviews, and a pilot case is investigated in detail for further refinement of the research design.

The second phase aims to explore the under-researched phenomena of design-intensive family firms from office furniture manufacturing industry in an emerging market, Turkey, and the dynamic innovation capabilities of these FFs. In-depth multiple-case study is chosen as an appropriate method of the research. The primary data is retrieved from semi-structured interviews, whilst the secondary data comprises website, corporate presentations, brochures, videos, previous interviews, and news. After data collection and analysis with thematic coding, the findings are revealed with within- and cross-case narratives.

The research structure of this study and its content is presented in Figure 3.1.

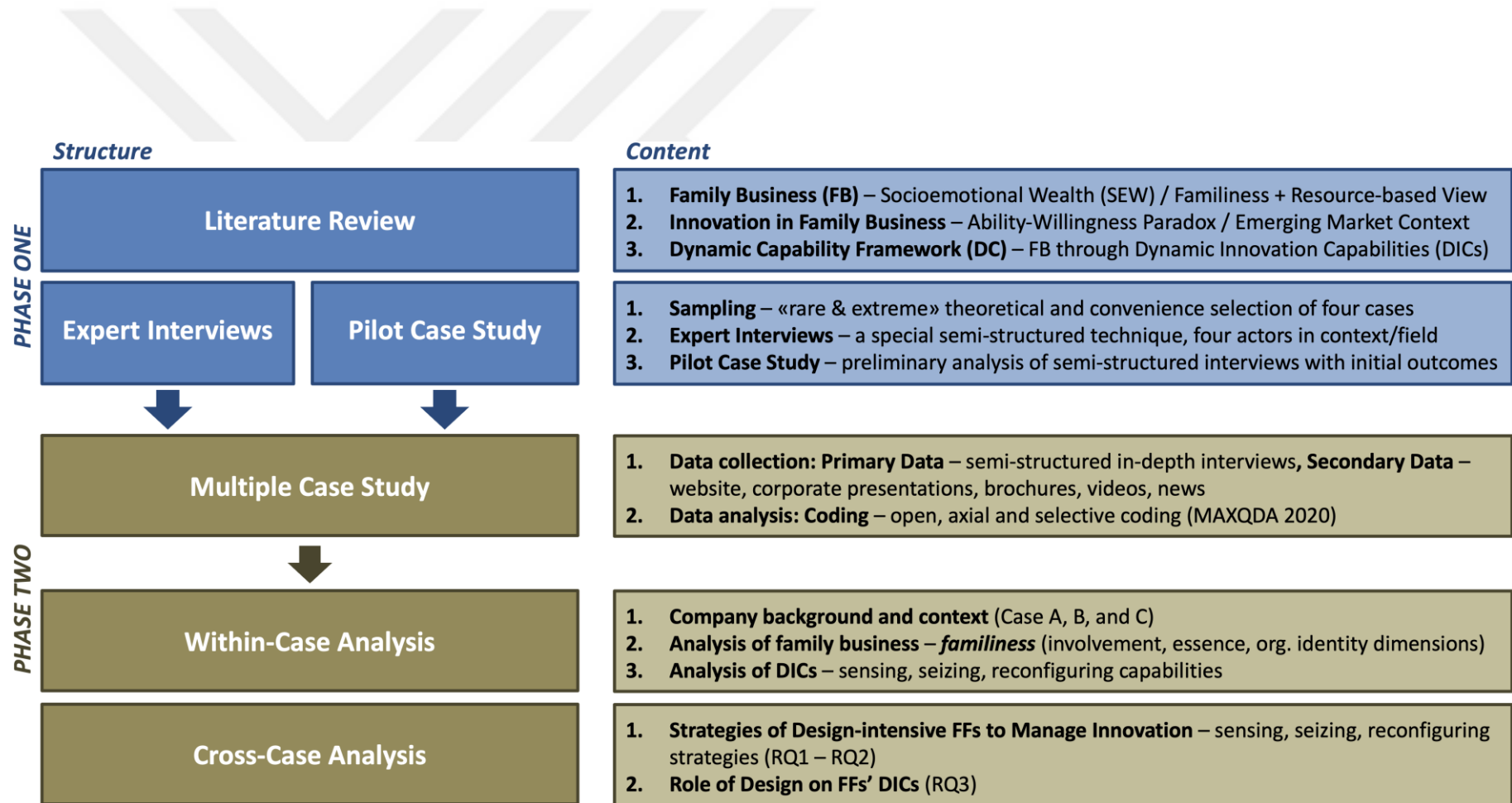


Figure 3.1 : Research structure of the study and its content (Author).

3.2.1 Literature review

This exploratory qualitative research with a flexible design strategy started, developed, and has been evolved through a literature review. As suggested by Neuman (2019), the literature review in this research aims (1) to search for previous studies; (2) to summarize, and to synthesize previous knowledge; (3) to create new ideas; and finally (4) to build a theory-based conceptual framework for guidance of the research process.

The nature of this study, aiming to explore how design-intensive family firms from office furniture manufacturing industry manage innovation through dynamic capabilities in an emerging market, requires a multi- and cross-disciplinary approach to review the literature. Thus, the literature review addresses three main research areas and the interception of these areas: Firstly, *family business* literature is overviewed focusing on a resource-based view (RBV), and familiness concept; secondly, *family business innovation* is overviewed focusing on definition of innovation, emerging markets, and Turkey; and thirdly, *dynamic capability* literature is overviewed focusing on its framework, nature and microfoundations. After that, the intersections such as dynamic capability view in family business, and dynamic innovation capability view in family business are thoroughly reviewed. As the final phase, the research gaps and objectives are identified, and the theory-based conceptual framework is built. Consequently, the literature review enables the aim, scope, and value of the thesis, creates the theory-based conceptual framework and the research questions, and guide the research design.

The literature review procedure has several steps to be followed for the selection of sources: (1) definition of involvement criteria such as comprising the words “innovation”, “family business”, and “dynamic capability” as well as their closely-related versions, and being papers published in peer reviewed journals, conference proceedings, books, and industry reports, (2) discovery and selection of sources such as using databases Web of Science (WoS) and Google Scholar, and (3) organization of all selected sources in defined folders and in a Microsoft Excel file. This process has been conducted iteratively during the study, and the sources has been updated continuously until the final phase of the thesis, which is the end of February 2022.

3.2.2 Expert interviews

Interview is one of the most common techniques used in qualitative research since it allows to see the events/actions from various perspectives and to reach data, which cannot be accessed through observation and/or questionnaire (Neuman, 2019). A special semi-structured version of the interview technique is expert interview, which is used to gather data from actors in a certain context, from a particular field, and/or representing a defined cluster (Flick, 2009).

Since the aim of this thesis is to investigate dynamic innovation capabilities and familiness resources within design-intensive office furniture manufacturing companies in an emerging market, four expert interviews were conducted in parallel with the literature review. The expert interviews enable to confirm the significance of the research purpose, to overview and uncover the contextual themes that would complement the literature review, and to discover themes that may be unseen and less mentioned in case studies.

The inquiry of the expert interviews is (1) to understand the historical background and founding/entrepreneurial process of the family firms; main developments, changes, and actions taken by family firms in office furniture industry in the context of Turkey; (2) to explore the role of family involvement, the behaviors and resources contributed to business by the family, and the organizational identity created by the family; (3) to discover the role of innovation in the industry and in Turkey; the innovation process of the family firms; and the dynamic capabilities gained through sensing, seizing, and reconfiguring; and (4) to uncover the strategy of design in innovation activities and the creation of capabilities (Table 3.1). As suggested by Braun and Clarke (2006), the data analysis technique adopted in the expert interview phase of this research is to recognize common patterns, key themes and contextual challenges, namely thematic analysis.

Table 3.1 : Expert semi-structured interview protocol (Author).

A. GENERAL INFORMATION ON FAMILY FIRMS AND OFFICE FURNITURE INDUSTRY IN TURKEY
1. How was the founding/entrepreneurial process? Where was the opportunity?
2. How has the businesses/industry evolved? What are the main developments, changes, and actions taken?
3. How was the context (e.g. politics, industry, competitors)? How did it change in time?
4. Can you please also give information about the firms, number of employees, sector, products/offering, markets (local, international), etc?
5. How do you see the future of the family firms and the industry?
6. Can you please add if there are stories/narratives to illustrate the questions?
B. "FAMILINESS" CONCEPT
7. What are the ownership, governance and control structures in family firms in the industry? (e.g. family council, shareholders, board of trustees, family contract/constitution, top management team, decision-making process)
8. What are the behaviors and resources contributed to business by the family firms in the industry? Can you talk about the positive and negative aspects? (e.g. capability, skill, transgenerational vision, process, approach)
9. What is the organizational identity created by the family firms in the industry? Can you talk about the positive and negative aspects? (e.g. shared goal, culture, strategy, generational transfer, conflict of interest, relationship with internal/external stakeholders, attitude towards community)
C. DYNAMIC CAPABILITIES OF INNOVATION PROCESS
10. What is the understanding of innovation in the industry and in Turkey, and how is the process engaged?
11. How do the firms sense and seize opportunities occurred by changes in the business environment, technological developments, economic differences, and orchestrate resource manipulation? - Sensing (e.g. scanning, learning and interpreting activities) - Seizing (e.g. adjust new technologies with markets and utilizations, invest in development and commercialization activities, design product/process and/or business models) - Reconfiguring (e.g. recombine, reconfigure assets and structures)
12. Are your innovations new or significantly improved to the firms or to the market?
D. DESIGN AND INNOVATION CAPABILITIES
13. What is the role of design in the innovation process and the creation of capabilities?
14. What is the strategy in the industry to design activities leading to innovation, namely design-led and/or design-driven innovation? (e.g. insights on the development of key designs over the history)
Please share any additional documents to be used as a part of the research.

The criteria for the selection of experts are: (1) to be a member and/or founder of companies in the selected industry context, (2) to have experience working in and/or with the companies of the selected industry context, (3) to have experience and knowledge of the selected industry context, and (4) to represent different areas of the selected industry context.

The experts are contacted via e-mail, and the interview protocol including the aim of the study and interview questions are sent (see Table 3.3). The expert interviews are semi-structured, take between 45-85 minutes for each meeting, and are conducted via online meeting platform (Zoom) during July-October 2020 due to Covid-19 pandemic. Response and follow-up e-mails are sent for the scheduling of the interviews. One expert is interviewed four times since he/she has immense and valuable knowledge that takes quite a long time to discuss. Both video and audio of the interview is

recorded through the platform, transcribed verbatim, and translated into English (36 pages – 30825 words).

Thus, four experts are selected, contacted via e-mail, and agreed to contribute to this research. Expert 1 (E1) is an industrial designer and a family firm partner from the founding company of the industry with at least 35 years of experience, Expert 2 (E2) is an industrial designer and a marketing manager working in and with case study firms with more than 10 years of experience, Expert 3 (E3) is an industrial designer working externally with all case study firms with almost 25 years of experience, and Expert 4 (E4) is a general secretary of the national industrial association with more than 10 years of experience. The expert interviews are semi-structured, conducted via online meeting platform (Zoom) during July-October 2020 due to Covid-19 pandemic, both video and audio recorded, transcribed verbatim, and translated into English respectively by the researcher (app. 36 pages - 30825 words). Expert 4 also provides recent sectoral reports as secondary data: (1) Turkish Office Furniture Industry and Businessmen Association (OMSIAD) Turkey Office Furniture Industry Report – CSIL 2019, (2) The Role of Patents and Design in the Development of Furniture Industry – Panel-Sector Report – July 2020, and (3) Turkish Furniture Associations Federation (MOSFED) Macroeconomics and Sectoral Outlook – January 2020. Expert profiles and interview information are summarized in Table 3.2.

Table 3.2 : Expert interviews summary (Author).

ID	Role	Significance	Interview date	Interview type	Interview duration
E1	Family Firm Partner - Industrial Designer	Founder of industry, Experience in industry (>35 years)	29.07.2020	Online, semi-structured: Audio recorded	0:45:12
			02.08.2020		1:14:41
			08.08.2020		1:12:50
			10.10.2020		0:57:19
E2	Marketing Manager - Industrial Designer	Experience in industry, worked in case study firms (>10 years)	17.08.2020	Online, semi-structured: Video-audio recorded	1:09:06
E3	Industrial Designer	Experience with all case study firms (>20 years)	20.08.2020	Online, semi-structured: Video-audio recorded	1:18:36
E4	General Secretary of an Industry Association	Knowledge of industry, experience in industry (>10 years)	25.08.2020	Online, semi-structured: Video-audio recorded	1:23:03

The expert interviews facilitate to understand the significance of the research purpose, especially in the selected industry and emerging market context. The analysis of expert interviews is discussed in *Chapter Five – cross-case analysis*.

3.3 Research Design

The research design adopted by this thesis is case study, which “provides a framework for the collection and analysis of data” (Bryman and Bell, 2007, p. 40), and “entails the detail exploration of a specific case, which could be a community, organization, or person” (Bryman and Bell, 2007, p. 39). In a case study, the subject would be explored with a deeper understanding, the researcher would describe the existence of a phenomenon, question old theoretical relationships and explore new ones (Flyvbjerg, 2006). Case study has several research methods – interviews, document analysis, observations – to be followed for collecting data.

This research is based on an in-depth case study design that helps to generate an extended or new theory of complex social phenomena (e.g., Eisenhardt, 1989; Yin, 2013), since the aim is to explore how dynamic innovation capabilities and familiness in design-intensive family firms in an emerging market are related with each other. According to Robson (2011), the approach to search for the perspectives of the actors involved and how they experience the process in the real-world context is an in-depth case study. When in-depth case study is carried out with a limited sampling, it additionally enables a multi-layered analysis to explore previously non-observed relationships, processes, and perspectives (Yin, 2013).

In summary, case study is chosen when (1) the focus is a real contextual and complex phenomenon, (2) the researcher is unable to control the actions and events, and (3) the research questions start with how and/or why (Eisenhardt, 1989; Yin, 2009). Consequently, these criteria justify the selection of in-depth case study as the research design of this study.

3.3.1 Pilot study

This research has a flexible and iterative design approach; thus, the research design of this thesis has evolved in the process to a rather large extent. Before the following pilot study finished with one of the sampled cases, the aim of the study was to explore the design and innovation process of successful office furniture manufacturers in Turkey, an emerging market. When the preliminary analysis of semi-structured informal interview of pilot case are completed, the initial outcomes were presented in two international academic conferences: Twelfth International Conference on Design Principles and Practices (March 2018, Barcelona), and 25th IPDMC Innovation and

Product Development Conference (June 2018, Porto). The feedback from both conferences, especially the one in Porto, led the thesis to a more interdisciplinary approach, incorporating family business research. After the inclusion of family business into the field of research, the research questions and interview protocols have changed consisting of questions related to familiness theory. The remaining interviews of pilot study were done accordingly. The following pilot study and its outcomes were then prepared to be submitted to and presented at EAD 2019 – 13th International Conference of the European Academy of Design (April 2019, Dundee). The full article is later published in The Design Journal (May 2019).

In this explorative pilot study done with Case A, semi-structured questions were used as the primary data source, where the researcher prepares an interview script as a frame and guides the interview with additional questions specific to the participant. The questions were structured to get insights on how the family business is managed and operates, the aims, the concerns, and the core culture from the participants including third generation family manager and marketing director. All interviews were conducted face-to-face, audio recorded, and transcribed verbatim. A variety of secondary sources (e.g., organizational documents, newspaper/magazine articles, internal reports, and company websites) were also used to triangulate and complement internal validity. The interview protocol involved questions about the *innovation and design process in the firm, actors, their roles and responsibilities in the process*, and the *main challenges and opportunities during the process*. Firstly, an initial picture was built by reading through the interview transcripts and other textual material. Later, with a thematic analysis, patterns that describes a phenomenon and are associated with a specific research question emerged (Patton, 2002). Consequently, the themes were categorized under four key insights.

The case family business, Case A (pseudonym used to retain anonymity) is one of those leading Turkish office furniture manufacturer that (1) was founded as a small metal workshop in 1950s, (2) produced its first chair in 1960s, (3) launched wooden furniture production towards the end of 1970s with a more institutionalized structure and a renewed machinery park, (4) opened a modern plant in 1990s, and (5) initiated collaborations with local and international designers at the beginning of 21st century. With its strong performance in the last eight years through nearly 60 design awards as of 2018, highly modern and huge production centers, concept showrooms as idea

experience centers with first and richest virtual design library in Turkey, exclusive dealership agreement with leading global office furniture brand, partnership with UK based office furniture company, first R&D and design center in the sector, Case A was ranked one of the fastest growing companies in Turkey.

Having family members in the management has been found to affect the innovation inputs negatively but the innovation outputs positively, because of their unwillingness to act against risks and, on the contrary, being able to act affectively (Matzler et al, 2015). This conflict of being unwilling but superiorly being able to act was also revealed as insights of the heterogeneous behavior of family firms (Chrisman et al, 2015a). As the literature also sheds light to the positive effects of being a family firm, Case A has experience and know-how on the raw materials, is able to process and manufacture them, also has industrial competency, and master in craftsmanship. However, on the contrary of the negative effects in the literature, Case A is willing to take risks by investing highly on R&D, outsourcing design, hiring experts, purchasing latest technologies, taking consultancy on communications and marketing, sponsoring for events on workplace issues, design, and art, and opening sales points and showrooms abroad. Case A also deals with sub-industry products, high cost, economic situation, lack of investment and perspective, while taking all those risks. As doing business in a developing country with instable economy, high taxes, and lack of incentives, Case A also tries to be a global brand (i.e., *Turquality*), to create a corporate identity (i.e., communication and marketing consultancy), and to innovate (i.e., intellectual assets as in-house and external designers, strategic alliances for eco-design, workplace strategy, user research, etc.).

A sustainable innovation pattern is managed, while having a newly founded R&D and design centers as internal sources and some supports from government as external sources. Innovation is focused on all dimensions (product, process, marketing, organization) as it is very crucial for a manufacturing SME to have strong positioning, branding, and customer satisfaction with product and marketing innovations, whereas competitive advantage, corporate value, low-cost, sustainable and ethic production techniques with process and organization innovations. With the initial findings of the pilot case, it is revealed that the final data of the individual cases and common themes of the cross-case analysis would shed light on the issues innovation structure and strategies of the sampled industry and contribute to the literature of innovation in

family firms, low- and medium-tech (LMT) industries such a manufacturing, and SMEs. The results would give insights on the role of design in innovation, the heterogeneous behavior of family firms, and the multiple innovation strategies of a manufacturing industry in a developing country to compete on a global scale.

The initial findings emerging from the pilot in-depth interview with Case A's corporate communications and marketing director reveals the opportunities and challenges of the company through a design-driven innovation process. The key themes present the strategies of a family-owned manufacturer in an emerging market to achieve competitive advantage. The key insights of the thematic analysis are outlined in Table 3.3.

Table 3.3 : Thematic analysis of pilot study with key insights and their descriptions.

Thematic Analysis: Key insights through design-driven innovation process	
Vision for design awareness	It refers to the design value and related investments in Case A - internalize design principles and philosophies (ability as resources - innovation input)
Strengthening existing know-how	It refers to the strengths of Case A - successfully orchestrate resources, efficiently use employees and capabilities (ability as discretion - innovation activity)
Customer-oriented strategy	It refers to the multiple sales and marketing strategies of Case A - organizational innovation strategies for sales and marketing, innovate incrementally (willingness - innovation output)
Investment in knowledge	It refers to the internal and external knowledge sources of Case A - take risks with organizational and marketing innovations, invest money in R&D and design (ability as resources - innovation input / willingness - innovation output)

Vision for design awareness: The value of design in Case A's core culture was the first key insight emerged from the interviews. In the last 10 years, Case A made significant investments to create design awareness in the company, local community, and in the market. With that vision in mind, the participants said that a showroom for the company turned into an innovative, engaging, and dynamic public interior concept. That concept then morphed into a communication project combining Case A's long history of craftsmanship and created a social platform bringing young Turkish and international artists and designers from different fields together with the aim of creating the largest virtual culture and arts library in Turkey. The newest center of Case A was also created as center of ideas with temporary exhibition spaces, and hosting talks in event spaces after having a workshop with a strategic consultancy firm on specializing in office layouts to analyze that new center. It was also stated that the partnership with the consultancy firm increased Case A's workplace know-how,

settled their credibility, and allow them to transfer some methodology. In addition, Case A also introduces open platforms for social and cultural dialogs such as the public event on the work culture and change in workplaces with speakers specialized in the field that the company organized and sponsored in 2018. In light of all this, it is revealed that Case A embraces a design-driven/-led innovation process by establishing possible ways of creating competitive advantage in a low-cost environment (Verganti, 2009; Bucolo and Wrigley, 2014) and internalizing a design thinking approach in the core culture of business (Bucolo and Matthews, 2011) by a communication project for the awareness of craftsmanship, a social platform for artists and designers, a virtual culture and arts library, and a center of ideas, exhibitions, workshops, and events. All those initiatives of Case A also show their vision of creating trust and social networks (Bennedsen and Foss, 2015), partnership with specialized consultancy firms in particular, their goal of sustainability and long-term survival (Le Breton-Miller and Miller, 2006), and their informal but efficient structures in organization (Daily and Dollinger, 1992).

Strengthening existing know-how: Know-how as a value to be strengthened was also expressed as one of the key priorities in the innovation process. Furniture manufacturing was defined as knowledge accumulation in manual labor, craftsmanship, and mastering skills with industry. Know-how and experience on how to process and manufacture raw materials, industrial competency with technical capacity and production power, and master in craftsmanship are stated as the strongest accumulations of Case A. As it was clearly understood from the participants, Case A constantly strengthens its own know-how, especially 60 years of experience in metal, with its long-term survival (Le Breton-Miller and Miller, 2006) after three generations even if the average life span estimated for family business is 27 years. For instance, the recent initiative of Case A was to open craftsman training and breeding centres, especially for upholstery, painting, and carving. Strengthening existing know-how is also supported with latest production centre with self-supporting energy system and maximum use of natural lighting, and strategic alliances for eco design projects and green product designs. Even though existing research is largely consisting in indicating that family firms generally are averse to increase external capital (Poutziouris, 2001), and avoid taking risks to protect family legacy (Gómez-Mejía et al, 2007), Case A

prefers to invest in know-how and take risks specially to protect family legacy of craftsmanship and mastering skills.

Customer-oriented strategy: As the challenges of competing with low-cost sub-industry products, having high production cost, and economic instability were mentioned in the interviews, another key insight was identified as having multiple customer-oriented strategies for the innovation process, especially for sales and marketing. The participants emphasized that the traditional operational approaches and methods have changed with the new century, on the contrary of the tendency of family businesses to keep the traditions and not trying new things (Miller and Le-Breton Miller, 2005). The focus has been on teamwork with motivated employees, managers, customers, and designers; to have brand awareness and to be in the upper segment. Recently, Case A has not been only just an office furniture manufacturer but also a public supplier, an architect, a dealer, and a contractor. While making a catalogue selection for public institutions, preparing the whole project as an architect, and selling the imported products as a dealer, they have multiple processes as a contractor depending on having a customer from healthcare, finance, or hotel sector. The expertise and intellectual capital vary from catalogue selection to space planning, from concept design to application drawing, from mock-up setting to custom-made size, fabric, and mechanism of furniture, from technical specification support to cost analysis. Thus, for instance, this variation led Case A to have independent sales team for private sector with specialized technical staff of interior designers, architects, and industrial engineers. This insight shows that Case A generally innovate incrementally (Carnes and Ireland, 2013; Hiebl, 2015) and rarely but successfully innovate with higher outputs because of the engagement and control of family (Duran et al, 2015) and when both ability and willingness exist (Holt and Dasgupta, 2015). Thus, both economical and non-economic goals of the family firms lead to heterogeneity in innovation outcomes (Chrisman et al, 2015).

Investment in knowledge: The willingness of taking risks with operational and marketing innovations, and with high investments on internal and external sources of knowledge also emerged from the interviews. Having an in-house team of designers, and internal R&D and design center with material laboratory for useful models and patents founded 2017 as the first in furniture sector in Turkey are mentioned as internal investments of Case A for innovation. Additionally, external investments can also be

summarized as exclusive dealership agreement with leading global office furniture brand, partnership with UK based office furniture company, outsourcing design, hiring experts, purchasing latest technologies, and taking consultancy in communications and marketing. Case A also managed to be accredited by the national brand-building program initiated by the government called *Turquality* that facilitates and supports Turkish brands internationally. Contrary to the statements in the literature, Case A takes risks (Gómez-Mejía et al, 2007), tries new things (Miller and Le-Breton Miller, 2005), increases external capital (Poutziouris, 2001), invest money in R&D and design (e.g., Block, 2012; Asaba, 2013; Sciascia et al, 2015). Rather than dealing only with product innovation, Case A also do not hesitate to invest in organizational and marketing innovations.

Since different stages of this pilot study are presented in several conferences and the final version is published in a journal, the key insights of this pilot study led this thesis towards a deeper exploration of family involvement - *familiness*, and a more systematic methodological approach – *dynamic capability view*. The research is then designed accordingly, research questions are updated, interview protocols are revised, and the thesis has taken its final structure before the remaining data collection and analysis.

3.3.2 Case selection

The case selection in this study is significant and needs a strategy. According to Neergaard (2007), the selection of cases is significant for the research since the decision affects (1) the analysis of the findings of the current study, (2) the further implications of the future studies in other settings, and (3) the possibility of publication of the current study. Additionally, De Massis and Kotlar (2014) promote the significance of a reliable and valid strategy for the case selection and sampling to the scholars in the FB.

3.3.2.1 Multiple-case study

Case study design is varied as being single- or multiple-case studies, where the former is used for a critical case to test a well-formulated theory, for an extreme or unique case, for a representative or typical case, or for a longitudinal case (Yin, 2009), however it has limitations for validity (De Massis et al, 2014). Recently, multiple-case study is mostly used by business scholars (Bryman and Bell, 2007), since it is possible

to make comparisons, explore common patterns, develop generalizations, and build theories among several cases (Eisenhardt, 1989; Yin, 2009). Moreover, De Massis and Kotlar (2014) promote the significance of multiple-case studies to make within- and cross-case analysis across different settings and/or contexts to the scholars in the FB. There are various scholars using case studies as qualitative research method in innovation in family business (e.g., Litz and Kleysen, 2001; De Massis et al, 2015; Rondi et al, 2019), and the selected 27 studies are presented in Appendix B.

Multiple-case studies enable the representation and generalization of a phenomena theoretically and analytically (Miles and Huberman, 1994). Eisenhardt (1989) defines multiple-case studies as “cases which confirm the emergent relationships enhance confidence in the validity of the relationships. Cases which disconfirm the relationships, often can provide an opportunity to refine and extend the theory” (p. 542). Hence, multiple-case study is best suited for this research purpose for comparing patterns among different firms since the research aims to explore the features of familiness and dynamic innovation capabilities in design-intensive firms from emerging markets.

3.3.2.2 Sampling

According to Neergaard (2007), sampling, or the selection of cases, in qualitative research is very significant since it affects the quality of the findings, and it should be purposeful, selective, or theoretically guided, as evidently agreed by the scholars. Hence, this research applies theoretical and convenience sampling.

Sampling in this research focus on design-intensive family firms with strong innovation and financial performance in the office furniture industry (Capaldo, 2007; Dell’Era and Verganti, 2010), at the national and international level, and with substantial changes in resources and capabilities over time caused by operating in an emerging market context. Thus, the four selected cases have “rare and extreme” qualities appropriate for this research purpose, as suggested by Eisenhardt and Graebner (2007, p. 27). The decision in this study is to focus on design-intensive firms. The reason of this decision is that the role and involvement of the founding and controlling family in managing innovation create dynamic capabilities with the influence of familiness and emerging market context across generations over time, as it is also supported by Dalpiaz et al. (2014).

The criteria used to select the cases in this study are:

- Being owned and governed by a family (at least 2nd generation)
- Operating in an emerging market, (Turkey for convenience and familiarity, and one of BRIC or CIVETS countries)
- Operating in a specific-industry context for design and innovation (office furniture manufacturing industry in Turkey for its significance)
- Having clear innovation activities and strong financial performance at the national and international level (being in top 100 list in Europe, having innovation/design awards)
- Availability for open access

According to the FEMB JSA League Table Top 100 of European Office Furniture Companies prepared by European Union and European Federation of Office Furniture (FEMB), office furniture companies in Turkey are ranked according to sales of office furniture, market share, European sales, number of employees and sales per employees (Table 3.4).

Table 3.4 : Turkish office furniture companies in FEMB JSA League Table Top 100 from 2014 to 2017 (Adapted by author).

Date	No	Rank	Firm	Sales (m.)	% Market share	% EU sales	No of employees	Sales per employee
31 October 2014	1	36	Firm C*	51.98€	0.7%	80%	626	104
	2	61	Firm CB	30.61€	0.4%	100%	748	50
	3	62	Firm D*	30.51€	0.4%	82%	510	93
31 January 2015	1	36	Firm C*	51.98€	0.7%	80%	626	104
	2	57	Firm CB	34.00€	0.4%	100%	800	50
	3	62	Firm D*	30.51€	0.4%	82%	510	93
31 July 2015	1	38	Firm C*	51.98€	0.7%	80%	450	144
	2	39	Firm A*	49.83€	0.6%	100%	462	108
	3	55	Firm B*	35.44€	0.5%	100%	382	93
	4	62	Firm CB	31.20€	0.4%	100%	723	51
	5	65	Firm D*	30.51€	0.4%	82%	510	93
31 January 2016	1	40	Firm C*	51.98€	0.6%	80%	450	144
	2	41	Firm A*	49.83€	0.6%	100%	462	108
	3	45	Firm B*	43.64€	0.5%	100%	385	129
	4	53	Firm D*	36.96€	0.5%	100%	374	113
	5	78	Firm CB	25.52€	0.3%	100%	900	33
30 April 2017	1	42	Firm C*	51.98€	0.6%	80%	450	144
	2	44	Firm A*	49.83€	0.6%	100%	462	108
	3	47	Firm G	46.66€	0.6%	78%	520	121
	4	48	Firm B*	43.64€	0.5%	100%	370	134
	5	58	Firm CB	36.00€	0.4%	100%	900	49

The four sampled cases are summarized in Table 3.5 according to their size, founding date, number of generations, family members and their professional roles in the firm:

- . *Case A*, founded in 1950s, is a third-generation large FF and has two generations actively working in the firm. While second generation has three family members with the roles of chairman of the board, vice chairman of the board, and board member, third generation has five family members with the roles of chief executive officer (CEO), general manager in sales and marketing, IT manager, strategic planning manager, and R&D manager.
- . *Case B*, founded in 1990s, is a second-generation large FF and has two generations actively working in the firm. While first generation has three family members - founders of the firm - with the roles of CEO, board member as the general manager in R&D, board member as the manager in production management, second generation has one family member with the role of board member as the manager in product management and marketing.
- . *Case C*, founded in 1970s, is a second-generation large FF and has two generations actively working in the firm. While first generation has one family member - founder of the firm - with the role of chairman of the board, second generation has three family members with the roles of CEO, board member as the design and brand director, and board member as the managing director in customer relations.
- . *Case D*, founded in 1920s, is a third generation large FF and has two generations actively working in the firm. While second generation has two family members with the roles of board members, third generation has two family members with the roles of chairman of the board, and board member as the design manager, head of design lab.

The firms are contacted via e-mail, the interview protocol including the aim of the study and interview questions, and the consent form to ensure the confidentiality of the firm, and interviewee are sent. However, one of four sampled firms (Case D) prefers not to be involved in the study.

Table 3.5 : Sampled design-intensive family firms from office furniture manufacturing industry in Turkey.

Family firm	Sales (m.)	Size	Date	No of gen.(s)	Family members	Professional role
Case A	49,83€	Large (>500)	1950s (1970s)	1	A1 (passed away)	Founder / Honorary CEO until 2017
				2	A2-1	Chairman of the Board
					A2-2	Vice Chairman of the Board
					A2-3	Board Member
				3	A3-1	CEO
					A3-2	General Manager - Sales & Marketing
					A3-3	IT Manager
					A3-4	Strategic Planning Manager
					A3-5	R&D Manager – Project Development
Case B	43,60€	Large (>500)	NA (1990s)	1	B1-1	CEO
				2	B1-2	Board Member / General Manager – R&D
					B1-3	Board Member / Manager – Production Management
					B2	Board Member / Manager – Product & Marketing
Case C	51,90€	Large (>600)	1970s	1	C1	Founder / Chairman of the Board
				2	C2-1	CEO
					C2-2	Board Member / Collection Design & Brand Director
					C2-3	Board Member / Managing Director - Customer Relations
Case D*	36,90€	Large (>500)	1920s	1	D1 (passed away)	Founder / Master
				2	D2-1	Founding Partner
					D2-2	Founding Partner
				3	D3-1	Chairman of the Board
					D3-2	Board Member / Head of Design Lab - Design Manager

* Not preferred to be involved in the multiple-case study

The unit of analysis of research can be identified as phenomena in a specified and limited context (Miles and Huberman, 1994), and is promoted to be clearly stated by FB researchers (De Massis and Kotlar, 2014). Hence, the cases in this study are firms, the sources of data collection are individuals – interviewees in the firms, and the unit of analysis is *innovation capabilities within the firms*.

3.3.3 Data collection

As defined by Eisenhardt (1989), case studies commonly include several data collection methods, which can be used to gather primary data such as interviews and observations, and secondary data such as documents, archives, reports, and presentations. In this study, primary data is collected through in-depth, semi-structured interviews with individuals from the sampled family firm cases, whilst secondary data

is collected through document analysis of the sampled cases including firm websites, archival files, project reports, corporate presentations, and videos. While qualitative interviews are especially important to explore and reveal contextual and dynamic processes, Danes et al. (2016) state that document analysis additionally contribute to the value, content, and context of the research. Consequently, this study triangulates the primary data from the interviews with secondary data for reliability and validity.

3.3.3.1 In-depth interviews

The qualitative approach has different interviewing styles and certain types are more appropriate to some situations, thus the implications and problems of such interviews needed to be considered by the researcher (Fontana and Frey, 2005). To get significant and in-depth information from the participants, the researcher should let them speak freely about the subject without using strictly defined questions that would be too limiting and directive, and without using unstructured questions that would be too difficult to generate themes and analyze comparatively. The case-study approach mostly rests on in-depth interviews, which enable to comprehend experiences and their meanings for the interviewees (Muske and Winter, 2001), on and semi-structured interviews, which provide a flexible, systematic, and reliable research at the same time (Fitz-Koch and Nordqvist, 2017). However, ill-prepared and ill-spoken questions, response and analysis bias of the interviews are indicated as main flaws (De Massis and Kotlar, 2014), which might be altered by selecting well-informed interviewees with multiple perspectives on the phenomena, and by using a case study protocol and/or an interview guide.

In-depth interviews, also called focused interviews, such as problem-centered interviews (Witzel and Reiter, 2012) and expert interviews (Bogner et al, 2009) contain narrative elements. Focused interviews have pre-defined subjects of conversation that are at the center of data collection process (Hopf, 2004; Merton and Kendall, 1946), and they also work with an interview guide (Witzel and Reiter, 2012). Interviewees can bring in free associations to the subject of interview such as connections to their own biography in the form of narratives (Rädiker and Kuckartz, 2020).

It is very useful and significant to systematically analyze qualitative interviews. Systematic analysis means: (1) all interviews relevant to RQs are included in analysis without an episodic and arbitrary approach, (2) all interviews are analyzed the same

way such as reading them in full before analyzing in detail, (3) the procedure of research process, all instruments of data collection and analysis are disclosed, understood and analyzed by the readers of study, and (4) suitable procedures are used to ensure that analysis meets intersubjective standards, so that people in the study arrive at comparable results (Rädiker and Kuckartz, 2020). The methodological background for a systematic analysis of interviews includes (1) textbooks on Grounded Theory (Bryant and Charmaz, 2011; Corbin and Strauss, 2015) that describes the different coding phases and important role of analytical memos; (2) the work of Saldana that addresses questions of categories and coding in comprehensive manner (Saldana, 2015); (3) the works of Bazeley (2013) and Creswell (2014, 2016) that deal with practical aspects of qualitative data analysis; and also (4) the additional works that include multifaceted ideas and proposals for display and visualization of analyses and results (Miles and Huberman, 1994; Miles et al, 2018).

This research adopts in-depth semi-structured interviews as primary data collection technique. The interview guide prepared for this research has four main parts for the questions, where main questions are numbered, the inclusion of the statements following the questions need to be ensured and they are indicated with letters (Table 3.6). The interview protocol is built around the key variables and concepts included in the conceptual framework.

Four parts of questions are used to frame the key concepts of the research:

- The first part of interview protocol aims at tracking the historical evolution of the company with a special focus on the temporal evolution of business and innovation aspects.
- The second part of interview protocol focuses on the extent of family involvement in the company's decision-making processes, and the contribution of familiness to the essence and organizational identity of the firm.
- The third part of interview protocol aims at identifying and explaining the relationship between how dynamic capabilities are created/changed and how innovations were established and managed.
- Finally, the fourth part of interview protocol focuses on the role of design in the innovation process and how it creates dynamic capabilities.

After the revision of the research strategy and data analysis structure according to the recent literature reviews and pilot study, the interview guide is updated to its last version as follows:

Table 3.6 : Case study semi-structured interview protocol (Author).

A. GENERAL INFORMATION ON THE FAMILY FIRM
1. When and how was your firm founded? How has it developed? a. What are the roles and involvement of family members? (even if they are no longer alive, in the business and/or family) b. Can you please explain the founding/entrepreneurial process? Who, why, how? Where was the opportunity? c. When were the successions? When did they happen? How? d. How has the business evolved? What are the main developments, changes, and actions taken? e. How was the context (e.g. politics, industry, competitors)? How did it change in time? f. What is the organizational and managerial structure of your firm? g. Do you have any family members who are not involved in the firm? What is the procedure? h. Can you please also give information about the number of employees, sector, products/offerings, markets (local, international), etc? i. Do you have any stories that you may want to add to illustrate the questions? 2. How do you see the future of the firm? a. What are your current plans for the firm? b. Can you explain your vision for the business in the future? (e.g. involvement of non-family members, change of governance and/or ownership)
B. "FAMILINESS"
3. What are the firm's ownership, governance and control structures? a. Who owns the firm? Why, how did ownership structure change? b. How is the firm managed? Can you please give information on the governance structures? (e.g. board of trustees, family council, committees, shareholders) c. Do you have a family contract/constitution? Why, how is it formed? What are the main issues? d. How often does the family firm have top management team (TMT) meetings? What is the level of formality? e. How does decision-making take place in the firm? Who makes the decisions? 4. What are the behaviors and resources contributed to business by the family? a. Can you please explain which capability, skill or resources provides the firm competitive advantage over competitors? What is the family's influence on that capability? How is it created and developed? b. Can you please explain a unique process and/or behavior of the firm during changes in the business environment? What is the family's influence on that behavior? How is it created and developed? c. Can you please explain the main transgenerational visions of the firm? What is the family's influence on that intention? How is it created and developed? 5. What is the organizational identity created by the family? a. How do you define and view your firm? Can you please explain your shared goals, culture and strategy in the firm? b. How do you keep those shared understandings within the family and transfer them to new generations? Can you please explain how you manage conflicts of interest? c. How is your family's attitude towards internal/external stakeholders and community? Can you please explain the process of that relationship?
C. DYNAMIC CAPABILITIES OF INNOVATION PROCESS
6. What is your understanding of innovation? 7. Does your firm engage in innovation activities? Is it a formal process? Who are involved, what are their roles and responsibilities? 8. How does your firm sense and seize opportunities and orchestrate resource manipulation? Can you please explain the innovation process in your firm? a. How do you generate/identify new opportunities and monitor changes in the environment? What are scanning, creation, learning and interpreting activities? - Sensing b. How do you address these opportunities with new products/processes? (e.g. adjust new technologies with markets and utilizations, invest in development and commercialization activities, design product/process and/or business models) - Seizing c. How do you renew your resources and adapt innovation processes over time? (e.g. recombine, reconfigure assets and structures) - Reconfiguring 9. Are your innovations new or significantly improved to the firm or market? 10. Do you have any method or criteria to monitor and control the process, and measure its impact?

Table 3.6 (continued) : Case study semi-structured interview protocol (Author).

11. What do you learn from your innovation processes? Can you please explain the reasons of change in firm's capabilities, assets, and resources?
D. LINK BETWEEN DESIGN AND INNOVATION CAPABILITIES
12. What is the role of design in the innovation process and the creation of capabilities?
13. What is your firm's strategy to design activities leading to innovation, namely design-led and/or design-driven innovation? (e.g. insights on the development of key designs over the firm's history)
a. Can you explain your firm's involvement in design discourse, information about possible product/process/business models, and relationship with key interpreters (e.g. designers, design consultants)? - Listening
b. Can you explain how you integrate knowledge from the previous stage to your firm's technologies, assets, resources, and vision? - Interpreting
c. Can you explain how you present the results of your interpretation about a new or significantly improved design of product/service, process and/or business model? - Addressing
Please share any additional documents to be used as a part of the research.

The firms are contacted via e-mail, the interview guide including the aim of the study and interview questions, and the consent form to ensure the confidentiality of the firm, and interviewee are sent. The interviews are in-depth, semi-structured, and are organized to take 40-120 minutes for each meeting. Four out of eight interviews are conducted face-to-face before the Covid-19 pandemic between January 2018 and March 2020 in Ankara, the capital of Turkey, and in Istanbul, a west-northern city in Turkey. On the other hand, four out of eight interviews are conducted via online meeting platform (Zoom) after Covid-19 pandemic between March 2020 and January 2021, in Izmir, a western city in Turkey. Response and follow-up e-mails are sent for the scheduling of the interviews. Face-to-face interviews are audio-recorded, while online interviews are both video- and audio-recorded through the platform, transcribed verbatim, and translated into English (60 pages – 45992 words). Interviews are held in Turkish, which is the native language of all interviewees and the researcher, and then they are translated into English by the researcher. Eight interviews are conducted in total within three firms – four at Case A, two at Case B, and two at Case C. The interviewees include at least both family member and non-family members from the firms with the roles of general manager, board member, CEO, design manager, sales and marketing manager, R&D director, and chief industrial designer. Multiple interviewees are contacted from each family firm case to verify the data and to avoid contradictory responses (Eisenhardt and Graebner, 2007), thus it is also significant to have diverse perspectives from several family members and non-family members to better explore family's actions and decisions.

Before and during the in-depth interview phase, it is important to mention the emerging challenges: (1) the interviewees were hard to contact (no response and/or several reminder e-mails), thus it was a time-consuming process, (2) it was difficult to arrange the interviews (interviewees were always too busy and/or had no time for academic research), and (3) some interviewees were not willing to give information (e.g. about inner structures of FF, about characteristics of family members). Because of the first two challenges, in-depth interview phase of this thesis took two years (from January 2019 to January 2021). To overcome the third challenge, the data collected is then triangulated with secondary data and/or expert interviews.

The profiles of the three cases included in this research are summarized in Table 3.7, comprising foundation year, size, and generational involvement. Total number of interviews for each case with the role within the firm, the relation to founder, and the generation; as well as the date, type and duration of the interviews are also given.

Table 3.7 : Case interviews summary.

No	Firm	Year founded	Size	Generational involvement	Total interviews	Interviewee				Interview date	Interview type	Interview duration
						ID	Firm role	Relation to founder	Generation			
1	A	1950s	Large (>500)	3	3 (4**)	A1*	Corporate Comm. & Marketing Director	Non-family	Non-family	03.01.2018	Face-to-face, non-structured: not recorded, took notes	approx. 120 min.
						A2*	Deputy General Manager - Sales & Marketing	Grandson	Third	24.07.2019	Face-to-face, semi-structured: audio recorded	0:44:39
						A3	Vice Chairman of the Board	Eldest son	Second	07.08.2019	Face-to-face, semi-structured: audio recorded	2:12:29
						A4	R&D Director	Non-family	Non-family	07.08.2019	Face-to-face, non-structured: audio recorded	0:25:29
2	B	1990s	Large (>500)	2 (3***)	2	B1	Chief Industrial Designer	Non-family	Non-family	01.07.2020	Online, semi-structured: video-audio recorded	1:26:33
						B2	Board Member / Manager – Product & Marketing	Grand daughter	Second (Third***)	14.01.2021	Online, semi-structured: video-audio recorded	1:36:32
3	C	1970s	Large (>600)	2	2	C1	CEO	Son	Second	11.03.2020	Face-to-face, semi-structured: audio recorded	0:38:42
						C2	Board Member / Design & Brand Director	Son	Second	18.12.2020	Online, semi-structured: video-audio recorded	1:08:04

* Included in pilot study. ** First interview was not structured and recorded. *** Can also be accepted as third generation family firm.

3.3.3.2 Secondary data

Secondary data is used in this study to make comparison with primary data for triangulation, since it also helps to extend the understanding of the phenomena and contribute to the content and context of the study as stated by Danes et al. (2016). However, secondary data is hard to access in FB literature, as De Massis and Kotlar (2014) report that FFs protect their information and are anxious about their privacy.

In this thesis, secondary data is collected through *document analysis* of the sampled cases including firm websites, archival files, project reports, corporate presentations, and videos. These documents are captured either through online search, or from the interviewees and the case firms before and after the interviews. All firms have (1) websites including their history, vision, products/services provided, project/product reports, references, and selected news; other documents such as (2) corporate presentations and videos are available from YouTube and several social media accounts, and (3) local, national, and international news are retrieved online.

3.3.3.3 Triangulation

This study uses the concept of *triangulation*, which is significant in a case study methodology. Yin (2009) defines triangulation as the use of multiple sources of data and adds that triangulation enables a study to have a comprehensive, holistic, and contextual perspective. Thus, triangulation leads to a stronger case study with more substantial and accurate findings. Moreover, De Massis and Kotlar (2014) also promote the significance of triangulation in FB studies because of complex relationship and intricate decision-making structures between family and business, thus data collected from diverse sources facilitates the comprehension of processes in the organization. Hence, in this research, the primary data from the interviews is triangulated with secondary data for reliability and validity (Yin, 2009). For instance, particular projects, significant dates, or information on products/services mentioned in the interviews are checked through several other documents (websites, news, international reports, etc.).

Moreover, Yin (2009) suggests *case study database* and *chain of evidence* as supportive principles, and De Massis and Kotlar (2014) recognize them as gaps in FB studies. A case study database is the organization and documentation of data collection that enables anyone to follow the data and its process from all sources – in this case,

audio and video files, notes, transcriptions in original language (Turkish), and translations in English. Consequently, a chain of evidence refers to the systematic and thorough follow-up of the research process and it is adopted in this study as well.

3.3.4 Data analysis

This qualitative study gathers a vast amount of data, which is analyzed in two phases that are supported by a software program. Eisenhardt (1989) states that this data analysis process is very crucial and is the hardest part of a case study, since it enables to build theory, but the codes and techniques are mostly not mentioned properly. While keeping this in mind, the overall data analysis technique adopted by this research includes a within-case analysis for the first phase to explore the unique and emergent patterns of each case (Section 4), and cross-case analysis for the second phase to compare the common themes (Section 5) (Yin, 2009).

This study structures the procedure of within-case analysis as case narratives and coding for familiness and dynamic innovation capability, since the aim is to find the emerging patterns of each case before the cross-case comparison as suggested by Eisenhardt (1989). The analysis of dynamic innovation capability (DIC) and familiness is performed through the coding elements based on prior literature and obtained qualitative data of each case and is facilitated by MAXQDA 2020, a qualitative data analysis software program.

MAXQDA 2020, belong to the family of Computer Assisted Qualitative Data Analysis Software (CAQDAS), was used for the analysis of qualitative data in this study (Rädiker and Kuckartz, 2020). Qualitative data is a term emerged from social sciences for all nonnumerical, unstructured data (Kuckartz and Rädiker, 2019), and the most used CAQDAS, namely ATLAS.ti, HyperRESEARCH, MAXQDA, and NVivo, are developed to support specifically qualitative methods to data analysis (Silver and Lewins, 2014). A shorter acronym, namely Qualitative Data Analysis Software (QDAS), has recently been used (Kuckartz and Rädiker, 2019). QDAS, dating back to 1990s as an analytical technique of coding data segments: (1) effectively supports discourse analysis, narrative analysis, framework analysis, grounded theory method, and thematic analysis, (2) contains many analytical capabilities that can be used in these methodologies, and specific analysis techniques, and (3) has potential to develop new methodologies beyond existing techniques (Silver and Lewins, 2014). Since

MAXQDA and NVivo are the most mentioned and compared QDASs in the literature (Franzosi et al, 2013; Saillard, 2011) and MAXQDA has a special offer for PhD candidates, the latest version of MAXQDA (i.e., MAXQDA 2020) was facilitated to analyze the qualitative data in this thesis.

In this qualitative analysis method, (1) *categories* are created from prior knowledge, existing theories, and recent research results, and they are called *codes* that organizing and systematizing the data, then (2) data is coded in a long process of reading and interpreting texts, building categories, and coding segments of texts, finally (3) the selected segments are analyzed, and the results are presented (Kuckartz and Rädiker, 2019).

Interview guide is used as a starting point for developing categories since it focuses on thematic blocks and topics relevant to researcher's previous knowledge and on questions about what and how for all topics (Rädiker and Kuckartz, 2020). A table consisting of topics and questions of interview with corresponding categories is created for this study (Table 3.8).

Table 3.8 : Categories developed from interview protocol (Author).

Topics and questions of interview guide	Category
GENERAL INFORMATION ON FAMILY FIRM	
1. When and how was your firm founded? How has it developed?	background and contextual information
2. How do you see the future of the firm?	
FAMILINESS	
3. What are the firm's ownership, governance and control structures?	involvement
4. What are the behaviors, skills, and resources contributed to business by the family? (unique processes; transgenerational visions)	essence
5. What is the organizational identity created by the family? (vision of firm; shared goals, culture and strategy; conflicts of interest; attitude towards internal/external stakeholders and community)	organizational identity
DYNAMIC CAPABILITIES OF INNOVATION PROCESS	
6. What is your understanding of innovation?	innovation view
7. Does your firm engage in innovation activities? Is it a formal process? Who are involved, what are their roles and responsibilities?	innovation activities/actors
8a. How do you generate/identify new opportunities and monitor changes in the environment? What are scanning, creation, learning and interpreting activities?	sensing capabilities
8b. How do you address these opportunities with new products/processes? (e.g. adjust new technologies with markets and utilizations, invest in development and commercialization activities, design product/process and/or business models)	seizing capabilities
8c. How do you renew your resources and adapt innovation processes over time? (e.g. recombine, reconfigure assets and structures)	reconfiguring capabilities
9. Are your innovations new or significantly improved to the firm or market?	innovation type/outcome
10. Do you have any method or criteria to monitor and control the process, and measure its impact?	
11. What do you learn from your innovation processes? (reasons of change in firm's capabilities, assets, and resources)	
LINK BETWEEN DESIGN AND CAPABILITIES	
12. What is the role of design in the innovation process and the creation of capabilities?	design-led (design-driven) innovation
13. What is your firm's strategy to design activities leading to innovation?	

Categories can be developed with reference to both interview guide and theoretical framework of the study (Kuckartz, 2014), and all categories require a precise and concise definition referring to assigned aspects and detailed inclusion criteria (Kuckartz and Rädiker, 2019). A systematic data analysis needs a good category system, also known as *coding frame* (Schreier, 2012) or *codebook* (Guest et al, 2012), which can be organized linearly in a long list or a network-like structure. The category system of this study including the definitions is shown in Table 3.9.



Table 3.9 : Categories and their definitions (Author).

Categories	Definitions
1. CONTEXT	This category is used when national/local and international conditions of the industry and market are explained. Included are the respondent's own experience and evaluation.
2. FAMILINESS	This category is used when resources and capabilities based on the interaction family and business are explained, including the respondent's own experience and evaluation.
2a. Involvement	This category is used when ownership distribution, governance/management and control structures of family firm is objectively assessed, and active presence of family in the firm is explained. Included are the respondent's own experience and evaluation.
2b. Essence	This category is used when actual activities between family and business system are explained, unique resources and capabilities contributed to business by family is stated, and intention/vision of passing ownership across generations are discussed. Including are the respondent's own experience and evaluation.
2c. Organizational Identity	This category is used when family's definition and view of firm is explained, shared understanding of processes, and culture of organization is stated, organizational strategy is revealed, family's internal dynamics and ties are defined, family's image and attitude towards others are discussed, and significant attributes of family members are expressed. Included are the respondent's own experience and evaluation.
3. DYNAMIC INNOVATION CAPABILITY	This category is used when firm's ability to integrate, build or reconfigure competences for changing environments; firm's processes to use resources for innovation, and firm's capacity to change its resource base are explained. Included are the respondent's own experience and evaluation.
3a. Sensing	This category is used when firm's ability to generate and/or identify new opportunities are revealed; firm's scanning, creation, learning and interpreting activities about environment and new technologies are explained; and firm's monitoring processes of changes in operating environments. Included are the processes to direct internal R&D and select new technologies, to integrate supplier and complementor innovation, to obtain developments in science and technology, and to identify target market segments, changing customer needs and customer innovation.
3b. Seizing	This category is used when firm's activities to address new product and process opportunities, to adjust new technologies, to invest in development and commercialization activity, and to design product architecture, business models and brand management. Included are firm's structures, procedures, designs and incentives to outline customer solution and business model, to strategically revise decision-making protocols, to determine boundaries to manage and control platforms, and to built loyalty and commitment.
3c. Reconfiguring	This category is used when renewal of firm's resources for competitive advantage is explained; firm's ability to adapt innovation processes, to reconfigure assets and structures, to modify existing resources, and to orchestrate resource manipulation is stated. Included are firm's processes to align specific tangible and intangible assets for decentralization, governance, cospecialization, and knowledge management.

3.3.4.1 Data reduction

To analyze the data, this research needs to follow a coding scheme to define what each data is about, namely *data reduction*. Data reduction is a two-step process, which firstly familiarizes with data by actively reading all collected information through several sources, and by transcribing interviews, and secondly understands and codes

data using several methods such as thematic, discourse and content analysis (Braun and Clarke, 2006).

Coding enables to identify some part(s) of the transcribed text that represents a theoretical or conceptual idea, to relate the text with that idea, and then to give it a name, namely the *code* for it (Strauss and Corbin, 1990). A brief description of the term “code” is given in the following:

Codes are labels that assign symbolic meaning to the descriptive or inferential information compiled during the study. Codes usually are attached to data ‘chunks’ of varying size and can take the form of a straightforward, descriptive label or a more evocative and complex one (e.g., a metaphor). (Miles et al, 2018, pp. 71-72)

Flick (2014) describes two main strategies for analyzing qualitative data. *The first strategy* includes summarizing data and reducing complexity since the most important methodological step is coding of the data, and *the second strategy* is a more interpretive approach that works with extensive and competing interpretations, and that tends to expand rather than reduce the data (Flick, 2014). *Since analyzing the data systematically with a focus on answering RQs is done with a generalizing objective, this study is clearly assigned to the first strategy.*

According to Rädiker and Kuckartz (2020), text passages of the interviews can also be paraphrased to grasp the meaning of statements and to form the basis for case summaries. However, the entire data cannot be paraphrased since it is very time-consuming process. While exploring the data, a descriptive but not interpretive condensed summary of the significant contents of the interviews can be generated as case summaries (Rädiker and Kuckartz, 2020). These case summaries can be written in key points with the integration of sociodemographic data and background information (Kuckartz and Rädiker, 2019). *In this study, case summaries are written with background information of the companies and the participants.*

The next step of systematic analysis of interviews requires working with codes, categories, and concepts (Rädiker and Kuckartz, 2020). Saldana (2015, p. 4) defines that “a code in qualitative inquiry is most often a word or a short phrase that symbolically assigns a summative, salient, essence-capturing, and/or evocative

attribute for a portion of language-based or visual data” to address the problem of certain confusion of terms.

Thus, codes are grouped to easily form categories and to analyze their relationships with each other (Rädiker and Kuckartz, 2020). The analysis begins with *codes* or *code labels* that condense into *themes*, which then form *dimensions* at a higher level (Creswell, 2016, pp. 152-180). In the field of Grounded Theory, there are similar sequences such as *open – axial – selective codes* (Strauss and Corbin, 1990), *concepts – category – core category* (Corbin and Strauss, 2015), and *codes – focused codes* (Charmaz, 2014). Consequently, the data are coded with the help of these analytical tools, and these tools are further developed through various procedures such as grouping, summarizing, differentiating, focusing, and identifying key categories (Rädiker and Kuckartz, 2020).

A three-step coding process is adopted from Strauss and Corbin (1990) for this research: (1) *open coding* to break down, identify and categorize data regarding its features and dimensions; (2) *axial coding* to regroup and link previously categorized data in a logical way, and (3) *selective coding* to select main category, link it with the others, and confirm the links between them. At the beginning of open coding process, the irrelevant data is sorted out by reading the transcriptions and notes several times. The case narratives are then prepared, and the text is broken into several parts according to the initial conceptual framework (three dimensions of familiness and three forms of dynamic innovation capability), which is followed by the interview structure. Coding elements of familiness are presented in Table 3.10 and coding elements of dynamic innovation capability (DIC) is presented in Table 3.11. Emergent phenomena and concepts are also grouped in the text, and they are later categorized into new themes under the previous framework.

Table 3.10 : Coding elements of familiness.

Familiness		
Definition	“the unique bundle of resources a particular firm has because of the systems interaction between the family, its individual members, and the business” (Habbershon and Williams, 1999, p.11) - the idiosyncratic firm level bundle of resources and capabilities resulting from the systems interactions (Habbershon et al, 2003)	
Dimensions	1. Involvement (Chrisman et al, 2012; Pearson et al, 2008; Sharma et al, 2012; Zellweger et al, 2010)	. objective assessment of FF . presence of the family in firm . ownership distribution . number of family members active in firm - Ownership - Governance/management - Control
	2. Essence (Chrisman et al, 2004; Chua et al, 1999; Irava and Moores, 2010; Litz, 1995; Sharma et al, 2012; Westhead & Howorth, 2007; Zellweger et al, 2010)	. actual activities between family and business system . deployment/integration of resources and capabilities contributed to business by family . family aspirations . different types of family firms and behaviors - Unique processes - Synergistic resources and capabilities - Transgenerational intention/vision - Heterogeneity of FFs
	3. Organizational Identity (Zellweger et al, 2010, 2012; Ravasi & Schultz, 2006) (Cassia et al, 2011, 2012; Kammerlander and Ganter, 2015; Craig et al, 2014; De Massis et al, 2016; Miller et al, 2015; Frank et al, 2016; Hauck and Prügl, 2015; Kammerlander et al, 2015; Litz and Kleysen, 2001; Chirico and Salvato, 2016; Lazzarotti, 2013; Bennedson and Foss, 2015; Chrisman et al, 2015; De Massis et al, 2015)	. family definition and view of firm . strong family firm pride, long-term orientation, and community social ties . family firm image towards internal and external stakeholders . shared understanding of the inner processes, workings, and culture of the organization . organizational strategy and change - Family goals and behavior . Long-term orientation and continuity . Conservatism and risk aversion . Maintaining ownership and control . Propensity for parsimony . Monitoring power over managers - Family dynamics . Interplay between older and younger generation . Collective orientation and strong family ties . Conflict of interest and nepotism - Attributes of family members . Commitment, closeness to the firm and strong leadership - Family's attitude towards others . Enduring ties with internal and external stakeholders and community . Closure to external environment

Table 3.11 : Coding elements of dynamic innovation capability (DIC).

Dynamic Innovation Capability (DIC)	
Definition	“the firm’s ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments” (Teece et al, 1997, p. 516) “the firm’s processes that use resources to match and create market change” (Eisenhardt and Martin, 2000, p. 1107) “the capacity of an organization to purposefully create, extend, or modify its resource base” (Helfat et al, 2007, p.4)
Major studies	(Eisenhardt and Martin, 2000; Helfat et al, 2007; Lichtenthaler and Ernst, 2012; Nelson, 2005; Rothaermel and Hess, 2007; Teece, 2007, 2014; Teece et al, 1997; Zahra et al, 2006, 2007)
Forms of DICs	1. Sensing / Shaping - ability to generate/identify new opportunities - scanning, creation, learning and interpreting activities - diagnosis and learning about environment and new technological capabilities - monitoring changes in operating environments
	2. Seizing - firms’ activities of addressing opportunities with new products and processes - adjustment of new technologies with markets and utilizations - investments in development and commercialization activity - designing product architecture and business models, brand management
	3. Reconfiguring / Transforming - renewal of a firm’s resources to remain competitive over time - ability to renew/adapt innovation processes - recombine/reconfigure assets and structures - modification and recombination of existing resources - orchestrating resource manipulation
Microfoundations of DICs	1. Sensing - Analytical systems and individual capacities . Processes to direct internal R&D and select new technologies . Processes to tap supplier and complementor innovation . Processes to tap developments in exogenous science and technology . Processes to identify target market segments, changing customer needs and customer innovation
	2. Seizing - strategic decision skills/execution - Enterprise structures, procedures, designs, and incentives . Delineating the customer solution and the business model . Selecting decision-making protocols . Selecting enterprise boundaries to manage complements and control platforms . Building loyalty and commitment
	3. Managing threats / Transforming - combination, reconfiguration, and asset protection skills - Continuous alignment and realignment of specific tangible and intangible assets . Decentralization and near decomposability . Governance . Cospecialization . Knowledge management

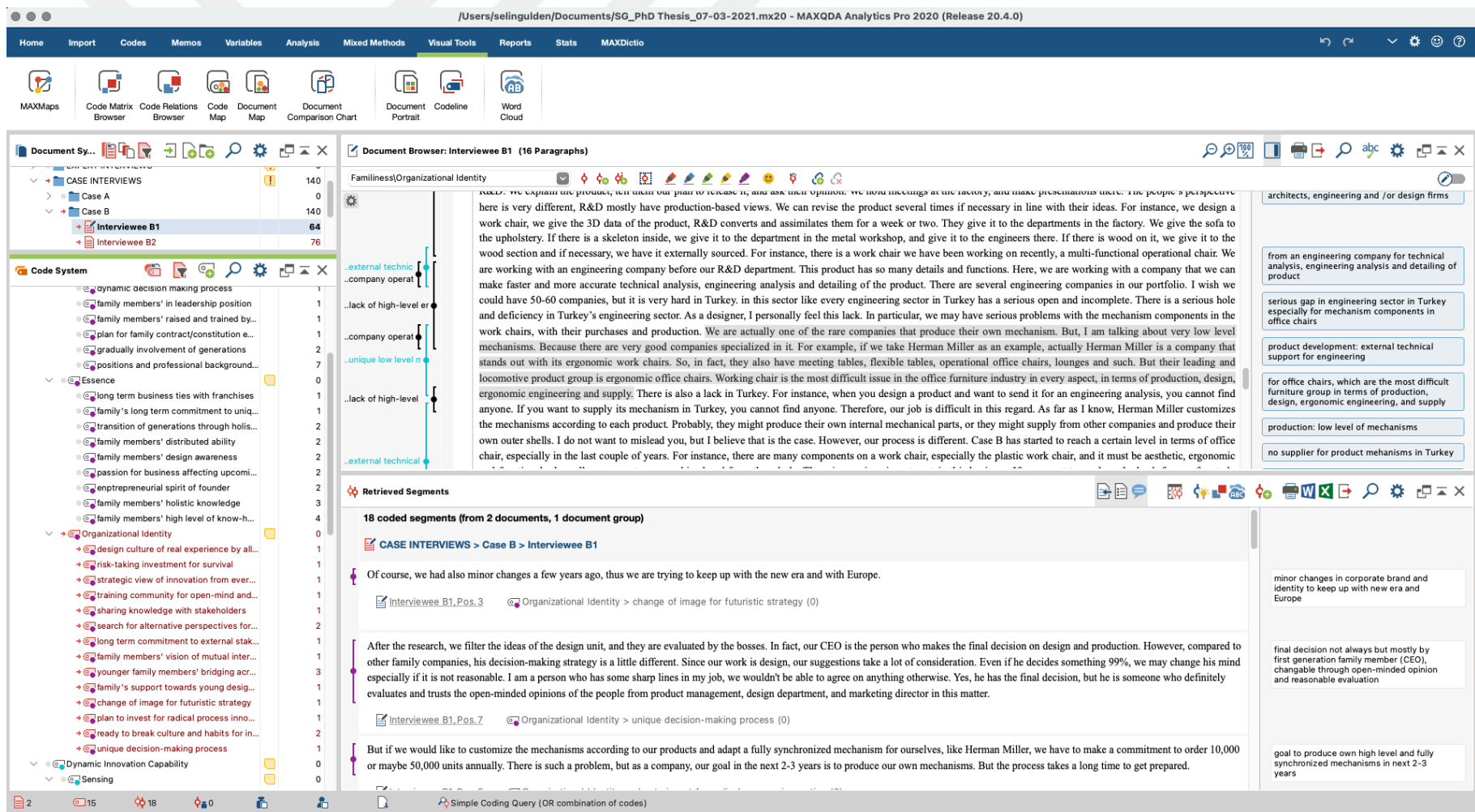


Figure 3.2 : Screenshot from MAXQDA 2020 showing document system, code system, document browser – interviewee B1, and retrieved segments (Author).

Coding in the context of the analysis of an interview means that a section of text is selected and linked to a label – a code, a category, and this coded text segment includes a text passage and an assigned category (a code) (Rädiker and Kuckartz, 2020). As proposed by Rädiker and Kuckartz (2020), all interviews are worked through, and coded one after the other in open coding; where (1) sections relevant to RQs are assigned to appropriate category, (2) none categorized aspects are coded with category *other* or added to a new category, (3) sections not relevant to RQs are ignored or coded with *flowers by the wayside*, and (4) for none decided aspects, respective category definitions are improved. *This study follows this procedure of open coding using MAXQDA 2020, as shown in Figure 3.2.*

During the step of developing category system and further coding cycles (axial and selective coding), it is necessary to look at individual categories, to work with the coded data, to identify dimensions, and to define subcategories (Rädiker and Kuckartz, 2020). For systematic work with coded interview sections and associated further development of category system, there are possible intermediate steps such as: (1) selecting categories and setting the order of processing, (2) compiling coded text sections and getting overview of their content for every selected category, (3) deciding on further procedures – creating subcategory, merging another category, (4) recording most important contents of coded segment as key points in comments, and (5) further differentiating category by developing subcategories in a data-driven manner (Kuckartz, 2014). *In the axial and selective coding process, this five-step system is used to develop the categories as key findings of this thesis.*

This study then uses the following steps in two main parts for in-depth analysis of selected categories. *Firstly*, (1) all segments coded with corresponding category are compiled, (2) they are all selected and displayed in a list – this process can be referred to text retrieval, and (3) the contents of these segments are then analyzed and systematized. *Secondly*, for preparing the report, (1) the role and scope of topic in the research report is considered to provide an orienting framework for writing process, (2) writing is approached with analytical and summarizing perspective by looking at content, by working out positions/dimensions, by taking overall view of category/subcategory, by identifying individual opinions, and by working out possible explanations for statements; (3) resulting text is formulated concisely, comprehensively with illustrative quotations selected and inserted into text, and (4) the

result of this step is systematic presentation of contents of topic relevant to RQ, different aspects, dimensions, and positions (Rädiker and Kuckartz, 2020).

Moreover, several procedures such as seeking patterns, grouping (e.g., events, processes, people), comparing (e.g., resemblances and differentiations amongst data), linking (e.g., specific data to general category), reasoning (e.g., underlying factors), relating (e.g., chain of evidence), and rationalizing (e.g., from data to theory) are engaged to create meaning in this study (Miles and Huberman, 1994).

Finally, for cross-case analysis, where the aim is to find recurring phenomena and differentiations (Eisenhardt, 1989), and to generalize the findings from each case (Voss et al, 2002), core categories and key concepts are identified through an inductive approach and are related to the research questions of this study, familiness affecting dynamic innovation capabilities in design-intensive sampled cases from emerging market.

3.3.4.2 Data display

Data display is crucial in case study methodology, since FB studies especially have long manuscripts and hard to read documents of findings (De Massis and Kotlar, 2014). This study, as explained in the previous sections of this chapter, adopts Yin's method for data analysis: (1) within-case, and (2) cross-case (2009). In both *Chapter Four* – within-case analysis and *Chapter Five* – cross-case analysis and discussion, tables and figures are used to clearly display data and to comprehensively illuminate the findings (Miles and Huberman, 1994).

In the within-case data display, firstly, (1) case profiles are presented; then (2) each case is systematically reviewed following the category system shown in Table 3.9. This systematic view is significant for data to be comparable in the following part, cross-case analysis. Besides, data evidence of each case is displayed in tables for a clear summary. Correspondingly, the cross-case analysis and discussion is displayed in a systematic approach, where patterns between cases (Case A to C) and categories (familiness and dynamic innovation capabilities) are acknowledged and discussed in relation to the research questions and prior knowledge in the literature. After all data is grouped, compared, linked, reasoned, related, and rationalized, the final perspective is again displayed in tables.

The overall timeline of this study is displayed in Figure 3.3.

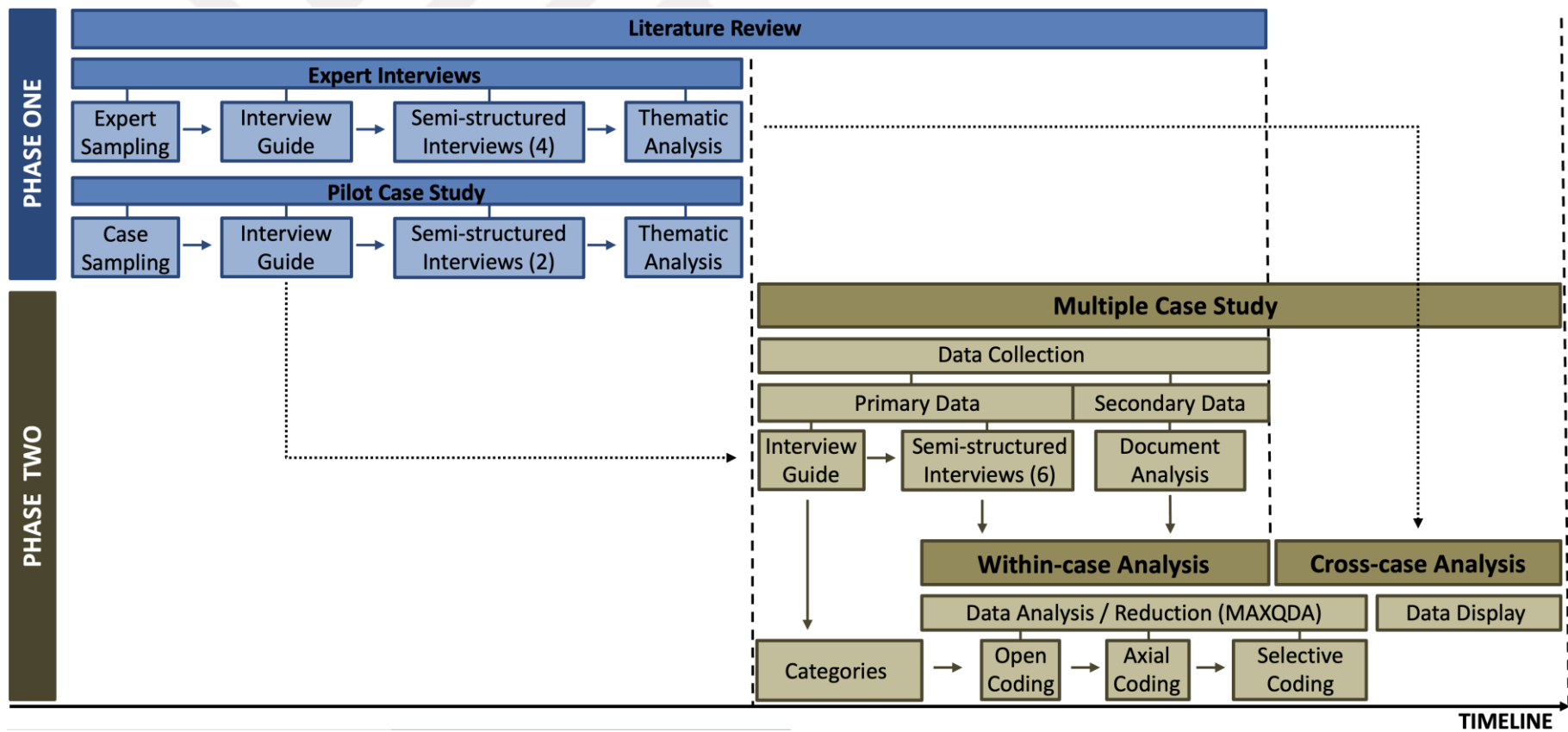


Figure 3.3 : Research timeline of the study (Author).



4. FINDINGS FROM WITHIN-CASE ANALYSIS

This chapter presents within-case analysis of the three design-intensive family firms from office furniture manufacturing industry in an emerging market, Turkey (Section 4.1 – Case A, Section 4.2 – Case B, Section 4.3 – Case C). These sections include *firstly* the profiles of cases and *secondly* the narratives of each case focusing on (1) the company background, (2) the analysis of familiness dimensions (involvement, essence, organizational identity), (3) the analysis of dynamic innovation capabilities (DIC) (sensing, seizing, reconfiguring) gained through changes in the business environment in the emerging context, and (4) the influence and role of familiness in each form of DIC - namely sensing, seizing, and reconfiguring.

4.1 Case A

Case A is a privately owned third-generation FF from office furniture manufacturing sector in Turkey. The family holds 100% ownership rights. The first-generation founder/father is passed away. The second-generation three brothers and their five third-generation children manage the company together. The second-generation brothers are all board members, while the eldest brother is the Chairman of the Board. The third-generation family members, who are either siblings or cousins from their father side, have active positions in the company as Deputy General Manager - Sales & Marketing, IT Manager, Strategic Planning Manager, and R&D Manager - Project Development. The eldest of the third generation is the CEO (Table 4.1).

The interviewees from Case A are (1) the non-family Corporate Communications and Marketing Director, who works in Case A for eight years (Interviewee A1), (2) the second oldest third generation acting as the Deputy General Manager dealing with Sales & Marketing (Interviewee A2), (3) the second-generation eldest brother acting as the Chairman of the Board (Interviewee A3), and (4) the non-family R&D director dealing with Project Development (Interviewee A4), who works in Case A for five years, and previously in Case C for 15 years. Interviewee A1 and A2 are included in the pilot study as well.

Table 4.1 : Structure of Case A.

Family firm	Sales (m.)	Size	Date	No of generation(s)	Family members	Professional role
Case A	49,83€	Large (>500)	1950s (1970s)	1	1	Founder / Honorary CEO until 2017
				2	(passed away)	
					2-1*	Chairman of the Board
					2-2	Vice Chairman of the Board
					2-3	Board Member
				3	3-1	CEO
					3-2*	Deputy General Manager - Sales & Marketing
					3-3	IT Manager
					3-4	Strategic Planning Manager
					3-5	R&D Manager – Project Development
* Interviewed family members (2-1 is Interviewee A3 and 3-2 is Interviewee A2)						

4.1.1 Company background and context

The founding process starts with the first-generation father of Interviewee A3, and the grandfather of Interviewee A2 towards the end of 1950s. After returning from the military service, he establishes a metal workshop with his brother in the family's home city, Sivas, which has been traditionally based on agriculture at that time but currently is a moderately-sized trade center and industrial city, in the Central Anatolia region of Turkey. The family is running a drapery shop beforehand, and two brothers are involved in the business to help, support the sales and material purchases since they are 12-13 years old. The father of Interviewee A3 wants to change the business thinking that it would not grow by selling cloth and fabric ball. At that time, he meets a man running a metal workshop and selling a heavy bed woven with wire with a cast brass bedrail, called Bulgarian mattress. Then, he senses the opportunity to sell these products since there is a NATO facility, an Air Radar Position Command, and the soldiers coming from different parts of the country are prone to such technology and need for bedstead or wardrobe. The founder father seizes that demand and starts the business while the family still sleeps and eats on the floor. Additionally, he brings dining tables, chairs, and various furniture, because the demand is high, and a new market is open. There are even sewing machines, and white goods to be sold. After that, the man running the metal workshop sells his business to the founder father, and the production starts. Interviewee A3 mention that it is not easy to find plate sheet and metal profile at that time, since there is a shortage of raw material. During the first years, he mostly produces steel goods and products such as bedsteads, tables, and chair out of metal, thus the business mostly includes craftsmanship, metal goods, and related

metal furniture until the end of 1960s. He additionally bids, wins tenders and makes deliveries in a small scale until 1970. In 1970, Case A bids for the contract on steel goods in a state tender, and wins against a firm, the biggest competition in Turkey for steel production. The founder father then decides to move the business to Ankara, the capital city of Turkey, because he thinks that this bid contract is not manageable, and even not profitable in the home city. There is so much work to do in a short time and there are difficulties in material supply and its transportation:

For instance, sheet metal is brought from Karabük, Karadeniz Ereğli (Northwest Region of Turkey) to Sivas or raw materials are brought from Istanbul to Sivas. After they are produced, they need to be distributed to 23 regional directories of the State Supply Office (DMO). Almost 40-50% of the order we receive go only to Istanbul. In other words, it does not seem very profitable to buy the raw material from Istanbul, produce it in Sivas and take it back to Istanbul. Well, for this reason, my father wonders whether we move the workshop to Ankara. He thinks they may solve this with less kilometers to anywhere by moving to Ankara because Ankara (capital of Turkey) is where the headquarters of the State Supply Office is, Ankara is located at the center of transportation. (Interviewee A3)

Thus, he moves his home and family to Ankara and business to Söğütözü, the first furniture industrial zone in Turkey. At this point, his brother does not follow him to Ankara, and they separate the business:

We still see each other; we have no problems. It is better like that. There is a tradition, a cake is enough for 1 person, 2 people, 4 people, and when the numbers increase to 20 and 40, that cake will not be enough. We start this business as my father and three brothers. As of 2010, third generations step in, and they continue now. (Interviewee A3)

Case A continues the steel production mostly through tenders until 1980s. In the first half of 1980s, another furniture company brings chipboard production in Turkey, and it changes the demands of the industry as well as the state agency making the tenders, called The State Supply Office (DMO). The General Manager of DMO calls out for Case A to announce the end of the steel goods era that it would be no longer possible

to do business and to grow by being a sole steel producer and add that they would buy wood-intensive furniture. Interviewee A3 accompanies his father during this visit:

He tells us that there are two options for us, either to reduce the size of the company and leave State Supply Office (DMO) or to make a radical decision and start wood production. He insists on following the latter option. My father's biggest quality is that he thinks fast and makes quick decisions, but 95% of his decisions are correct. Some people often make mistakes when they decide quickly, but my father can foresee the future. He says that we should not ignore and make that decision. (Interviewee A3)

Case A owns a carpentry workshop as well since it is first established. However, they have very simple machines such as reclining circular saw, band saw that can be found in every workshop, as Interviewee A3 says. Firstly, the founder father decides not to make a big investment but to start small and understand the new business. They go to Siteler, visit several machinery vendors, buy some essential machines, and bring to their workshop. They first apply for small-scale bids and start manufacturing wood furniture, which marks the beginning of wood production in Case A.

Later, the other company, which is the pioneer of wood production, brings a table group made from laminated chipboard, produced with post-forming method, as prototypes for DMO tenders in 1990. Since this furniture is highly regarded by DMO, the company wins the tenders for several years in a row. Thus, the first-generation father and his brother go to Arizona in the US to see a running wood production facility and observe post-forming, and to Germany afterwards. They prefer and adopt the system in Germany and make an investment for that new production facility. Case A becomes the second to act on that call and demand in the market, and they produce for other companies as well. Eventually, Case A starts winning the tenders since the competition increases with the low bid price offers.

Case A becomes a successful producer, and the family are good businessmen, but the growing continues. Interviewee A2 explains that this growing would not continue unless the firm has a branded product, and if they continue only as a contract manufacturer, an original equipment manufacturer (OEM). Thus, they start to invest their own brand, their own products. In this sense, the family constantly invests in production at the same time:

We see that the structure does not work unless there is sales, marketing, product management, design, and also a whole system, so we try to take it as much as possible. The current structure is like this. After 2000, product designs were done in that direction. Apart from industrial design, that system is a separate structure, and I think it is one of the most important issues of innovation. (Interviewee A3)

Case A currently owns around 60 international design awards, all like RedDot, IF, German Design, Good Design. The strongest aspects of the firm are the panel production know-how and the survival of business through three generations, as it is mentioned by Interviewee A1.

The product range offered by Case A starts with tables, chairs, bedsteads, and wardrobe made from metal. Since Turks mostly come from Central Asia and is a nomadic society with tent, floor mattress, and rug, the society accept the need for furniture as a concept only after 1940s and 1950s, as it is mentioned by Interviewee A3. At that time, there are only portable and movable furniture. Until Case A arrives in Ankara, they have a customer group including soldiers and civil servants from nearby provinces, and the furniture production depends on supply and demand. Interviewee A3 claims that whatever they produce is sold regardless of color or model. The exclusive office furniture production with the transition to wood starts with the tenders by DMO in 1990s, and the quest for design comes after 2000.

In 2010, with the store opened in Istanbul, the dimension of business changes. Along with the retailing, firstly, a need for external professional support for sales rises. Then, when the business scale increases, Case A requires employees for accounting and later more sales representatives as well. While Case A has only blue-collar workers in the firm, white-collars step in since 2000. Case A hires one of the headworkers as factory manager, and professional university graduates get involved in the firm. In 2000s, Case A works closely with Department of Woodworking Industrial Engineering at Hacettepe University, the trainees sent by the university work for a year in the firm, and then they become Case A's employees when they finish their education. Case A has staff recruitment process at that time, and many professionals work with the firm.

When the family makes the decision of institutionalization in the beginning of 2010s, Case A takes professional support from a consulting company for three years.

Interviewee A3 adds that external consultancy is not always the right solution since they might interfere and changes the settings of the firm. The consultancy is about institutionalization, management, and direction of the staff in the workflow or determination of staff requirements. In the meantime, they get involved in enterprise resource planning (ERP) with big budgets.

Other than retailing, Case A mainly has two business models and customer profiles: (1) projects with public institutions through tender, and (2) contract projects with architecture/construction companies. The contract projects are considered as the most tiring with the most in quantity and financial measures, but the least in profitability. In this model, the customers are mostly either large architecture/construction companies or the company that directly realizes that project:

For instance, we make the furniture of four hotels at the same time in 2017. Since the construction is carried out simultaneously, it interrupted our production process when the construction does not comply with the given schedule. Then, we suffer the consequences. The construction delay is already fined, but since we cannot assemble the furniture in time, some of that fine is imposed on us. (Interviewee A3)

Case A has two different sales groups accordingly, for (1) tender group, and (2) contract project. Since the requirements of both groups are different, the salespeople have a background fit with these.

Since it is acknowledged by all interviewees, Turkey has a lack of high-level engineering know-how and production quality. There is no office chair production in the industry:

For example, an international office furniture company has been working for five years through hundreds of tests and prototypes for an office chair. The reasons for the failure of a Turkish office furniture brand to produce and sell an office chair in a global basis industry products are sub-industry products, economic instability, cost of investment, and lack of vision in Turkey's economic situation is the lack of vision and perspective. (Interviewee A1)

In addition, there is no plastic production, ready molds and product mechanisms are imported and used in the sector. However, polyurethane parts are entirely produced by

Case A, where molds are specially made and produced. Case A makes this full cast production for the first time in Turkey.

There is also the problem of protection of rights, imitation, and unlicensed competitors, and Turkish Patent and Trademark Office (TPTO) does not operate properly in Turkey. The application for a patent and a utility model has already a six-month notice period, and the published booklet of TPTO has 95% useless registries, as Interviewee A3 claims. Interviewee A3 believes that it is the result of the education system, and the fallacy of educational policies for years prevent the industry and the country from advancing scientifically and technologically. Additionally, Case A is willing to invest but there must always be a need for financial resources because of the instability in Turkey. As it is clarified by Interviewee A4, he has seen eight economic crises in Turkey during his career and he has been in this business for almost 30 years.

4.1.2 Analysis of family business - familiness

As explained in section 2.1.3, this study seeks to study familiness from three dimensions – involvement, essence, and organizational identity (Chrisman et al, 2005; Zellweger et al, 2010), and its corresponding elements (Röd, 2016) (see Table 2.2). This section explores them within Case A.

4.1.2.1 Involvement dimension

The father of Interviewee A3 and the grandfather of Interviewee A2 is the founder of Case A, represents the first-generation of the firm, and acts as Honorary CEO until his passing in 2017. Interviewee A3 is one of the three sons of the founder and acts as the Chairman of the Board. These three brothers represent the second-generation and act as board members. Interviewee A2 is one of the five grandchildren of the founder and acts as the Deputy General Manager, responsible for sales and marketing. These five siblings and cousins represent the third generation and actively work in the operations of the firm as managers in different departments such as IT, R&D, and strategic planning, while the eldest of the third generation is the CEO.

Positions and professional background of family members: *Non-educated founder with business-educated generation followed by diverse-educated third generation as a turning point for the firm*

The first-generation founder of Case C is a non-educated entrepreneur, a businessman, and acts as CEO until he passes away in 2017.

The second-generation three brothers are business/economics graduates and board members of the firm, Board of Directors. The second-generation eldest brother is the Chairman of the Board (Interviewee A3), while the middle brother is the vice chairman of the board, and the youngest is a board member. There are also independent non-family members in the board. The eldest second-generation (Interviewee A3) is actively involved in the business since the foundation with his father, while the other two brothers step in during the first 10 years. The name of Case A comes from the initials of three brothers since they established the corporate brand with their father.

The third-generation five family members are siblings and cousins, one female and four males, the children of the second-generation. The eldest third generation is the CEO (man), and the second eldest is the Deputy General Manager (man), responsible for sales and marketing (Interviewee A2). These two third-generation members are also involved in the Executive Board, that reports to the Board of Directors. The second eldest third generation, Interviewee A2 is a marketing/economics graduate and responsible for Sales and Marketing, while the eldest third generation is a business graduate and acts as the CEO. Other three members act as Strategic Planning Manager (woman), IT Manager (man), and R&D Manager (man). Each of them is in different departments depending on their education. IT Manager is a system engineer, R&D Manager is an architect with industrial design master's degree, and Strategic Planning Manager is a statistician. Additionally, there is another third-generation family member, who is still studying and not involved in the firm yet.

Case A acts as a total family business until 2010 and the family is responsible for sales follow-up in the management, execution of purchasing, decision-making, payment terms, staff recruitment, bid placing, and customer relations. The first- and second-generation family members are the only white-collar workers in the firms, while other employees are blue-collar workers in the positions of masters, headworker, qualified workman, and apprentice. Currently, the second-generation family members are not

involved in daily routine operations of the firm. Case A has a professional team with a non-family General Manager, and a non-family R&D and Design Director.

Gradual involvement of generations: Trust, responsibility, and authority by experience

The first-generation founder creates the system, where the generations are gradually involved in the firm. The second-generation brothers work with the father since childhood. When the siblings turn 18, the father gives them signing authority and responsibility. Then, they transfer the system of the founder to the third generation as well. While the third-generation family members are studying at the university, the corporate car brings them to work in the firm when they are free. The third-generation members get the signing authority accordingly with the increase in their responsibility.

The direct involvement in the firm and getting the high positions as the family members is not possible in Case A. After having experience in all departments of the firm, the third-generation members manage to be in this level of management under the control and monitoring of the second-generation. Thus, trust and responsibility are gained by experience.

Active family constitution

Case A has an active family constitution, signed in 2012. All items are created by family members; thus, they all act accordingly in the firm. The involvement of family members in the firm depends on their preference, and all family members are asked whether they wish to be involved. There are currently several third-generation family members, who do not prefer to be involved in Case A.

There is a crucial article in the family constitution. If there is a non-family professional member who is more equipped for the same position than a family member, Case A prefers the professional. In other words, the positions are filled with a merit-based system:

For example, I need to know two foreign languages for my position, Assistant General Manager position, and my education should be in this structure. If this is not the case, we say that it is better for a professional to do it. The general logic is always according to those issues. In other words, there is a written form of it that is in the constitution. (Interviewee A2)

Case A does not use a specific model, a pre-defined template for the constitution. Whereas, considering the structure of the family, the members decide to create a unique and custom-designed version of their own. The constitution has almost 15-16 pages, signed by all family members.

There is another article about family members to work in another firm for two years after graduating from university, then turn back to Case A, and start working full-time. This rule has not been implemented yet, since there is no new involvement so far.

On the other hand, another principle suggests that family members should start working in the firm before the end of their education. They come to the company on Saturdays and Sundays since they are 5-6 years old. Then, they are in the company continuously in the middle school period, in the holidays, especially in the summer. During their university years, if they are in Ankara, they use every opportunity to be involved in the firm. Additionally, their work insurances are already started during that time, which becomes a binding element for the firm.

Family members in leadership position: Experienced older family members

Case A has professionals in the positions such General Manager and R&D Director, however the oldest family member has a privilege, coming from patriarchy, to be the Chairman of the Board:

In other words, we have a principle of not having a job for the man but having a man for the job. There is just one exception, again with something that comes from patriarchy. Generally, the oldest family member is privileged, who is me, and I am the Chairman of the Board. (Interviewee A3)

In practice, Interviewee A3 is not actively working, instead the younger brother, a Board Member, is more active in the board. Case A could not break that tradition, relating it to the belief that experience comes with age.

Management by both family and non-family members

In Case A, there are independent non-family board members in the Board of Directors, and non-family professionals in the management occupying the positions of General Manager, and R&D Director.

While the second-generation three family members are in the Board of Directors and involved in the process, the third-generation five family members are in the

management acting as CEO, Deputy General Manager - Sales & Marketing, IT Manager, R&D Manager, and Strategic Planning Manager.

From multi-family and external partner to one-family ownership

During the founding phase of Case A, the founder father decides to move the business and turn it to a production workshop, while he is selling furniture together with his father and brother. His father opposes the idea, does not follow his son, and does not give any financial support. Thus, the founder cannot afford the total budget and needs a partner. Three acquaintances from home city agree with him to become partners of the firm, however the external partners only support financially without interfering with the business. The external partners and the founder's brother leave the firm in 1970s, then 100% ownership of Case A returns to one family:

Until then, we work together. The uncle passed away at an early age, but we separate before his death. We still see each other; we have no problems. It is better like that. There is a tradition, a cake is enough for 1 person, 2 people, 4 people, and when the numbers increase to 20 and 40, that cake will not be enough. At that time, son of the uncle and me just finish school. We are three, then become five; five people increase to seven and eight in the following years. (Interviewee A3)

In sum, Case A is founded, managed, and owned by the first-generation father and his three second-generation sons, until the third-generation family members are involved during 2010s.

Dynamic and unique decision-making process: Older generation not involved in daily routine but decisions, and value younger generation

The second-generation family members, acting as board members in the Board of Directors, are not directly involved in the daily routine, and operations of the firm. Whereas they are directly involved in the decision-making process with the third-generation five members of the family, acting as CEO and managers in different departments.

Interviewee A2, as a third-generation family member, explains the chance of having a second-generation who let them free at certain points of decision-making and listen to their ideas (e.g., magazine project, conceptual showroom projects in Istanbul):

So, our greatest chance is that when we say our ideas and thoughts, they supported us if it was logical, and we could do successful projects over this. We get constant support; it is very beneficial in that sense. Normally the biggest problem in family companies is that the older generations is dominated and self-opinionated, thus the younger ones cannot do much. We have no such thing. (Interviewee A2)

The ideas of the third generation are sometimes supported and executed without question, and positive results lead to more responsibility and trust given by the second-generation. On the other hand, the third generation sometimes need to convince the second and to explain the rationality of their ideas, and they again get the support. Case A does not have a dominant older generation, rather the older generation values the younger one.

4.1.2.2 Essence dimension

Generational transition through holistic firm experience

The first-generation founder follows a vision, where there is the early involvement of next generations to the firm. The second-generation brothers work with the father since childhood, then gain signing authority and are given responsibility, after the brothers are 18 years old. Then, they transfer the system of the founder to the third generation as well.

The current CEO, the eldest of third generation, and Interviewee A2, Deputy General Manager as the second eldest, involve in the firm in the early periods. They go to the production facility since primary school as the first members of the third generation. The process slightly changes for the later entrants of the third generation, where they start working as an intern in Case A after they finish the university.

The generational transition involves a holistic firm experience either way, where the family members work in all departments such as production, accounting, quality control, export, and even have translation duties as such.

Distributed ability and design awareness

In Case A, the first-generation family member is strong in workshop, metalwork, and craftsmanship, while the second generation has business and economy competency, and the third generation specializes in business, design, R&D, IT, and cultural

management. All these distributed abilities are counted as the resources of the firm provided by family members. As explained by Interviewee A1, this essence of the family indicates strengths such as awareness raised for the firm, industry, and community, use of raw materials, experience, production know-how, and technical capacity.

The design awareness in the pursue of innovation comes with the involvement of the third generation through their distributed abilities. The essence for such awareness leads to the goal of creating high-quality and well-designed products, providing environments to ensure the availability of these products for as many people as possible, and highlighting social responsibility. For instance, the use of social media and support of external stakeholders are seized by Case A to achieve this goal.

Entrepreneurial spirit: Vision inherited from founder

The first-generation founder of Case A has an entrepreneurial spirit, and his vision is inherited to the next generations. The founder finds an opportunity in a small district with a NATO facility, where there are soldiers from different parts of the country, responds to the demand and need of furniture by selling various pieces, and opens a new market for it. Later, he starts production, and makes bids for contracts on several small-scale tenders. However, he senses the bigger opportunity when he meets DMO and wins a large-scale tender. Then, he strategically decides to change the location of the business from family's home city to Ankara because of the concerns for material supply, transportation, and distribution. After that, another entrepreneurial turning point comes when DMO calls for the emergence of wood production. The founder acts for that call immediately after a certain preparation process for adaptation, chooses the appropriate system for the firm by visiting several production facilities abroad, and makes this investment of adding new specializations for survival and growth:

I remember my grandfather and my uncle very well, they went to the United States, first, to a running facility, a wood factory in Arizona. However, the system in the US did not make much sense to them, and they went to Germany. They made an investment from Germany and came back to Turkey. (Interviewee A2)

My father is thinking forward; he is fast to make decisions. As in the transition phase of wood production, he goes to Germany and US to see the machines

working with his enthusiasm at that time. He always says that the important thing is to see them at factories in action, not at fairs as exhibited products. (Interviewee A3)

Furniture is a craft profession, and its know-how is hard to transfer, but the actual challenge is to industrialize it, to put it into a system, and to engineer it:

Now, if the grandfather had not taken such a step there at that period, such an innovation would not have happened. And perhaps we would still be continuing as the family of the craftsman in Central Anatolia. This would be our biggest innovation. (Interviewee A2)

Additionally, the founder of Case A puts the quality of production as the primary concern of the firm. This vision is his advice for the successors:

He says that a product must have quality with all the details and then we stand behind it. (Interviewee A2)

Moreover, the founder's business vision of having a mindset that is beyond its time is inherited to the family, especially the perspective to technology. Interviewee A3 says that his father, the founder, is 20 years older than him but 20 years ahead in terms of mindset:

For example, I am keeping accounts until 1985 and it is the old system with a daybook, ledger, and inventory. My father sees it in the newspaper, there is Great Ankara Hotel at that time and on the ground floor of the hotel, there is computer technologies fair. He says that we are going there, that we are not leaving without buying a computer and that I would keep accounts with it. Word and Excel do not exist at that time, so computer is not used for correspondence, but rather to keep accounts. (Interviewee A3)

Work ethics vs financial concerns

Case A has a principle, coming from the first-generation founder that is still maintained for success:

My father has a principle; he would tell us not to reckon with the past while doing things. He says when we are bidding on a tender, we should ask why we could not get it if we do not get that tender, but we should not go back and

think whether we would do it with profit or loss if we get that tender.
(Interviewee A3)

The main principle is not to get stuck in the past, and not to think about the economic dimensions of the business whether there is profit or loss. Whereas the principle is to search for the reasons for it, to do the desired job in the most appropriate way according to the specifications of the contract, and to deliver it to the respective units. This work ethic of Case A comes before the financial concerns and even the loss of the firm, but the success comes with this principle of long-term orientation, as it is revealed by Interviewee A3.

4.1.2.3 Organizational identity dimension

Motivation for innovation investment and risk-taking

Case A family is willing to invest for all types of innovation, but mostly in production. On the other hand, production requires much bigger investments, especially in furniture industry. Interviewee A2 indicates that the investment cost is quite higher when the firm falls behind in production technologies and needs renewal. Thus, the share allocated by Case A from the turnover for R&D and design is far above the average of the industry. Moreover, Interviewee A3 also mentions the economic and political instability of the market, thus the family keeps the financial resources without growing by debt or get a job with equity:

In 2015, our export becomes 40% of our turnover, and our target is 55% for the next year. We were going with good momentum that year. The Russian plane crashed, our 4 projects were canceled the next day and within the next week. Our 18-month job was gone. (Interviewee A3)

Case A family values the diverse motivational effects of delivering a product, completing a project, launching a new store, seeing the financial results, using a product in a project, and making a new investment for the production facility. Additionally, the human factor and requirement of a teamwork for any production is another motivation and lead to mutual interaction within firm. Every innovation is seen as the children of the family and the firm, and is welcomed with love, as Interviewee A2 explained:

These are great motivations for us, and of course, the fact that this turns into a profitable business deal for the continuity of the company and that it also provides a financial return is of course motivation for us at the end of the day. (Interviewee A2)

Secondly, the competition is another motivational factor for Case A since it increases the product and service quality. However, Interviewee A3 adds that the conditions of competition might be challenging and threatening and pull the firm backwards.

Vision of idea exchange and knowledge sharing within firm

Case A believes the significance of instant decisions made accordingly after monitoring the current situation, and evaluating the profitability and efficiency in the system, as told by Interviewee A2. The effect of professionals and human resources as well as R&D and product design are very crucial in decision-making. Moreover, the involvement of production with the need to constantly develop new materials leads to an ongoing competition. Interviewee A2 adds that they need to develop themselves to constantly innovate with the ideas of doing things better and in a more economical way, as they compete:

Sometimes, we innovate to complete the project on time. In other words, since we make projects in the R&D center, but at the same time, having a signed contract work to be finished in a defined period, we had to find something new, make an innovation to substitute for the technology we already have, which was not adequate for that number of products. (Interviewee A2)

Thus, Case A adopts a vision of constant idea exchange and knowledge sharing among all departments and all internal actors. This interaction of ideas and knowledge with the investigation on what and how to solve a problem, mostly lead to an internal innovation generation when there is no external demand.

4.1.3 Analysis of dynamic innovation capabilities

As explained in section 2.3, this study seeks to study dynamic innovation capabilities (DICs) from three dimension – sensing/shaping, seizing, reconfiguring/transforming dimensions (Teece et al, 1997; Teece, 2007) (Table 2.5). This section explores them within Case A.

4.1.3.1 Sensing capabilities

Customer-oriented innovation decisions: Demand sensed by founder

As it is stated by Interviewee A3, Turks mostly come from Central Asia and is a nomadic society with tent, floor mattress, and rug, thus they never need a chair to sit, a table, or any furniture until 1940s and 1950s. There is an exception for the palace, Istanbul, Izmir, and the minorities. During the founding process around 1950s, Case A has a non-local customer group including soldiers and civil servants because of having a NATO facility in family's home city, Sivas. The demand of this customer group is supplied by Case A with the production of several pieces of furniture such as tables, chairs, beds. The innovation at that time is based on production, but not product:

Whatever we produce is sold, there was no demand for color or model. That quest for design comes in the following years, even after 2000. Before 2000, people think they only need a chair for its function. (Interviewee A3)

Managing design ideas: Fairs for growth, design feedback, and idea exchange

Case A is always in search of developing more useful products according to the ideas gained and exchanged by visiting national and international industrial fairs. Moreover, Interviewee A1 adds that Case A regularly attends the Orgatec fair, the leading international trade fair of business environment since 2000, especially when design is integrated in the firm.

Managing design ideas: Value added by external designers/stakeholders

Case A values external designers for providing value added products. As it is mentioned by Interviewee A1, one of the external designers creates the first mostly metal open office systems of Turkey for Case A. Design briefings do not always arise from Case A, but also from the external designers' portfolio.

Another design is created from recycled pet bottles, turning them into felt, which is then heated and molded into a hard material and turned into a seat with the collaboration of a Dutch design team in 2016. Case A develops this product together with that external designer group for aesthetic side, strength, and production technologies, since this design team previously has experience with that material:

It is all about being able to combine this knowledge and experience with our technologies and make it a final product. Currently patents are pending for that product. (Interviewee A3)

Additionally, Case A receives technical consultancy and external service for the issues related with production (e.g., having the molds produced outside).

Moreover, Case A consults for external support in terms of industrial design as well, and actively work with 8-10 external designers in Turkey and abroad (e.g., Italy, Germany, The Netherlands) for added value. The external stakeholders are also involved in various product revision ideas. For instance, the supplier of a material offers Case A to design worktables with adjustable height, to change mechanisms of seating units, or to improve functions of seminar chairs. Since certain product mechanisms cannot be produced by the industry, the suppliers of these mechanisms visit Case A when a new mechanism is launched. Then, Case A's R&D team decides how they would be used in their products, and the supplier makes samples/prototypes accordingly.

The role of design as added value with the support of external designers/stakeholders is seen through national and international awards received by Case A with a total number of 50 since 2010.

Managing design ideas: External design revised by in-house design team

The in-house team in Case A creates design ideas and makes products. However, they mostly make revisions according to the firm's production technologies to the products offered by external designers. The patterns of these designs such as the molds to make them industrialized is drawn by the in-house team. Thus, they combine the industrial design ideas with engineering and make the products suitable for production technologies.

Managing design ideas: Coincidence vs research

The ideas for design of any technology or product used in Case A are sometimes coincidental, whereas sometimes Case A spends almost two to three years for studying, researching, and developing an idea. Interviewee A2 tells that they do not have certain plan, because innovation can come out of unexpected situations, places, and people:

For instance, the product you see behind (the bookcase unit behind the meeting table in Izmir office) is a novelty, an innovation resulting from the need when you do not normally think of it as an idea and now it is one of the most used products. (Interviewee A2)

Managing innovation feedbacks: Sales reports by R&D and customer feedbacks by whole firm

The sales group in Case A prepares the lists for the feedback received in the products. For instance, the requests and suggestions about lack of tables with adjustable height, products not sold for several years, products with high prices, lack of varied sized coffee tables, dimension alternatives for meeting tables, and lack of modular tables are reported to R&D once a year.

Case A do not usually report a need or feedback, but always develop new products in line with demands from within or requests from customers, as it is explained by Interviewee A3.

Industrial associations and public institutions as external resource

The organizations such as Turkish Office Furniture Industry and Businessmen Association (OMSIAD) support both the industry and the firms in it. For instance, office chairs are imported from China as one piece at very low customs cost, since OMSIAD intervenes, and the customs cost is increased. Thus, the unfair competition is prevented, and the regulations of the government is changed. Central Anatolian Exporters Union is among the significant external resources of Case A, as it is mentioned by Interviewee A1.

During the growing phase of Case A, State Supply Office (DMO) in Turkey invites Interviewee A3 with his father (the first-generation founder) to announce the emerging of wood production and to give them alternatives of either reducing the size of the firm or making a radical change of starting wood production. Thus, the external resources play a significant role for the survival, growth, and success of Case A.

Role of design: Change in focus of business from production to corporate brand

The concentration on design in Case A starts in 2000s while almost all firms in the same industry and from other industries do not talk about it, as it is mentioned by Interviewee A2. With the design awareness, the firm change its focus from production

and industry to brand, product, service, and system. Interviewee A2 explains the main goal is to create a system with the firm's legacy. The corporate brand with product design and institutional sense becomes the main structure of Case A with the sense and awareness of design.

Role of design: Market demand and technology push for product variety

The actual involvement of design and R&D in Case A starts with the opening of the retail store in Istanbul. As being an economics graduate, Interviewee A3 believes that everything depends on supply and demand, and it is possible to sell any product:

People need the product and its function then, they do not care about the model, color, etc. When it reaches a certain level of satisfaction that we have production more than demand, this time, product variety and design come to the fore so that we can stand out. (Interviewee A3)

While working with DMO and having mostly contract projects through tender, 95% of production is to DMO and only 5% is custom production, until the middle of 1990s. After that, Case A senses a change that DMO would not buy as much as before, thus Case A needs to head to the market and make product variety. As it is told by Interviewee A3, Case A realizes that the quality and design become opportunities and reasons of preference, even though the price of the products are the same with the competitors.

Interviewee A3 mentions that the advances in technology are followed by Case A since it shapes the design of the products as well:

Now imagine for instance, when the computers first come out, they are on desktop with horizontal large cases, then they design it, pass onto upright cases, then switch to all-in-one cases having both screen and hard disk, which is applied by Apple for Macintosh. Then, the tables are designed and produced accordingly, we make special furniture for the computer case for years, we made coffee tables accordingly. (Interviewee A3)

Another opportunity related with the change in the way of working and advancement in technology is sensed by Case A. For instance, homeworking emerges as a concept, and while there is a need for a room, workstation, or table for every worker, recently shared working spaces are created and working in common units are carried into execution with the idea of having especially sales and marketing worker spend more

time outside the office. Everything fits in a laptop bag, the job is carried to any location with internet, and the location becomes the office, the workplace:

Before, while preparing a project, a list of personnel was taken first to identify the needs of tables and cabinets, the types of tables are chosen according to their positions, the number of cabinets is determined according to their workload, and then the tables and chairs are designed. Now, we reach such a point that if we are preparing a working environment for 500 people, and maybe 150-200 workstations would be enough. (Interviewee A3)

Case A believes that every change occurs in accordance with demand, and it is all about need, thus the design that fits best with the need is considered the best. It is crucial to sense that opportunity of market demand and technology push.

Observation of mega trends & inner structures: *International brainstorming vs traditional media*

Case A is aware that the business and the world is not the same as it is 30 years ago. Especially with the development of technology, the presence of the internet world, and the sales via social media and internet, there is no longer any domestic or foreign market. Interviewee A3 says that they are especially aware of whatever happens around the world and of any innovation in seconds via internet. Thus, Case A follows any update or change anywhere in the world in seconds and exchange ideas in real time, rather than reading it from traditional media hours, days or even weeks later:

So, if we want to keep up, we need to follow them and if we want to be able to stand out among our competitors, our aim is not to imitate others, but rather to make such innovation that makes our competitors imitate us. That is our biggest strategy for innovation. (Interviewee A3)

Observation of mega trends & inner structures: *Critical thinking about industry*

Case A observes what other furniture producers have been doing and what have been done in other sectors, when they are evaluating their own processes of corporate communication and marketing. However, on the contrary, Case A tries not to do the same with others to overcome the threat of repeating the same and becoming average. Since furniture is a craft profession with a structure that is hard to industrialize into an engineered system. Firstly, if the first-generation founder of Case A would not take

that risk at that time, Interviewee A2 believes that they would still be continuing as a family of craftsman in Central Anatolia. The second is transferring to wood production in 1990s by sensing the need and demand for it, *taking a leap of faith* (own words of Interviewee A2) and acting as a pioneer in the industry. Thirdly, while all furniture makers are still in Siteler (the oldest industrial region in Turkey), Case A moves to an organized industrial zone (newly established in Turkey) to build a bigger production facility and becomes the first furniture manufacturer there. Fourthly, Case A sense the need for design in 2000s when there is no design awareness in other sectors. As a fifth issue, Case A is the only firm in furniture manufacturing industry to act on the need of a complete system by having R&D center, design center, *Turquality* support, and SAP (an enterprise resource planning software).

4.1.3.2 Seizing capabilities

Production know-how: Energy-saving closed-loop production facility

Case A recently establishes a factory where there is no use of natural gas. The energy obtained from burning materials and products is used to warm up the production facility and keep the machines working. Additionally, the maximum use of natural lighting throughout the facility reduces the energy consumption. Thus, the energy saving is maximized by Case A in this closed-loop production facility.

Production know-how: Strong panel production vs weak chair production

The strongest aspect of Case A is the panel production, which is embedded in the firm as a know-how throughout the years, as it is told by Interviewee A1. However, chair production know-how does not exist in the firm, as well as the industry.

Using the strong production know-how, Case A recently manufactures acoustic panels and partition wall panels made of felt, which is recycled from pet bottles, in the R&D center.

Production know-how: Unique injection molding and casting production

Case A establishes a unique injection molding and casting production method during a contract project received through tender in 2017. The project is the branching process of a large company. They have a display module that is normally made of an aluminum frame and Case A needs to supply this module from an external stakeholder (e.g., advertising agency). However, the modules supplied from external parties are crushed

during transportation (i.e., one out of five pieces), and they can only manufacture five pieces a week. Thus, it is impossible to deliver product in time according to the bid contract. In the meantime, Case A also produces upholsters, injects polyurethane into the seats, and the polyurethane becomes soft when it is applied on chipboard. With this know-how mind, Interviewee A2 explains that they try to search for a different approach to make the material hard and rigid with pressure and mold. The seating production and R&D team work together, manage to produce that hard polyurethane instead of that supplied aluminum frame, put it into the molds, use injection method, and finish 50-100 pieces a week. This process innovation solves the problems arising from transportation, from the supplier and the process is converted into mass production:

From this point on, the product has become a more robust, faster manufactured and more cost-effective product. In this innovation process, there are senior management, family members, R&D director, and group of engineers in R&D center, that chemistry engineer in this process working all together, testing, trying, and molding. (Interviewee A2)

This material made originally for the aforementioned project and considered as the process innovation of Case A, is later used in standard products of the firm (e.g., the legs of some tables, on some tabletops):

In other words, by developing that material, we later integrate it into other products. I think it is an example of successful innovation, a process innovation leading to a product innovation. (Interviewee A2)

As it is added by Interviewee A4, R&D Director in Case A, this hard polyurethane acts as wood in strength, but not as heavy as wood, and is shaped like wood by applying coating or lacquer.

Production know-how: Technological investment

During the beginning of wood production, Case A invests in the essential machines necessary for wood manufacturing as well as special machines for post-forming technique by being the second in Turkey. Thus, Case A becomes a new competitor for the pioneer of the technology in Turkey. However, during the initial projects, Case A faces several setbacks (e.g., calculating the tender offer without counting the huge loss

of material during the post-forming process) and is even supported by this pioneer firm, their sole competitor:

We enter the market with 40% less offers than our competitor, get the bid, and earn good money. Inevitably, when competition increases, the prices go down. They do not expect such a thing, then when we were leaving the tender as the winner, the authorities of Tepe Furniture ask how we calculate the price. Our competitor is currently working with 45% loss, and we do not take it into account. We know that there must be a certain amount of loss, but not 45%. This post-forming process causes a high percentage of loss, especially when they want to bend the laminate, it breaks for not containing desired consistency of resin. (Interviewee A3)

Production know-how: Unique post-forming production

After the investment on post-forming method of production and learning about the high percentage of material loss during the process, Case A begins to work on this issue. After a long trial and error process, Case A starts mass production with a material loss that does not exceed 3-5%, by setting a certain temperature and time for less breaks and cracks. As a result, Case A manages to win all tenders for the next 10 years without competition until other firms step in and the prices go down with each new entrant. Later, due to extreme competition, it becomes impossible to profit and Case A decides to get involved in other projects.

Unique operating system: Product supplier for public, contract projects for private, and local dealer for brands

Firstly, Case A serves as a public supplier and manufacturer through the tenders contracted by a state agency, DMO. The sales for these tender offers are executed through the form of catalog selection. Additionally, the firms are asked to prepare plan layouts and 3D visuals, chosen from several selected firms, and sometimes make collaborations with external stakeholders (e.g., university):

For instance, in a project made for the State Council, Case A worked with a consultant from METU (the university with Turkey's most successful industrial design department). (Interviewee A1)

Meeting with DMO and being a public supplier since 1970s, Case A structures its operating system accordingly to date by moving from the home city to a more strategic

location for efficient supply, transportation, and distribution, as well as changing its production facility from a small workshop to a large factory including several production techniques, and machines.

Secondly, Case A establishes partnerships with international firms for distribution and sales and becomes the dealer of their products in Turkey.

Thirdly, Case A works with private organizations and makes contract projects with them. For instance, Case A draws full application drawings based on a predetermined concept in projects with accommodation companies such as hotels. These turnkey projects are carried out by working with suppliers abroad. In the financial sector, Case A mostly bids on the contract projects for the tenders offered by the clients and the projects are drawn by own contracted architects/architectural offices of these clients.

Unique operating system: Rapid delivery system and stock management

Since ways of working are constantly changing in this industry and the projects are renewed every five years, Case A values its stock management, especially in projects with the banking sector, where there are more than hundreds of branches.

Additionally, the renewal of furniture in a branch located on one corner of Turkey might be required anytime or all branches in Turkey might need to be renewed at the same time, thus large-scale projects with fast production and delivery are necessary. One of the biggest challenges of Case A when they win the tenders for such large companies is to structure the system for rapid delivery. For instance, Case A receives a project of Turkey's largest telecommunications company with 500 branches to be delivered in a limited time. Since Case A normally produce five pieces a week for other clients, they must deliver 200 pieces per month for such project. Thus, Case A is always in search for a solution, a rapid delivery system.

Moreover, cost analysis in such contract projects is significant for Case A, when the projects especially done with hospitals are usually leased for at least 25 years.

Unique operating system: Establishing design and R&D center

Case A becomes the first firm in furniture manufacturing industry with R&D Center (2017), Design Center (2017), *Turquality* (a national brand-building support program by state) (2017), and SAP (an enterprise resource planning software), all in one. Case

A receives the license of R&D Center located at the production facility in Ankara in 2017, as well as Design Center located at the headquarters in Istanbul.

Design Center has a team of interior architects, industrial designers, and forest industry engineers, since wood is very significant for Case A. Additionally, there is a team of graphic designers to support the marketing department. Case A creates a dynamic atmosphere with a young and motivated team, as it is added by Interviewee A2.

In practice, Case A has two design teams, one located at the Design Center in Istanbul and the other is at R&D Center in Ankara. The teams go back and forth, collaborate with each other, and give mutual feedback when necessary. The designer of Case A's main product are mostly external designers or design groups. However, the in-house design team turns the concept project of a design delivered by external teams into producible done. In other cases, the whole project of a design received by Case A cannot be directly transferred to the production team, rather the in-house design team configures it according to their production routes and technologies.

R&D Center has mostly a group of engineers (e.g., electrical engineer, forest industry engineer), as well as employees graduated from technical high schools. Case A builds a structure with a team to solve engineering problems for new materials and structures. The director of R&D Center, Interviewee A4, is very experienced in the industry and the team with 35 engineers currently employed constantly develops projects accordingly. R&D Center currently has several ongoing projects, which include (1) furniture from fiber material recycled from plastic bottle waste, (2) table legs from solar shading panels by adding wood in it, (3) smart tables projecting holograms in the wall with full touch screen on top, and (4) infrared furniture for heating the environment. For instance, the project mentioned at first on fiber material from recycled pet bottles reaches a composition of 70% becomes a radical innovation with a national patent received, and Case A is still the sole manufacturer in Turkey. Moreover, acoustic, and sound distribution values of this fiber material is quite high, and Case A owns the know-how in this regard, as it is added by Interviewee A1. The approximate time spent on such project changes from one and a half to two years. For these projects done in R&D Center, Case A applies to TUBITAK (The Scientific and Technological Research Council of Turkey) and Ministry of Industry for design registrations and necessary patents, or petty patents. Most innovations and designs

require several tests, and quality control processes, which then need to be documented and presented in accordance with the state regulations for R&D Centers by Case A.

Additionally, R&D team makes decisions on (1) efficient product revisions according to customer feedbacks and sales reports, and (2) effective use of new mechanisms brought by external suppliers. Samples products and prototypes are made in line with the decisions of R&D team after the molds are prepared accordingly. The studies are finalized after a detailed evaluation on these samples.

The incentives received from *Turquality* program and from Ministry of Industry for R&D and Design Center make significant contribution for Case A:

Getting incentives, especially for design and innovation by the state, while we are managing our commercial concerns, allows us keep going in a financially comfortable way. For example, during our ERP (Enterprise Resource Planning – system designed to combine all resources of the enterprise and use them efficiently) process, we have received quite high incentives from the state in the process of product design, as well as in the R&D and Design center process. (Interviewee A2)

The support of *Turquality* includes incentives for corporate brand building, stores/showrooms in Turkey and abroad, and participation of international fairs. Case A benefits from R&D support the most.

Unique operating system: Customer-oriented sales strategy

Case A has sales teams specialized and structured according to the customer profiles, since there are mainly private and public sales teams separated from each other. Private sector sales team mostly consists of technical staff and this staff includes interior architects, architects, industrial designers, and forest industry engineers.

For instance, a group of salespeople is more specialized in the customers from finance, because they know real estate and construction, and are familiar with the purchasing of front desk and counters. Whereas, another group works together with architectural offices, gets used to the issues of that process and knows the related products better.

Since Case A separates the customers profiles as (1) private institutions (including categories of finance, health, construction, and industry), (2) public institutions, and

(3) clients of contract (i.e., fixed furniture project of a five-star hotel). Currently, retail is added as fourth.

In contract part, Case A does not make any projects, but only pricing, production, and assembly of the already finalized project. An architectural and/or project management company designs and prepares the whole project, while Case A manufactures the necessary products.

Unique operating system: Dynamic communication structure with external support

Case A offers a dynamic structure for marketing, which starts with an interior design concept, then translated and turned into a communication project. The project involves a magazine issued once or twice a year and created as a library, showcase, and platform of design, art, related ideas, events, and people.

Additionally, Case A works with two consulting agencies for communication and marketing and their support is valuable during this process of a new structure. One agency gives support for digital, and the other for traditional marketing. Interviewee A2 mentions that the main goal of Case A is to make it sustainable, and currently they are preparing the 22nd issue. As a continuation of this communication project, Case A works with external designers and an external consulting agency for the design of their last showroom.

Unique operating system: Social responsibility projects fit with business

Case A's art and design magazine, core ideas interactive showroom, and collaboration and/or sponsorships for several events (e.g., talks, exhibitions, seminars, workshops) are some of their initiatives with the aim of social responsibility to the industry, to the people, and to the market. For instance, Case A participates in the international design biennial, organized by Istanbul Foundation for Culture and Arts (IKSV), with a documentary project that includes a social responsibility theme. This project is a series of short documentaries about six local and traditional professions that are about to be forgotten in Anatolia; ember (casting), glaze (tile-making), knot (weaving), clay (pottery), tin (copper working), and dust (wood carving). The issue about these craft professions is that they cannot be transferred to next generations and face the threat of oblivion, as stated by Interviewee A2.

The magazine created by the new communication of Case A, is about art and design, is established mainly to give opportunities and provide platform to young designers and newly graduates, and will continue to be published, as stated by Interviewee A1:

The theme of this issue is life. For instance, there are artisan restaurants to which we went by ourselves and photographed. We went to the oldest and traditional restaurants in Istanbul and shot videos there again. Apart from that, there is the botanical issue. And a start-up company by a lady blowing handmade glass in her own oven. We try to combine them all. In this issue, we talk about life and inheritance of values in our community. (Interviewee A2)

Thus, Case A feels responsible about the issues and values related to its own community, on a national scale. Additionally, Case A recently makes an agreement for the eco design project with an international company on the design of green product and green business model. Interviewee A1 mentions the act for sustainability and ecological concerns of Case A, on a global scale as well.

Moreover, Case A trains many employees for the defense industry. When newly graduated engineers work in Case A for a 6-month period, they get familiar with solid drawings as well as SAP. Then, they have a great chance to get into the top-rated firms of defense industry (i.e., Aselsan, Havelsan, Tai), since the period spent in Case A can be considered as a 6-month orientation process and education for them.

Unique operating system: Automated system

From the beginning of 2021, Case A has a functioning, fully automated, and online operating system. Thus, the orders are entered daily as quantity, how many are entered in monetary terms, how many are produced, how many wait at which stage, and on which machine; all is monitored and checked through this new system.

Case A does not have physical servers for SAP anymore, rather all information is uploaded in the cloud. Interviewed A2 mentions that this level is only achieved by German automobile companies or similar institutions, however Case A cares about such technological investments, being the pioneer of the industry.

Product development: External technical support given and taken

Case A provides technical specification support and details such as friction coefficient and fire resistance of the fabric that is especially significant in healthcare spaces, for

instance. Additionally, Case A draws the application project with all the details and customizes the furniture for every project with all mechanisms, sizes, and fabrics.

On the other hand, Case A receives technical support for the development of certain products or materials (e.g., acoustics, plastic, and flooring). These external stakeholders become strategic partners for material innovations or production technologies. In addition, the issues such as the production of molds need external service. Moreover, there are 8-10 external designers and design teams in Case A's portfolio, which are consulted for industrial design.

Product development: Varied processes – R&D, product group, innovation type

The product development within Case A is a teamwork, since an idea comes with a proposal, the group studies and develops it. After the development, the preparation is done according to certain phases. In the process of external designers, the idea is generated first, then turned into a sketch on paper. For instance, there are executive sets with tables, chairs, sofas, which get old in time, a new product needs to step in. This need of a new product is explained to external designers. Some samples come with sketches. When Case A concentrates on one sample, then they proceed to the next phases for its development. When it comes to the production stage, the prototypes are being prepared. External designers are involved in every stage of the process.

The design phase of the product development process depends on the detail of the product. The phase might take three days or more than a year because of complicated details to be solved. This process also depends on whether the product is sold first, then designed and manufactured, or it is a product group intended to be sold prospectively. For instance, there are stand-alone products (e.g., coffee table) and product families (e.g., open office system). The latter does not finish with a table, but it has a chair, a wardrobe, a cabinet, and a coffee table next to it. Thus, the composition of that product group or family needs time, as stated by Interviewee A3.

Case A develops all types of innovation, intertwined and difficult to distinguish separately:

Now we decide on something, design a new product, we need a new machine park, we must serve it, or when we produce it, we must give training for the capability to the team who market it. In fact, the phases of innovation process

are all interconnected, and it is very difficult to say that we are good at one thing. (Interviewee A3)

Corporate brand building: Brand awareness at international level

Since Case A is included in the national brand development program called *Turquality*, which was provided with the government support starting in 2017. Beforehand, there are international sales to Middle East and to UK. However, after the integration of *Turquality*, Case A raises a brand awareness abroad with its own brand and showrooms, established through the incentives of the program.

Structure of value creation: Value through external collaborations

Case A adopts the understanding of innovation to create high quality and well-designed products, to provide environments to ensure the approachability of the products by as many people as possible and to highlight social responsibility. Thus, the structure of value creation in Case A depends on mostly external collaborations through several initiatives. They use social media, find stakeholders for support (e.g., the magazine idea as a part of the communication project). Through this project carried out with students, recent graduates, and academicians, Case A becomes a well-known and easily approachable brand. Interviewee A3 talks about the idea that especially students as potential successful designers of future might introduce and represent Case A in several environments.

Additionally, Interviewee A2 goes to universities where he receives several invitations to give seminars on design and marketing. Case A continues collaborations and/or sponsorships for several events (e.g., talks, exhibitions, seminars, workshops). Moreover, they work with external designers and an external consulting agency for the design of their last showroom. The consultancy continues as part-time, or project based.

Moreover, Interviewee A3 is a member Board of Directors of the furniture Group in the Central Anatolian Exporters Union in Turkey and organizes National Furniture Design Competition for 11 years.

4.1.3.3 Reconfiguring capabilities

Adding new specializations for growth: New e-commerce sales network

Case A offers a new service of online sales through the firm's web page, that is launched in 2021. Home furniture production and sales is added to the services provided by Case A. According to Interviewee A2, they see the demand for furniture sales through internet and adds this new e-commerce sales network as one of their new specializations for growth and success.

In addition, Case A prepares this sales network, where each product is offered with an assembly setup for the customers to easily mount and demount. The techniques of production, assembly, and distribution is reviewed to fulfill the needs for this system, as it is mentioned by Interviewee A1.

Plan for institutional structure

Case A makes the decision of institutionalization in 2012 and takes professional support from a consulting company for three years. The consultancy is generally about the actions need to be taken in this process, covering the management of staff in the workflow or the determination of staff requirements. First, they provide consultancy for the development of sales and marketing, and second, for the training of staff to meet the need for the order increases. When this intensive process (e.g., meetings with white-collars almost three days a week) starts affecting the turnovers during 2015, Case A terminates the consultancy. Thus, the process is currently on pause.

Besides, Case A builds a functioning, fully automated, and online operating system as of 2021. They receive quite high incentives from the state through Turquality program during the process of ERP integration (SAP), a system designed to combine all resources of the enterprise and use them efficiently. Moreover, SAP system in Case A functions without physical servers, rather all information is uploaded and archived in the cloud. Interviewee A2 states that Case A has quite high level of institutionalization.

Case A does not have physical servers for SAP anymore, rather all information is uploaded in the cloud. Interviewed A2 mentions that this level is only achieved by German automobile companies or similar institutions, however Case A cares about such technological investments, being the pioneer of the industry.

Change in business plan: From public- to private-oriented

Case A emphasizes design, marketing, and corporate communication in the last 12 years. Interviewee A1 tells that they restructure the business model with design, value-added, and quality products for private sector. Whereas, Case A has a public-oriented business model focusing mostly on contract and tenders beforehand.

Change in business plan: Revision of investment distribution for innovation

Interviewee A2 states that Case A evenly distributes the investment for all types of innovation, product/service, process/production, organization/business model, and marketing. For instance, the investment in the organization and business model of human resources and planning system has increased especially in the last period. The production has an ongoing process of investment since Case A is an industry manufacturer for 60 years.

Case A recently has more evenly distributed investment plan whereas the highest ratio belongs to the production investment in the past. Marketing through corporate communication and social responsibility, organization through structure and system, product together with service, and production processes through technology and engineering becomes equally crucial for success and competitive advantage. Especially since 2017, Case A invests more on product, organization, and marketing innovations, and create the balance among all parties.

Change in business model: New global initiative through partnership abroad

Case A recently works on a project with a patent for a nano-technological fabric acts as a resistance with the aims to create heatable furniture. Interviewee A4 explains that R&D center gets the patent for this material and brings it to a German company. This fabric has resistances like heating coils and can be used in various sizes, and the energy consumption reduced 20%. Similar materials produced abroad can be cut and used in certain sizes and the energy consumption is quite high, however Case A takes two steps ahead. The panels are being exported to Germany, and they are used at the entrance and reception areas of most office buildings (e.g., behind the counters).

Additionally, Case A creates a global brand in partnership with German company, and starts sales abroad with high demands for the use on other furniture and spaces:

There is also the issue of heating the churches with these ceiling panels, there is a demand about that from Germany. You know the churches have cold environments; they also want the benches to be heated. (Interviewee A4)

Production goal of fully customized product mechanisms

Interviewee A4 states that the demand for customized product mechanism for office chairs and height adjustable desk systems would eventually arise in Turkey. Since the mechanisms are all imported, Case A develops a product and applies to Technology and Innovation Support Programs (TEYDEP) offered by TUBITAK for support, aiming to manufacture their own mechanisms. When the product passes the experts and the committee, Case A start production immediately. Case A makes a commitment for this goal and plans to achieve it in near future.

4.1.4 Summary of the findings and discussion

After the analysis of familiness dimensions and dynamic innovation capabilities (DICs) of Case A, this section gives the summary of these findings focusing on the influence of familiness on DICs, and the roles of each familiness dimension (involvement, essence, organizational identity) in the development of three forms of DICs (sensing, seizing, reconfiguring).

Firstly, the findings related with family's *involvement* and the affected capability in Case A are summarized in Table 4.2 and explained below:

Table 4.2 : Summary of findings related with family's involvement affecting dynamic innovation capabilities in Case A.

Findings related with family's involvement	Sensing capability affected	Seizing capability affected	Reconfiguring capability affected
Non-/business-educated generation followed by a diverse-educated		. Varied processes in R&D, product group, and innovation type	. Change in business model from public- to private-oriented
Gradual involvement of generations			
Active family constitution			. Plan for institutional structure in the firm
From multi-family and external partner to one-family ownership			
Family in leadership but management by both family and non-family	. Industrial associations and public institutions as external resource	. External consultancy for communication structure . External technical support both given and taken for product development	
Dynamic decision-making process	. Sales reports by R&D and customer feedbacks by whole firm		

Secondly, the findings related with family's *essence* and the affected capability in Case A are summarized in Table 4.3 and explained below:

Table 4.3 : Summary of findings related with family's *essence* affecting dynamic innovation capabilities in Case A.

Findings related with family's essence	Sensing capability affected	Seizing capability affected	Reconfiguring capability affected
Generational transition through holistic firm experience		. Automated system for operating system . Dynamic communication structure with external support . Strong panel production vs weak chair production . Rapid delivery system and stock management	. Production goal of fully customized product mechanisms
Distributed ability and design awareness	. Value-added by external designer/stakeholders . External design revised by in-house design team . Design through coincidence vs research	. Brand awareness at international level . Structure of value creation through external collaborations	
Entrepreneurial spirit and vision from founder	. Customer-oriented innovation decisions: demand sensed by founder . Observation of mega trends and inner structures	. Social responsibility projects fit with business . Establishing design and R&D center . Customer-oriented sales strategy	
Work ethics vs financial concerns	. Market demand and technology push for product variety	. Product supplier for public, contract projects for private, and local dealer for global brands	

Thirdly, the findings related with family's *organizational identity* and the affected capability in Case A are summarized in Table 4.4 and explained below:

Table 4.4 : Summary of findings related with family's *organizational identity* affecting dynamic innovation capabilities in Case A.

Findings related with family's organizational identity	Sensing capability affected	Seizing capability affected	Reconfiguring capability affected
Motivation for innovation investment and risk-taking	. Change in focus of business from production to corporate brand	. Energy-saving closed-loop production facility . Technological investment . Unique post-forming, injection molding, and casting production	. Adding new specializations for growth through new e-commerce sales network . Change in business model through revision of investment distribution for innovation
Vision of idea exchange and knowledge sharing	. Fairs for growth, design feedback, and idea exchange . International brainstorming vs traditional media . Critical thinking about industry		. Change in business model through new global initiative through partnership abroad

4.2 Case B

Case B is a privately owned second-generation FF from office furniture manufacturing sector in Turkey. The family holds 100% ownership rights, first-generation co-founder brothers and second-generation daughter of the eldest brother manage the company as board members while the eldest co-founder brother still occupies the CEO position since the foundation in 1990s. All four family board members have active positions in the company as CEO, General Manager / R&D, Production Management, and Product & Marketing Managers (Table 4.5).

The interviewees from Case B are (1) the second-generation daughter of the eldest co-founder brother acting as board member and Product & Marketing Manager (Interviewee B2), and (2) the non-family Chief Industrial Designer, one of the oldest employees of Case B (Interviewee B1). He starts working at the firm as soon as he takes his master's degree from abroad.

Table 4.5 : Structure of Case B.

Family firm	Sales (m.)	Size	Date	No of gen.(s)	Family members	Professional role
Case B	43,60€	Large (>500)	NA (1990s)	1	1-1	CEO
					1-2	Board Member / General Manager – R&D
					1-3	Board Member / Manager – Production Management
				2	2*	Board Member / Manager – Product & Marketing

* Interviewed family member (2 is Interviewee B2)

4.2.1 Company background and context

The founding process of Case B starts with first generation's father. He is one of the first to go to the coal mine, in the first group from Turkey to Belgium. He sees an opportunity there and brings werzalit, a material used mainly in kitchen and coffee tabletops, to Turkey. He becomes one of the first founders of this business in Turkey, and this marks the entrance of the family to kitchen furniture before office furniture. When the first workshop is established, they produce werzalit tables or similar furniture. At that time, many products are sold and enter almost every house in Turkey. Together with werzalit products, they start kitchen cabinet business. Then, as told by Interviewee B2, her grandfather gives the income to his three sons asking them to start a business and this marks the founding of Case B as an office furniture manufacturer

in 1990s. In the first six years, they continue kitchen furniture business together with office furniture. Afterwards, they see that home and kitchen furniture is hard. Interviewee B2 tells an anecdote from that period:

My father always tells me this story. In the first years, he was always selling to his close friends, acquaintances, and relatives. When there was a problem, mostly the wives got angry, and the friends complained to him. He realized that he was losing his friends. Thus, he promised himself not to get involved in a business with women, especially housewives. But then of course, he now has a company where 70% of employees are women. After that, they suddenly leave the kitchen and enter the office furniture.

Starting from the 2000s, they have certain moves to improve their knowledge and expand their business such as making research and visiting fairs about office furniture. There is no brand at that time, thus the rather long surname of the family is used as the name of the firm. However, the international fairs become a benchmark for Case B for corporate brand building and design awareness:

One day, when they go to the fair, they manage to sell everything and return with empty hands. On that day, he realizes that something must be different, he understands the importance of brand and design. He understands that there must be a name at first. The foreigners hardly say the name of the company at that time. Thus, they find an English brand name even if they do not speak a word of English. When they speak what the new Turkish name might be in a conversation, the brand name emerges. (Interviewee B2)

There is no design talk, design work until the first meet with design in Central Anatolia where Case B operates at the beginning of 2000s. Interviewee B2 explains her father – one of the first-generation co-founder brothers – being distant to design at that time:

The first time he met design, and he was so distant. I remember myself, when I was in high school, I was reading Domus and other design related magazines. I was bringing them from Istanbul (the biggest metropolitan city of Turkey) to Konya (a middle Anatolian city of Turkey). There was no talk of design, there was no design around me. (Interviewee B2)

As a result of various manufacturing initiatives made by the first workshop started by the grandfather, Case B gradually grows from this industrial zone and establishes a

large facility on a rather large land of their own in the Selcuk Industrial Zone in Konya. Currently, there are three main bases of Case B: (1) Konya – production, R&D center, offices (engineering and production), showroom, (2) Istanbul – offices (headquarter), showroom, design center, and (3) Ankara – showroom, project management (regional). While Konya is the body of the firm with 90% production and 10% offices/showrooms, Istanbul is the brain of the firm with 80% office and 20% showroom.

At first, the company operation starts with the dealership system. Even before the dealership, there are 600 sales points starting with only distributing products. After a while they decrease to 300, then a decision is made. This is a turning point for Case B. In 2006, a decision is made that all dealers become franchises. In other words, they become concept stores hosting only Case B brand. They lose many dealers during this period. Currently, Case B has a sales network through 80 national and international exclusive dealers:

This year, due to the pandemic, we have a domestic market ratio of 80 to 20 for the foreign market. But of course, franchises for example were completely closed. In fact, our balance was 55 to 45 for foreign market and we came from there actually. We have always had that balance. This is our goal for the next year. The Turkic Republics and the Balkans are the regions that we are mostly concentrated on. For example, we mostly feed from Europe. The Middle East has been very popular lately, especially because production in China has slowed down and stopped for a long time. There is a huge market in Africa, for example, everyone is trying to get in there. The market in the world is quite volatile, a market is open one day and then suddenly closed the next day. (Interviewee B2)

Case B has employees responsible for domestic sales assigned to certain regions of Turkey. For instance, the 15 dealers in Black Sea region have one regional sales manager. The dealers work with external professionals, such as architects and architectural firms, for project ideas.

There are three main departments in Case B: (1) export, (2) domestic sales, and (3) marketing. The design and product development units are within the marketing department. There is also a graphic unit dealing with catalog design and as such.

The operation between design and R&D follows a certain path: (1) design working with concept idea, (2) presentation to product management, marketing, and bosses, (3) 3d concept is presented with R&D, (4) revisions on product, if necessary, (5) deliver to production. After design unit conceptually brings a product as a certain stage and present it, it takes time and several consultations from internal and external experts before any decisions:

Here, we present our concept ideas, then everybody speaks their opinion, but we are not in a hurry to decide. I do not want progress too fast; we want people to have some rest on it. It is being considered, sometimes in one or two weeks. We consult our ideas, especially to our friends. We also work with famous designers, and with engineering and design firms. Sometimes I can consult my ideas, which are not well-settled in my mind. And for instance, we decide on a product, consider it as a 3-dimensional concept, and later we share this product with R&D. We explain the product, tell them our plan to release it, and ask their opinion. We hold meetings at the factory and make presentations there. The people's perspective here is very different, R&D mostly have production-based views. We can revise the product several times, if necessary, in line with their ideas. (Interviewee B1)

Since it is acknowledged by both interviewees, Turkey has a lack of high-level engineering know-how and production quality. Case B gets external technical support for engineering in product development process. There are several engineering companies in their portfolio for faster and more accurate technical analysis, engineering analysis, and detailing of the product. Case B also works with foreign suppliers for product mechanisms (i.e., office chairs) as brand, marketing and sales strategies considered. Despite all this, Case B is one of the rare firms producing own low-level mechanisms.

The national development in terms of education and economy rises the international competition and sets the goal of Case B, according to Interviewee B1:

On the international side, there are very big, very good and much more established companies, which are third and even fourth generation companies. Among them are American and European companies such as Herman Miller, Vitra Furniture, Steelcase, Pedralli, etc. Of course, I can never say that we are

currently competing with them, but of course this is our goal, I hope this will also happen. However, of course, this is the result of a national development, both in terms of education and economy.

4.2.2 Analysis of family business - familiness

Exploring familiness in Case B, this study follows the same procedure as in Case A. The three familiness dimensions are explained in section 2.1.3, and the framework used this study can be seen in Table 2.2.

4.2.2.1 Involvement dimension

Case B has a first-generation revealed as an actual founder. The grandfather of Interviewee B2 starts with a small furniture workshop, later provides the capital, and ensures the founding of Case B by his sons (three second-generation co-founder brothers). This second and actual entrepreneurial generation of three brothers shows a long-term involvement and are still active partners of the firm. From now on, this study considers Case B as a third-generation FF, thus Interviewee B2 is the representative of this generation.

Positions and professional background of family members: *Non-educated but experienced family entrepreneurs*

The CEO (the eldest brother of second-generation) is a high school graduate. Other two brothers (the middle and youngest brother) are secondary school graduates. The third-generation family member, the daughter of the CEO (Interviewee B2) is a graduate of Industrial Design.

Speaking of second-generation family members, the eldest brother (CEO) is dealing with sales and marketing in the headquarter office of Case B. He is a high school graduate with a high-level of experience. The middle brother (general manager / head of R&D) is interested in R&D, production, and mechanization in the factory. According to Interviewee B1, he can solve problems sometimes better than an engineer, even though he has no engineering education. For instance, there are customizations on the machines made by him. He is mostly dealing with mechanization and industrialization parts of the business. The third brother (head of production management) is interested the general operation and management of the

factory. He has skills as a technical manager, even though he even has no high school education:

Three first generation brothers stand at the head of the main arteries. It was always like this; it started this way and has been going on for a long time.
(Interviewee B2)

Speaking of third-generation family member, only the daughter of eldest brother (Interviewee B2) actively works in the firm as a product and marketing manager. Even though she is trained as an industrial designer, she does not work specifically in the design department, but she serves in various departments. She attends certain administrative meetings, communicates her ideas/vision, and proposes plans as a board member, since she is in a transition period of taking her father's place during the period of the interview with Interviewee B2.

Gradual involvement of generations

The active presence of generations takes time and needs full experience in Case B. The other third generation family members have just started working in the firm during the period of the interview with Interviewee B2. Therefore, they do not feel and experience this transition period yet as a family:

There is no such thing as a direct transition to second generation yet. Yes, I have been working for a long time, but the way I work is based entirely on gaining experience. (Interviewee B2)

Currently, the training period is in progress at Case B. One third generation is trained in sales department, and other one is in production. Their location changes every year, since the one in sales is directed to other sales departments in Turkey, and then in abroad:

We are trying to teach them the most. We finally plan to put the one fluent in a foreign language to international relations, and the one who has sales ability to the sales department. We hope it would be fine. (Interviewee B2)

Case B tries family members to have a holistic view of the company and distributed abilities.

Plan for family contract/constitution engagement

According to Interviewee B2, Case B feels the need and necessity for full involvement and responsibility of family through succession of generations in governance and management in near future, since third-generation involvement is in progress. Family contract is the right way for a smooth and successful transition, and a long-term orientation.

Family members in leadership position: Trust in professionals – raised, trained, supported

In Case B, family has always been in a leadership position, and monitor firm's organization from a general perspective. And in this way, the firm is running smoothly and successfully. As revealed by Interviewee B2, family is always supported by professionals since it is impossible to know every detail in the firm:

When I first started my job, I was thinking how I would ever learn so many details. I was wondering whether all this knowledge was stuck in my father's and uncles' minds, and whether they knew everything. But I understand that it is not about knowing everything. It is about working with people who know a certain subject. (Interviewee B2)

Interviewee B2 confesses that she grows up with professionals and is trained by them rather than just her family. Each time, she is entrusted with a professional and works with many general managers during her training and transition process. This is a settled agreement within the firm.

Dynamic and unique decision-making process

In Case B, the decisions are made fast in an organic and informal way, and there is no regular schedule for board meetings:

Everyone's department is separate, and before a conclusion is achieved, all units have been spoken to, a joint decision has been made and an understanding is taken. And whoever decides on the board of directors meeting might ask others if he has anything on his mind, but it progresses much faster this way. In my opinion, it is this way to develop this fast, to design, produce and launch 60 products a year. (Interviewee B2)

Since these are in fact hard and long processes, and the firm's duty is not only to design but to manage a system, having a dynamic decision-making process is an advantage for Case B to adapt to changes more quickly.

The final decision, especially on design and production, in Case B is not always but mostly by second generation family member, CEO. However, as it is stated by Interviewee B1, it is changeable through open-minded opinions of employees from product management, design department, and marketing director, and after reasonable evaluation.

4.2.2.2 Essence dimension

High level of know-how through experience

The second-generation eldest brother, CEO of Case B, is a high school graduate and sees many non-seen and/or ignored opportunities that cannot be seen even by the educated designers. Interviewee B2 talks about their embarrassment in front of the CEO and adds that it requires a serious amount of background experience. The middle brother, R&D manager of Case B, customizes machines and solves problems like an engineer, and the youngest brother, production manager of Case B, has technical skills and knowledge like a manager. Those two brothers also have only secondary school education:

In fact, all three brothers, they all have been in this business since childhood. They know the things reflexively that we later learn and are surprised after learning. (Interviewee B2)

All second-generation brothers have tacit knowledge gained through experience and active participation in the firm since childhood.

Holistic knowledge and distributed ability

The second-generation eldest brother, CEO has always solid ideas about the issues in the firm from international sales to design.

For instance, when I personally explain things that seem wrong to me in my own job, he often agrees with me. When he does not participate, this makes me think it twice. (Interviewee B2)

Every family member in the firm knows every issue about business and firm, then finds their own place where needed. According to Interviewee B2, FB has advantages as well as difficulties if the members know how to use them. None of the family members should stay in one place of the firm, thus they should have an idea about every part of the firm. Family members automatically and eventually settle to their own places in the firm through time. Accordingly, Interviewee B2 works in various departments to see the big picture, to define what to do and where to go, and to propose plans for future. In Case B, family members have a holistic knowledge of the firm.

In addition, second-generation eldest brother deals with design, marketing, and sales, whereas other two brothers are completely on the production side. These positions are shaped through time in line with their abilities, a situation like natural selection:

We have a member of the family everywhere in the company, and I wish there were always more. I tell my brothers, sisters, and cousins to come to work as soon as possible. While I am planning now, making a future program, I am not counting the first generation. I know that they are always there as consultants, they are our bonuses. I plan with second generation members, decide to put someone somewhere in the company thinking the best man for that job. We, as a family, need a lot of arms for this company. (Interviewee B2)

Case B currently have a member of the family in every department of the firm. The plan is to put next generation family members strategically where they are needed and skilled in various parts of the firm.

Long-term commitment to operating structures and stakeholders

The firm has long-term commitment and investment of resources for unique operating structures (i.e., without own sales). Establishing this network of dealers is difficult to keep alive and cannot be achieved by competitors. As a hard but powerful stance, Case B gives the full sales responsibility to its exclusive dealers.

Case B has franchises also passed on to the second generation together with them. The firm works mostly with same franchises for 20 years and has family ties with them. As detailed by Interviewee B2:

That has been a great advantage for me and our company. We understand each other much better. They also improve themselves, and thus we improve ourselves. This is a very long-term relationship and interaction. The first

generation has a family structure and family ties with them, and we are trying to maintain this. These systems are not established very easily. The relationship with those who joined us afterwards and those who have been with us since the founding period is of course different. We have grown up with the old ones together for 20 years. (Interviewee B2)

Family has deep-rooted structure of long-standing, hard-to-establish, and endeavored ties with franchises, thus leading loyalty to Case B as its significant and continuing feature:

We will always try to preserve this long-standing, hard-to-establish, endeavored ties. In fact, we are much younger than the other companies from both our and other sectors, there are companies dating back to the 1930s and 50s. But even though we are so young, we have an atmosphere as if we have brought a deep-rooted structure from very old times. We think that we can never break away from those ties. I think this is our most important feature. (Interviewee B2)

Entrepreneurial spirit and design awareness

The founder of Case B is among the first group to go abroad as a coal miner, sees an opportunity there, brings werzalit products to Turkey, and becomes the first in this business.

The third generation is affected by the passion for business of second-generation co-founders. Even though Interviewee B2 explains that studying industrial design is a family-independent decision for her, she admits that her father's passion infiltrating their house might have affected her direction for future:

In my opinion, with a love for design stemming from my father's drawing on napkins, I studied design. Of course, I think we take something from genes, and from the things we see and experience as we grow. (Interviewee B2)

In addition, the second-generation eldest brother's decision to integrate design and marketing to the firm paves the way for current success of Case B, and this becomes a milestone. Thus, the family has their first exclusively designed product during the beginning of 2000s and gains a design-led vision.

This product, which is currently anonymous, is an office table that is like the iPhone of Turkey, I believe. Too many products were sold. We met the designer of this product when we need a consult for my education. The designer then offered to make a design for our company. The designer thinks that this is a sign and suggest that our company should go in this direction. I think it is the time when our lives and the firm's future change. This may be a very magical thing, but it is a turning point for us. This company starts at that time. (Interviewee B2)

The understanding of design vision, idea, and value of designer marks the beginning of Case B in its current stage, thus changes the positions of designers in Turkey:

Designers are making products more enjoyably for emerging and developing companies. Because they could direct the company, and the vision, idea and value of the designer is received by the company. Maybe it is hard to get accepted, but they work more comfortably because the companies are more open and willing to development and change. (Interviewee B2)

Consequently, upper generations love for design, genetic heritage of business mind, and experience within family growing up affect the entrepreneurial spirit and design awareness of the firm.

Generational transition through holistic firm experience

The transition of upcoming generation in Case B involves a training process in various departments of the firm to have the most knowledge and experience. Current to the period of the interview with Interviewee B2, one third generation is trained in sales department, and other one is in production. Their location changes every year, since the one in sales is directed to other sales departments in Turkey, and then in abroad.

The generational transition is based entirely on gaining experience in every department, even a a blue-collar worker in the production facility, and learning business from bottom to top. Interviewee B2 completes one year of experience in production, in marketing, in sales, and in design. She also works in the forge (ironworks) inside the factory:

When I first started the factory, nobody knew me. I started like a regular blue-collar employee. I was a new university graduate then. At that period, I was coming home from the ironworks with black nails in my boiler suit, but this is

how it is learned. If it was necessary again, I would roll up my arms to learn something, and now I would even enjoy it more. I was having a hard time then, but it was very useful and important. For example, I can see what I learned back then when I look at the sales side today. Yes, that is the way to get something from everywhere, from every area. (Interviewee B2)

4.2.2.3 Organizational identity dimension

Younger family member's bridging across generations in firm

Interviewee B2, being the eldest of third generation in Case B, provide balance within the firm between generations since she has experience with older family members/employees and closer mindset with younger ones (e.g., unique, hard to understand):

Now the ones born after the 2000s are coming to the business and to the sector. Those who apply for jobs in our company are the new generation, they are very special characters and hard to understand. But I feel like I have the same feeling with them. I think as a second generation, I am still running late, but I also try to keep myself in the middle of the two generations. I have also worked with very traditional professionals, so I think I was able to balance the two sides very well. (Interviewee B2)

This balancing family member serves as a buffer zone and a catalyst by managing both sides for mutual benefit for them and for the firm (e.g., eager to learn new generation is an asset for firm):

The young people in our company keep chasing start-ups, and I think they should. Making some account books, learning Google ads, building relationships, learning what supply and logistics mean, all of these are beneficial for our young employees, and for our company. There is the difference of this generation and I also feed on them. (Interviewee B2)

Interviewee B2, being that intermediate generation of family, adds that she also passes traditions and reflects knowledge of older generation to the younger one. Since she grows up with those traditions in mind and knows the perspective of the elderly, she always brings something from her past and experiences, thus feeds the younger

generation accordingly. This family member has also an advantage of undertaking any task in the firm, where the older members cannot see or understand.

Search for alternative perspectives for future

The plan of the family is to invest mostly for radical process innovation, and the future goal is to produce own high-level and to adapt fully synchronized mechanisms in the next three to five years. Interviewee B1 clarifies that Case B needs to make a commitment to order 10.000 to 50.000 units annually and the preparation of this process would take a long time for Case B.

Family's another perspective for future is to support young designers and newly graduates, thus Case B builds external trust and preferability for the firm, and brings fresh ideas to business (e.g., giving responsibility of large projects, giving credits in corporate catalogs, sending greeting letters and gift packages to newly graduates). As Interviewee B2 gives the details, the second generation starts that vision a decade ago:

We have also been sending letters to students at the university when they graduate for the last 10 years. My father signs them all manually every year and send also gift packages with them. They are sent to all industrial design, interior architecture and architecture departments newly graduates, about ten thousand packages were being signed day and night for a week. This has turned into something discussed in the industry, which is an important strategy. (Interviewee B2)

Family's strategy of alternative vision and viewpoints for innovation are necessary for survival and competitive advantage since the normality is constantly changing. The main strategies include: (1) to support franchises, (2) to improve, update, and transform own business, (3) to add new products and services:

From now on, we are thinking about what to add to the cart of our franchises, while improving, updating, and transforming ourselves. We think about what kind of capability we would like to add to it, what kind of a new product range we can offer or from which sector we can add other products and services to it, so that they could survive. The system works entirely on this strategy, not thinking about ourselves, and I think our success originates from this. (Interviewee B2)

The strategic activities of innovation by family within Case B are explained as (1) new trainings every year, (2) renewal and/or addition of mission every year, (3) minor change on machine in production (e.g., process innovation), (4) introduction of new ideas every week as a fun and motivational game among employees (e.g., random 20-minute meetings for innovation conversation). According to Interviewee B2, the idea of innovation can emerge whenever the firm is open to development and to getting a new opinion.

Since Case B is built on great risk, family also believes that they always must be a risk-taking firm, they must struggle to grow in crises and to always invest. Interviewee B2 emphasizes different feasibility studies for investment from non-existing perspectives as the mission of Case B.

Willingness to change culture and break habits

Case B is always willing and ready to make any minor changes in corporate brand and identity to keep up with new era, changing business environment, and the conditions in Europe. According to Interviewee B1, even the family plans to become more institutionalized, there are still certain habits and established cultures hard to change and transform to do so. Interviewee B2 states the willingness of the family and the happening of that change in near future. The plan of the family is to increase the abilities of the firm, even at the risk of losing the steady position in the market.

Vision of idea exchange and knowledge sharing within firm

Family of Case B is involved in the work together with anyone available within the firm (e.g., family members, designers, salespeople, engineers, marketers), because they believe in the significance of involvement and experience by all actors in the ideation process of that work. According to the firm culture, family immediately (1) seeks the one who is the closest, most available, and willing to do the job, and (2) catches the most suitable environment and does it on the spot.

As explained by Interviewee B2, family members have a vision of interaction within the firm by sharing of knowledge, mutual training, and motivating each other to learn more for innovation ideas. There is a constant update of information. This vision, added by the third generation to Case B, leads to motivation, innovation, and success:

When I get a coaching, education, or knowledge from somewhere, I immediately send it to the others, so that they can get it right away and

participate. The next day, we are discussing these issues in our 10-minute tea-coffee break. People can see this new information, knowledge, and ideas from a different point of view than mine, or vice versa. I think it turns into doing own job passionately. We do not have a process from seeing an innovation somewhere and try to do something similar. We have such good ideas from different places that we are trying to make synergy. I think we got that synergy with this process and vision. (Interviewee B2)

Case B shares knowledge with all stakeholders and educates designers/architects, franchises, and salespeople. Moreover, Interviewee B2 explains that they train the community for open-mind and self-actualization by (1) giving lunch during Ramadan in a very conservative region as the first and only firm in Central Anatolia, (2) self-confidence, self-stance, and speech training for female workers in the factory, and (3) increasing female employee percentage from 10 to 80:

Currently, our sales director, marketing director, and international sales director are women, and I, as a woman, am also the one in charge of them. In fact, this company, which was established in a very conservative region in Central Anatolia with three men, has now reached this situation. I think this was the right decision, I am not saying this because I am a woman, but it shows how visionary and open-minded the company is. This is always what is being referred to us. But we went through difficult conditions, of course. (Interviewee B2)

4.2.3 Analysis of dynamic innovation capabilities

Exploring dynamic innovation capabilities (DICs) in Case B, this study follows the same procedure as in Case A. The three DIC dimensions are explained in section 2.3, and the framework used this study can be seen in Table 2.5.

4.2.3.1 Sensing capabilities

Managing design ideas & innovation feedbacks: *Supporting all internal and external shareholders and consultants*

To understand the benefit or loss of the firm from a change and/or innovation, Case B checks the performance indicators from after-sales returns. The requests about existing products are collected in after-sales service unit at the factory, the production facility

of the firm. In line with the feedback from the dealers and the comments on the products, the firm also report specific errors in the products produced for a specific customer. Therefore, not all feedbacks concern design or R&D departments. For instance, only %1-5 of feedbacks concern design (e.g., filtered and reported by product management) or R&D (e.g., minor engineering solutions).

For Case B, the easiest, fastest, and most common way is to send a product to the dealers for their own experience and act on their reviews. Since the architects and salespeople working at these dealers are the first customers of the firm, their comments become valuable for the firm, and they even make customized and exclusive variations on products for the dealers. The reviews of the dealers are put into a system through feedback forms for improvement and revision of products. The new prototypes with their original packages are also sent to the dealers to be unpacked and assembled, and then difficulties, striking features, sales strategies, and marketing proposals are reported by them:

For example, we also show our latest products to the salespeople of the dealers and ask them the most striking feature of this product, how they would you sell that, whether there is an equivalent to this product in the sector, or how they would market it. From there, we collect everyone's first impressions, then we ourselves tell our actual idea and the message we want to give. All actors we involve in this process are already open to take a step forward and question the ideas they have. We are trying to gamify the process like this. (Interviewee B2)

After the first impressions, actual idea behind the product and message to be delivered are discussed in a free and playful environment. The whole process is managed as follows: (1) during design phase, drawings sent to dealers, (2) after R&D and production planning, prototypes sent, (3) variations and revisions on products after dealers' different reviews and comments, (4) also test for packaging and assembly by dealer.

The design ideas are received from a wide variety of channels such as: (1) design specialists in Turkey and abroad (e.g., architects, industrial designers), (2) dealer acquaintances in Turkey and abroad, (3) professionals in the firm (e.g., bosses, marketing director, design department, product management). As stated by Interviewee B1, since the constant and close contact with the dealers provides the

knowledge of their ideas, wishes, and desires, that information is systematically kept as significant data. Case B also supports external consultancy from friends/acquaintances with design experience, famous external designers/architects, and engineering and/or design firms.

According to Interviewee B2, design is about defining existing needs or creating new needs, thus innovation mostly refers to the latter. Case B believe that those ideas can come from every field, every department, every unit, every person, not only the designer:

The designer must be fed constantly with new information, and everyone should support and contribute to this process. Design is either answering a need or generating a new need that people would not think of or had not thought of before. (Interviewee B2)

Managing design ideas & innovation feedbacks *Fairs for growth, design feedback, and idea exchange*

Visiting both national and international fairs for learning and scanning the business environment is very significant for Case B, especially during the growing phase of the firm (e.g., during the transition period from kitchen to office furniture).

90% of innovations are sensed during international fairs through design feedback and idea exchange for branding strategies and sales innovations with other firms, thus networking. This networking leads to communication and exchange of ideas (e.g., a two-hour conversation with a salesperson of an Italian firm on products and office trends).

Even irrelevant fairs (e.g., non-related with office furniture industry such as cheese fair) are used to get knowledge as any external resource with the thought of what can be taken from them and/or what can be learned.

Non-structured system of innovation generation: *Constant update of information within firm*

Case B does not have a system on how to follow and decide on an innovation, instead there is an organic process of generating common ideas through general meetings with all departments or one-to-one meetings with bosses.

Case B recently follows innovations using internet and makes product changes accordingly, since it is the mindset of new generation. They also receive knowledge from print media (i.e., magazines) as well.

Moreover, Case B motivates actors of the firm to keep up-to-date and let them research on any issue and subject. The main strategy is either to do the job with passion and to explore it to the bones, or to listen an individual telling what he has done passionately and to be affected by its reflection on oneself. According to Interviewee B2, the constant research of anything even if it is meaningless providing completely different generation of ideas for innovation is another vision of Case B.

Non-structured system of innovation generation: Interplay dynamics for new ideas and motivation from any external resource and all internal shareholders

The opportunity of innovation is generated mainly within the firm from internal resources (e.g., a worker in R&D), through their know-how, experience, and tacit knowledge, acting reflexively (e.g., with a filter in the heads of the actors in the firm). An example from R&D regarding the operation of a change is given by Interviewee B2:

I go to the factory once a month. I know many masters and workers in certain departments there, I talk to them, and I get significant information flow from them. The information coming from them is very accurate, so you can be sure 100% of its accuracy. Sometimes we can listen to the opinion of the worker there, rather than listen to 100 ideas from our dealers. For example, I am a man who believes in science, data, and statistics. I believe that these should be taken into consideration. However, when you have lots of experience in a business, especially our CEO is two to three times more experienced than me, you start to do some things reflexively. You have something in your head that acts as a filter. (Interviewee B2)

The innovation activities of the previous week and ideas for the following week are written down on a notebook regularly, every week, on Sunday by Interviewee B2. This record of innovation process is followed by all internal shareholders in the firm since even the smallest contribution is valued. The strategy of Case B is to be open to development and new opinions for idea generation, and to be able to bring them to life as things (innovations) that can be realized.

The discussions, conversations, and transfer of ideas and opinions (e.g., seminars, trainings, meetings, webinars, books, fairs) among family members and all actors in the firm are the additional interplays for innovation generation:

These trainings are already developing us, our skills, resources, and behaviors. When we are having a chat on our coffee breaks the next day, this time everyone wants to attend these trainings, webinars, or watch those series or films in the evening, to participate in the conversation. These conversations and discussions are very important for us. When everyone does this in coffee breaks or during the day in the working hours, then something new is coming up. It is much more than just the management or family members going to a fair, reading a series of books, attending trainings, or watching seminars. It is much more important to encourage everyone in the company to do these things and then share them with everyone. (Interviewee B2)

After all, the idea is that not everyone can be everywhere, and it is not possible to access all information at first hand. Moreover, everyone is looking at any situation from a different perspective, thus listening and transfer is significant. Accordingly, the dynamic interplay of knowledge within firm is significant throughout Case B.

In addition to all this, Case B also acknowledges external sources of knowledge, and gains information and experience from any industry. For instance, an individual from another industry (e.g., a Turkish multinational household appliances manufacturer giving a seminar on their successful designs and/or good marketing skills is valuable for Case B:

For example, we reached the founder of Trendyol (e-commerce platform), asked to have a chat with its founder and let her tell us the story. It may be from a very irrelevant industry, but we asked questions, listened, and learned this entrepreneurship story. We are constantly thinking about what we can get from there, what we can pass on to ourselves. I think if it sits well with our vision and we find it reasonable, if we can manage benefit-harm balance, we can easily adapt to it. I think this is our biggest difference. (Interviewee B2)

Non-structured system of innovation generation: Professional agile training within firm

For constant idea exchange in Case B, there is a circulation of any document to attain more diverse interpretations. Case B aims to move towards this approach of being agile, making fast decisions, finalizing briefly, and thinking more innovatively. Thus, the plan is to move to a fully professional program of this agile training process where everyone is aware and informed that they can come up with new ideas anytime.

Role of design: Design awareness as turning point

When Case B meets with design, understands the vision of a designed product, and senses the value of a designed product, it marks a milestone for the firm:

At that time, we had our first exclusively designed product. This product, which is currently anonymous, is an office table that is like the iPhone of Turkey, I believe. Too many products were sold. The designer of that product guides me to study industrial design and suggest that our company should go in this direction. I think it is the time when our lives and the firm's future change. This may be a very magical thing, but it is a turning point for us. This company starts at that time. (Interviewee B2)

The role and effect of design is seen through national and international awards received by Case B with a total number of 20 since 2010.

Role of design: Strategy of real experience for design innovation

Case B follows a strategy of being in the shoes of the end-user, being aware and informed about the issues at present, and having a command on other fields as well. For instance, Interviewee B2 sometimes experiences of being a salesperson in one of the dealers to face real comments, listen to complaints, reviews, and feedbacks from customers, the end-users. She even hears the customers yelling and cursing for wrong delivered product, and then makes the design team listen to the recorded calls:

If we convey and make things feel, then the right innovations will emerge. We probably follow the changes where everyone shares what they are doing. (Interviewee B2)

For a home-office project, which is a first not even for the designers, but also for the industry and even Turkey, Case B feels the necessity of real experience to embrace that new way of working and sends 10 employees of their own to their homes for

working. Since this project is a radical innovation for the market, the strategy of real experience alongside the research on projects abroad is significant for Case B.

Similarly, for a call center project, Interviewee B2 works in a call center for 10 days for experience while taking notes on how to sit and stand, what to feel, and what is needed. Case B begins designing call centers after that project and receives an award for one of them. Moreover, the designers and salespeople of Case B work in a coffee shop for 30 days for a coffee-office project for an international chain opening the first location in Turkey.

Monitoring volatile international markets

The monitoring concentration of Case B has been changing suddenly from one market to another (e.g., from Balkans to Middle East, or from China to Africa). Since the market in the world is quite volatile, Case B is aware that they need to carry out a strict control.

4.2.3.2 Seizing capabilities

Production know-how: Technological investment for production

Case B significantly gains a certain production experience through many home and office projects, before establishing their own brand.

Case B grows gradually from a small furniture workshop to a large facility in an industrial area, with the help of various contract manufacturing initiatives. At that time, the development of technology affects the industry, and many furniture companies make technological investments. Case B, on the other hand, gains a lot of experience in production by making contract manufacturing – making agreement to produce certain products and/or components of product for a certain period as a third-party organization – to large companies, even to companies abroad.

With the investment on order and production tracking systems, the technological advances are followed by Case B. Even before these systems, the firm enters all information and sets things manually with a certain order.

In addition, Case B has an investment to injection molding and casting production, which is new for the industry in Turkey and regarded as radical process innovation. They design and engineer aluminum injection, metal casting, and plastic injection molds for own production.

Production know-how: Wide production and sales network capacity

Case B has a wide target audience and customer range, as well as an excessively growing product range (e.g., growing excessively because of contract manufacturing companies) and it is hard to control the production. Thus, the market share is the largest in the office furniture industry in Turkey, and Case B ranks first in production and sales network capacity.

According to Interviewee B1, the international competition of Case B is low since there are more established firms, which are even third- and/or fourth-generation family firms abroad (e.g., Herman Miller, Vitra Furniture, Steelcase, Pedrali). However, the goal is to compete more on the international level.

Besides, Case B has wide product range and sales network because of the development at national level, and export many products, however national sales are regarded as the locomotive of the firm.

Moreover, it is important to mention how Case B seizes a specific and rare (i.e., for Turkish market) material and integrate it in its production during the founding phase, leads to new product opportunities (e.g., initial *werzalit* tables used mostly in kitchens leads to kitchen cabinet production and entry to kitchen furniture industry).

Production know-how: Integrated production facility

Case B achieves to have an integrated facility for production at one of the central, most important, and suitable location of the industrial zone with a total area of 200.000 m². 50% of this facility covers enclosed areas, where the remainder is the open area used as storage (e.g., industrial waste, remaining fabric and wood pieces from the products). The stored parts and pieces are then sent to recycling, besides Case B recycles some of them inside the facility as well.

Case B manufactures almost every piece of furniture and product that can be found in any office space. Since almost 90% of the firm's products are manufactured in own facility, the production system is complex. Management, operation, quality control, and manufacturing of every product and material is different, thus Case B systematically separates all these productions in the facility. There are three separate facilities: (1) panel furniture, (2) upholstered products, and (3) metal production. Panel furniture includes the products made from particle board, also known as publicly as chipboard. Upholstered products include work chairs, sofas, waiting lounges, airport

seats, acoustic panels, and similar items. Whereas metal production facility produces the components made of metal or to be manufactured from various other components. Products such as operational work chairs, meeting tables, executive chairs, flexible tables, open-air waiting units are also available in Case B's product collection. These facilities are different from each other in terms of operation and according to the material:

Even within itself, panel production can be divided into four or five even in itself as chipboard, MDF, compact, massive lam and massive, and the production management of all is very different. We have chipboard, compact and MDF production. Apart from these, there are many materials we use on upholstered products, I can separate them as leather, felt, fabric and net. The leather is divided into artificial and genuine leather. We have both 100% polyester content and 100% natural content for fabrics. Felts are one of the important materials for us, we also have artificial felts and 100% natural wool felts. We supply our 100% natural wool felts from a UK company. We prefer to supply the others domestically. (Interviewee B1)

The metal production in Case B, falling within 30% of the facility, is categorized among the top three in Turkey with its high-technology units (e.g., all kinds of plasma cutting, laser cutting machines, and 5-dimensional routers).

Nevertheless, the injection molding and casting production of Case B as a radical process innovation for the industry supports the fully integrated aspect of the production facility.

Production know-how: Unique low-level mechanism production

Case B insists on producing own low-level mechanisms for office chairs, even though they are globally the most difficult furniture group in terms of production, design, ergonomic engineering, and supply:

For instance, Herman Miller is a company that stands out with its ergonomic work chairs. In fact, they also have meeting tables, flexible tables, operational office chairs, lounges, and such. However, their leading and locomotive product group is ergonomic office chairs. (Interviewee B1)

Production know-how: Rapid delivery system and strategic distribution network

Case B creates a delivery system ranging from 72 hours to two weeks with its franchising dealership system while it is five to seven weeks for others in the industry. The initial system with the delivery time of 72 hours does not work with stock, rather (1) it receives orders entered by the dealers to the system, then (2) the orders are instantly seen by the factory and (3) go to the machines. Interviewee B2 explains how she just opens the screen every day, follows the current orders and sees the location of any package, thus this system increases fast deliveries with the advantage of being a preferred firm in the sector. However, with design being significant within the firm, the mass production slows down from 72 hours to two weeks respectively. Case B still holds its position of being the fastest delivering firm in the industry with the most ubiquitous distribution network. However, while R&D, production planning, and final output stages are done in the fast way possible, Case B acts more relaxed and spends longer time in design phase.

Since the production facility of Case B is located at the center of Turkey, all distribution channels are advantageously at equal distance to almost every city in Turkey.

Unique operating system: Not only target end-user but mostly other stakeholders

Case B's sales network involves mostly the dealers, whereas only 10% is the end-user. The regional target that Case B addresses in sales is separated in terms of operation. Interviewee B1 explains the system comparing it to IKEA. For instance, since IKEA's offers a service from packaging to the assembly scheme and production details and addresses the end-user, Case B does the opposite. IKEA's customers include small private firms (e.g., a graphic agency) coming to choose products for their office and assemble them on their own, whereas Case B sends products and additionally a professional assembly team to each dealer. Thus, the product details and sales strategy are unique to Case B.

Additionally, sales network also involves professionals (e.g., architects, interior designers, industrial designers, and their firms) and the owners of contract project companies. Since Case B takes part in major contract projects in Turkey (e.g., a global IT company's headquarter building in Istanbul), these companies become their target customer as well.

Besides these dealer network and private contract projects, Case B also operates in state projects (e.g., through tenders and bidding), where the responsibility is mostly on the architects assigned to these projects by the government. The decision-making mechanism differs in each project. However, based on the experience of Interviewee B1, the architects make the final decision in 90% of the projects, where 10 to 20 products from 10 different firms are presented in front of a jury (e.g., when the job is to renovate a state or private university).

Consequently, Case B not only designs and sells furniture but also sells services in a franchise network through fast production. This huge long-term investment of resources for unique, hard-to-copy operating structure without making sales is a seizing strategy for Case B, as clarified by Interviewee B2. In addition, with this system where the firm does not communicate directly, Case B takes risk of (1) maintaining ties with stakeholders, and (2) investing both tangible and intangible assets, that are necessary for survival and growth in crisis.

Unique operating system: Establishing design center

Case B recently establishes its design center, which is approved by the Ministry of Industry and Technology in Turkey and included in the *Turquality* program as a one of the few design centers of the industry in 2018. This title given by the state to the firms, fulfilling certain criteria (e.g., number of employees and projects). Case B has already been working like a design center with these criteria in mind even before the formal establishment, as added by Interviewee B1.

Unique operating system: Automated and centralized planning system

As stated by Interviewee B1, Case B cannot fully implement industry 4.0, however they are slowly switching to it. Case B has a fully automated system structured within all department from ordering, to production, and to sales (e.g., certain algorithms for products are generated and communicated with machines across departments that after an automatic drop of any order, it is automatically forwarded to other departments and production is initiated).

Unique operating system: External knowledge from employees in dealers

Case B, itself, employs architects and field workers in franchises to learn about business in the field. According to Interviewee B2, the employees of Case B have eyes

and ears in many places at the field at a time with this operational strategy and takes it for granted.

Product development: Organic structure and organization

In Case B, there is a content and effective organizational system of organic interaction (e.g., not always via e-mails), informal communication (e.g., unstable meeting schedule), and non-professional decision-making protocol (e.g., final decision mostly by the CEO) during product development process. While product management prepares the infrastructure of the products to be worked on in line with the demands of new products, especially with family members. According to Interviewee B1, this process is well and smoothly managed with an informal and mostly intuitive organizational as well as managerial structure.

Since the development of new creations and change of trends progress much slower for the furniture industry (e.g., as opposed to fashion industry), the meetings about product groups are held together with undefined number of people in unspecified time periods (e.g., once a year or five times a year). Thus, the system of product development is unstable in Case B. During these meetings, the design unit presented the ideas filtered after the research, then the family board members evaluate them, and mostly the CEO, second-generation family member, makes the final decision on design and production.

Consequently, the fast-decision-making process in a dynamic and informal way allows Case B to adapt to change more quickly, as stated by Interviewee B2.

Product development: External technical support

Since there is a lack of high-level engineering know-how in Turkey (e.g., office chairs), which is acknowledged by both interviewees, Case B gets external support for technical analysis and detailing of products from an engineering company. Despite the setback of obstacles and deficiencies, Case B recently works on a multifunctional operational office chair with many details to be solved. An external engineering firm supports Case B to make faster and accurate analysis.

Since Case B invests on developing on office chair together with all components, many criteria (e.g., aesthetics, ergonomics, functionality) need to be considered during the process. It is a big investment considering how much it costs even developing the mold for the back frame of an office chair, thus Case B has been working for the

development of their own office chair for almost five years, seizing external resources (e.g., support for ergonomics testing).

Other than that, Case B works with foreign suppliers from Europe (e.g., Italy, Germany) and Far East for many product mechanisms. While leading global office furniture manufacturing firms prefer European suppliers, Interviewee B1 states that Far Eastern suppliers manufacture good quality products as well.

Corporate brand building: External consultancy support

Case B brand and logo is established through an external consultancy process about two decades ago. Another foreign company later improves and finalizes the corporate work through minor changes a few years ago to keep up with the new era and the conditions in Europe.

Corporate brand building: Brand awareness at firm level

Case B aims to keep the brand at a certain level and to create and adjust the brand awareness to compete with international leading brands (e.g., in Europe), as well as improving production know-how, production facility, and operation systems.

When there is no brand awareness, Case B uses the surname of the family as name of the firm. During an international fair, the family acknowledges the need for and importance of an English brand name for better communication, thus the new – and currently used – company name emerges as the beginning of corporate branding:

One day, when they go to the fair, they manage to sell everything and return with empty hands. On that day, my father realizes that something must be different, he understands the importance of brand and design. He understands that there must be a name at first. The foreigners hardly say the name of the company at that time. Thus, they find an English brand name even if they do not speak a word of English. (Interviewee B2)

Corporate brand building: Brand perception at international level

For the goal of standing by leading international brands (e.g., Steelcase, Herman Miller), Case B attends international industry fairs (e.g., Orgatec fair held biannually), where they seize the opportunity to be next to those brands. This seizing capability provides the firm getting closer to the intended level of design, and recently being appreciated by both Italian and German firms.

Corporate brand building: Brand perception strategy at national level

Especially in emerging markets such as Turkey, the word *brand* has been associated with high price, being the most expensive in the market targeting only top-level customers, until recently. Nowadays, the brand perception is associated with trust, quality, ease to reach, and equality to approach. As told by Interviewee B1, Case B seizes that opportunity by building a corporate brand appealing to everyone anywhere.

Corporate brand building: Brand perception from Eastern to Western culture

Case B brand is perceived differently especially at national level, because almost 80% of market share in Turkey is originated from Eastern culture. As stated by Interviewee B1, the in-house designers push to shift this awareness to the Western culture in search of becoming a world brand and finding their place in the world.

4.2.3.3 Reconfiguring capabilities

Revision of product offers based on customer demand

Being the head of design, Interviewee B1 meets with product management and family members about product range, receives demands from both franchises and product management as well as foreign trade department. However, Case B has the problem of meeting criteria of targeted market segments changing according to demographic features, financial status, culture, and aesthetic perspectives:

We receive requests from Russia, Eastern Anatolia, from the architecture firms we work with in Istanbul, and from the architects in the dealers in Germany. Considering demographic features and cultural criteria, none of the requests are similar with each other. The wishes of a manager in Russia, the material request of those in Germany and Eastern Anatolia, and the perspectives of architects in Istanbul are completely different. As the economic levels are also different, the material changes. Aesthetic perspectives also change if we base it on cultural approaches. Apart from these, since the interaction within the office and the flow inside the office change, everything from the dimensions of the modules in the product collections to the material structure also changes. Therefore, we are doing a very difficult job here. (Interviewee B2)

Case B sets a strategy of revision, renewal, and update in product range to meet the changing criteria of the targeted market.

Production goal of fully customized product mechanisms

Case B has been adapting its production to manufacture own fully customized and synchronized product mechanisms and components and plans to achieve this goal in the next three to five years. Case B makes a commitment for this long-term preparation process.

Adding new specializations for growth: New areas of expertise

Interviewee B2 describes the process of adding a new specialization to the firm by entering the school sector and starting to design and manufacture educational furniture (e.g., desks, tables, boards). This idea came from the decision to build a school and buy a franchise of a successful educational institution for the local community in the firm's central location close to the production facility. Case B family lives the whole process by making research on every detail of children's needs, testing real experience on site, learning this new industry, and building their own school. The risk of such investment is high, and it is a big test for designers, family, firm, as well as all internal/external actors:

This was a very different job for us, for example. But an idea drove us here, we also got into this business and enjoyed it a lot. We made such an investment, and I think we took a huge risk. But we also got through this business successfully. We had the opportunity to design and test this whole experience on site. It was a great process to learn about that industry. It is important for us to make innovations that will be beneficial to the sector, and to do things that can take the sector forward. (Interviewee B2)

Plan for institutional structure

Even though there are certain habits and established cultures (e.g., organic product development structure, non-structured system of innovation generation and dynamic decision-making process that have been mentioned in sensing and seizing capabilities) hard to transform, Case B is willing to initiate the institutionalization process, to do whatever it takes for the development of abilities of the firm, and even to risk the steady market position of the firm, as mentioned by Interviewee B2.

Change in business model: Through personal experience of family

During the growing phase of Case B, the business model is changed from the production of kitchen to office furniture. The reason for that reconfiguration is the individual concern and opinion of second-generation family CEO, when he faces the challenges of anger and complaints directly from the end-users (e.g., housewives).

Restructuring sales network: From dealer to franchise system

The previous dealership system with 300 to 600 sales points is renewed to a new franchise system with 60 exclusive concept stores. At the beginning of 2000s, Case B decides to decrease the number of sales points from 600 to 300, where the products are distributed. The decision was to restructure the dealers as franchises selling Case B products exclusively, and many dealers are lost after that decision. At the end, only 60 exclusive franchises become part of the firm, Case B believes in that change to keep the system up and running.

Adapting new e-commerce sales network

According to Interviewee B2, the trend of internet sales because of the new normal generated by Covid-19 pandemic changes the way how easily and instantly products are accessed by everyone. Thus, Case B checks the demand and criteria of selling furniture through e-commerce in both national and international context (e.g., firms offering assembly are mostly preferred). Case B tries to adapt a strategy on customer needs and to prepare a new e-commerce sales network accordingly for the upcoming years.

4.2.4 Summary of the findings and discussion

After the analysis of familiness dimensions and dynamic innovation capabilities (DICs) of Case B, this section gives the summary of these findings focusing on the influence of familiness on DICs, and the roles of each familiness dimension (involvement, essence, organizational identity) in the development of three forms of DICs (sensing, seizing, reconfiguring).

Firstly, the findings related with family's *involvement* and the affected capability in Case B are summarized in Table 4.6 and explained below:

- Non-educated but experienced second-generation three brothers in Case B do not follow a structured system, rather an organic process of generating

ideas and *sensing* innovation opportunities. Their *seizing* capability of product development is also unstable and organic where informal meetings are held, and fast decisions are made. Additionally, they make changes in business model from one furniture sector to another as a *reconfiguring* capability through personal experience rather than systematic thinking.

- Since the generational involvement in Case B happens gradually through a training period and full experience in the firm, and the family prepares a family contract for a systematic engagement, these issues lead to a *reconfiguring* capability for an institutional structure in Case B.
- Case B family is always in the leadership position however they are supported, trained, and raised by professionals. As a result, this *sensing* capability of having an agile training process where everyone – family and non-family – is aware and free for new ideas is generated. Moreover, it leads to a *sensing* capability of innovation opportunity generated from external sources such as professionals from any industry. Additionally, external consultancy support from a global company for corporate brand building, and external knowledge from professionals in dealers for business operation in the field are set as *seizing* capability of Case B.
- Case B family makes fast decisions in an informal way with no regular schedule for meetings, thus they motivate all internal actors to be up-to-date, search for any issues, and discuss ideas as a *sensing* capability.

Table 4.6 : Summary of findings related with family's involvement affecting dynamic innovation capabilities in Case B.

Findings related with family's involvement	Sensing capability affected	Seizing capability affected	Reconfiguring capability affected
Non-educated but experienced family entrepreneurs	. Non-structured system of innovation generation	. Organic structure, organization, and external technical support for product development	. Change in business model through personal experience
Gradual involvement of generations			
Plan for family contract/constitution engagement			. Plan for institutional structure in the firm
Family in constant leadership but trust in professionals for raising, training, supporting	. Professional agile training within firm . Interplay dynamics for new ideas and motivation from any external resource	. External consultancy support for corporate brand building . External knowledge from employees in dealers for unique operation system	
Dynamic decision-making process	. Constant update of information within firm		

Secondly, the findings related with family's *essence* and the affected capability in Case B are summarized in Table 4.7 and explained below:

- Case B family has high-level of know-how through tacit knowledge gained by experience; thus, there is wide product range and sales network capacity at national level as a *seizing* capability. Additionally, rapid delivering system through advantageous distribution network with a strategic central location is a *seizing* capability led by family's tacit knowledge. Moreover, Case B *seizes* the capability to produce unique low-level mechanism through family's high-level know-how. As a result, Case B also aims and plans to manufacture fully customized product mechanisms as a *reconfiguring* capability for process innovation.
- Case B family gains a holistic knowledge of the firm since childhood and shapes the final positions in the firm according to the abilities, which are distributed among family members. Thus, this essence of the family leads to the *seizing* of fully integrated production facility and an automated planning system controlled from the center. Additionally, this essence also affects the *reconfiguring* of production for fully customized mechanisms.
- Case B has long-term commitment to all stakeholders and investment of resources for unique operating structures. Thus, it affects the *sensing*

capability of managing design ideas and innovation feedbacks in the firm to be supported by internal stakeholders such as professionals in the firm, external stakeholders such as dealers of the firm, and consultants such as external designers and engineering/architecture firms. Additionally, this essence leads to a *seizing* capability of targeting mostly external stakeholders as customers such as dealers, industry professionals, and contract project companies. As a result, the long-term commitment essence affects the *reconfiguring* capability of restructuring sales network from a dealership system to a franchise system, where each franchise becomes a part of the firm.

- Case B family has an entrepreneurial spirit starting from the founder being the first in the business, and design awareness starting from the second-generation members with first designed products. This essence of design awareness leads to a *sensing* capability of design innovation through real experience of the concept by the family and the firm to capture the opportunities. Additionally, Case B builds its corporate brand as a *seizing* capability through creating brand awareness with international branding, brand perception strategy (1) at national level by being available to everyone, (2) at international level by attending international fairs, and (3) at national level by shifting from Eastern to Western culture. As a result, family's entrepreneurial spirit affects the revision, renewal, and update in product range to meet the changing criteria of the targeted customer as a *reconfiguring* capability.
- The generational transition in Case B involves a training process in all departments of the firm through holistic knowledge and experience. This process leads to a *sensing* capability of innovation opportunity generated mainly within the firm from internal resources acting reflexively through dynamic interplay of knowledge among family members and all internal actors.

Table 4.7 : Summary of findings related with family's essence affecting dynamic innovation capabilities in Case B.

Findings related with family's essence	Sensing capability affected	Seizing capability affected	Reconfiguring capability affected
High-level of know-how through experience		. Wide production and sales network capacity . Rapid delivery system and strategic distribution network . Unique low-level mechanism production	. Production goal of fully customized product mechanisms
Holistic knowledge and distributed ability		. Integrated production facility . Automated and centralized planning system	
Long-term commitment to operating structures and stakeholders	. Supported by all internal/external stakeholders and consultants to manage design ideas and innovation feedbacks	. Not only target end-users but mostly other stakeholders	. Restructuring sales network from dealer to franchise system
Entrepreneurial spirit and design awareness	. Strategy of real experience for design innovation	. Corporate brand building through brand awareness at firm level, brand perception at national and international level, from Eastern to Western culture	. Revision of product offers based on customer demand
Generational transition through holistic firm experience	. Interplay dynamics for new ideas and motivation from all internal stakeholders		

Thirdly, the findings related with family's *organizational identity* and the affected capability in Case B are summarized in Table 4.8 and explained below:

- Case B family integrates an organizational identity where younger generation provides balance and acts as a buffer zone and a catalyst between elder generation and younger actors within the firm. Thus, this identity leads to *reconfiguring* capabilities such as adding new specializations for firm growth through new areas of expertise and adapting to a new e-commerce sales system.
- Case B family adopts an organizational identity where there is always a search for alternative perspectives of future for survival and competitive advantage in a constantly changing business environment. With this identity in mind, the firm integrates a *sensing* capability where volatile international markets are monitored and monitoring concentration changes from one market to another. Additionally, technological advances are *seized* through investment on planning and production systems. Moreover, this identity also affects the *reconfiguring* capabilities of specialization addition with new areas of expertise, and e-commerce system adaptation.

- Case B family is willing to change the culture and break habits to increase the abilities of the firm and even to risk losing the steady position in the market. Thus, this identity leads to a *sensing* capability of visiting fairs to learn and scan the business environment, to get design feedback, and to exchange ideas through networking. Moreover, this identity also works with two previous findings leading to *reconfiguring* capabilities of additional specializations such as new areas of expertise, and emerging operating systems.
- Case B family has a vision of idea exchange and knowledge sharing with anyone in the firm involved as an organizational identity. Thus, this vision leads to a design awareness and its value, which marks a milestone for the firm as a *sensing* capability. Additionally, it affects the *seizing* capability of a unique operating system by establishing a design center, becoming one of the few centers in the studied emerging market, Turkey.

Table 4.8 : Summary of findings related with family's organizational identity affecting dynamic innovation capabilities in Case B.

Findings related with family's organizational identity	Sensing capability affected	Seizing capability affected	Reconfiguring capability affected
Younger family member's bridging across generations in firm			. Adding new specializations for growth through new areas of expertise . Adapting new e-commerce sales network
Search for alternative perspectives for future	. Monitoring volatile international markets	. Technological investment for production	
Willingness to change culture and break habits	. Fairs for growth, design feedback, and idea exchange		
Vision of idea exchange, and knowledge sharing	. Design awareness as turning point for the firm	. Establishing design center	

4.3 Case C

Case C is a privately owned second-generation FF from office furniture manufacturing sector in Turkey. The family holds 100% ownership rights, first-generation founder and second-generation three children of the founder (two sons and a daughter) manage the company as board members while the founder is still the Chairman of the Board, and the second-generation eldest son occupies the CEO position. All four family board

members have active positions in the company as Chairman of the Board, CEO, Design & Brand Director, and Managing Director in Customer Relations (Table 4.9).

The interviewees from Case C are (1) the second-generation eldest brother acting as CEO (Interviewee C1), and (2) the second-generation middle brother acting as board member and Design & Brand Director (Interviewee C2).

Table 4.9 : Structure of Case C.

Family firm	Sales (m.)	Size	Date	No of gen.(s)	Family members	Professional role
Case C	51,90€	Large (>600)	1970s	1	1	Founder / Chairman of the Board
				2	2-1*	CEO
					2-2*	Board Member / Design & Brand Director
					2-3	Board Member / Managing Director - Customer Relations
* Interviewed family members (2-1 is Interviewee C1 and 2-2 is Interviewee C2)						

4.3.1 Company background and context

The founding process of Case C starts with the first-generation father during 1970s in Ankara, the capital of Turkey. He studies architecture at the top rank university in Turkey. In his senior year, he decides to operate in furniture industry and established a small workshop manufacturing home furnishings in a small industrial area called Siteler in Ankara:

We're talking about 45 years ago. There was not even an industry to talk about in Turkey. At that time, there were one or two firms in home furniture. And there were also four or five companies in the office. After 1980s-90s, the industrial period has a hand full of companies. (Interviewee C1)

The operation of Case C first begins with manufacturing, then adds project works (e.g., hospitals), and later sets up a retailing process. After the first five years, a showroom-like store is opened on Ataturk Boulevard near Tunali Hilmi, at a central location in Ankara.

The founder of Case C, the father of the two interviewees, sees modern furniture in the US and Europe, and at that time furniture designers are mostly architects such as Le Corbusier and Mies van der Rohe, since they are the fathers of that time. Hence, the architect founder follows the process of making furniture and turns the business to a

furniture brand. After the store opens in Ankara, Case C forms the environment for the industry and a new axis for business, both commercially and culturally.

During the growing process, when the business is moved to Istanbul (i.e., industry and economy capital of Turkey), there are only classical furniture makers in the sector following the period of reproductions of European furniture in Turkey (e.g., 17th-18th century French furniture, gilded pieces, and velvet armchairs). The new sales store of Case C in Nisantasi, a central district in Istanbul, helps to boost the market, when it lacks the design awareness:

Our company is the first to bring modern furniture, European design, and Italian and Scandinavian lines to Turkey. (Interviewee C1)

Then, after the mid-1980s, Case C adds office furniture to its operation. Because of the development of business life and industry in Turkey, together with the new organization norms in major cities (e.g., Istanbul, Ankara) and with the growth of the business centers, a new channel arises. And the fact that Case C does this job professionally, designing and producing furniture for offices gains a special meaning, thus the firm mainly turns to office furniture. According to Interviewee C2, since then, a heavy growing process continues in office furniture industry, with the income being earned mainly from the office.

At the time of transition to office furniture, the production is scattered in four to five locations in Ankara for different materials and techniques (e.g., wood, upholstering, and craftsmanship). Towards the end of 1980s, Case C decides to gather everything under the roof of one integrated factory, thus a new factory, covering a total area of 90.000 m², is established in 1990 in Tekirdag, a significant furniture manufacturing district in Turkey. In the mid-1990s, Case C moves the headquarter to Istanbul after the big moves in production and sales. As specified by Interviewee C1, as of 2010s, Case C performs new configurations in the UK, the US, and Germany within the framework of carrying this business to a more global dimension and this is still an ongoing transformation for the firm.

This large FF currently operates with 600 people (i.e., 500 in Tekirdag, 70 in Istanbul, and 30 in Ankara), and 80% of total business includes office furniture while 20% is home furniture.

Since it is acknowledged by both interviewees, office furniture industry in Turkey has a lack of production quality. Thus, most firms stay on the same level:

When you look at the office furniture in Turkey, most of them has been caught in a trap and none of them could grow. Indeed, when we look at last 20 years, none of the companies could go from A to B comparing with the standards in the world. There is a certain price level in the system where companies try to make things cheaper than the others. There is also a certain trap with the tenders. (Interviewee C2)

4.3.2 Analysis of family business - familiness

Exploring familiness in Case C, this study follows the same procedure as in Case A and Case B. The three familiness dimensions are explained in section 2.1.3, and the framework used this study can be seen in Table 2.2.

4.3.2.1 Involvement dimension

The father of Interviewee C1 and C2 is the founder of Case C, represents first-generation of the firm, shows long-term involvement, and still acts as chairman of the board. Interviewee C1 and C2, the sons of the founder, together with their sister represent the second-generation of the firm.

Positions and professional background of family members: Design-educated family entrepreneur with constant leadership

The first-generation father is the founder of Case C still acting as Chairman of the Board, who studies Architecture and is interested in Sociology, which he later studies as well. He grows up with that tendency in mind, since his mother is also a sociologist. Later, his two children (the eldest son and daughter) follow the same path.

Speaking of second-generation family members, Interviewee C1 (the eldest brother of second-generation) is the CEO of the company, who studies Sociology and is interested in business part of the firm. Interviewee C2 (the middle brother of second-generation) is a board member acting as Design & Brand Director, who studies Industrial Design and is interested in design part of the firm. The second-generation youngest sister is also a board member acting as Managing Director in Customer relations, who studies Sociology as well and is interested in trade, organization, and

human resources part of the firm. The third-generation family members have not arrived yet.

Gradual involvement of generations: Not planned but culturally embedded

The involvement of the second-generation starts around 2000s. Interviewee C1, the second-generation eldest brother, is graduated from the university towards the end of 1990s and directly steps in the firm. However, he already begins commuting to work while he is still studying in the university. He also goes through a one- to two-month internship process every summer, spending at least one month in accounting, sales, marketing, and production since he is 15 years old. The other two second-generation siblings go through the same gradual involvement.

As defined by Interviewee C2, the involvement process of the second generation is not planned but is affected by the culture in the firm since the birth of that generation:

Those who came to our house in Ankara were all architects, actors, filmmakers, or theater professionals. This was the environment we always lived in. I mean, it might be possible for me to go to a completely different profession, but it did not develop that way. My parents always loved their work. In the evening the tables were changed, drawings sheets were put on the table, drawings were made, then they were removed, and the dinner table was set up. When the meal was finished, the sheets were removed again for work. We did not live a life of luxury, but we grew up in an environment that lives with friends and loves their job. I did not even think of another profession. Therefore, mother and father's professions have passed to children. (Interviewee C1)

The reason that the older son (Interviewee C1) and the daughter choose the profession of their mother (i.e., sociology) and the younger son (Interviewee C2) chooses the profession of his father (i.e., design) is the result of being born into such a world and it involves more than just a professional planning, as explained by Interviewee C2.

Plan for family contract/constitution engagement

Case C does certain studies about rules and regulations of family engagement in the firm and has a family constitution in principle. However, the order in practice involves both written and unwritten rules of its own.

The clearest decision about family engagement in Case C is that family members can operate within and outside the firm whenever they wish, in line with their own desires. Therefore, Case C's family contract does not have a rule that family members must work only within the company:

We would like to continue this principle also for the third generation. They may act according to their own education and interests. (Interviewee C1)

Case C is currently supported by a global consulting firm (i.e., Ernst & Young) for the family agreement, which is being prepared for almost 10 years and is worked on with several other groups. The latest version is updated over the last year and is recently in the revision process.

Family members in leadership position: Interchangeable position - management by both family and non-family, external consultancy from stakeholders

Case B family believes in having one captain, especially for significant issues, to face the risk and make the final decision. The leader in Case C, regarded as the captain, has been interchanged in the process. The first-generation founder has been the leader for a long time until he decides to leave it to his eldest son (Interviewee C1). Recently, he has taken back the captaincy at his sons' request since Case C goes through a big storm where the firm requires the knowledge and experience of the founder and the long-term leader of the firm. The family feels that it is right to have a leader, who knows the past, thus see the future from a different perspective. Despite all this, the captain does not act on his own, rather he is supported by non-family professionals and consults to external stakeholders:

Of course, the leadership always goes together with consultation. My father always says that he learned everything from his masters. (Interviewee C2)

Case C has a governance structure with three systems: (1) board of partners, acting as a family assembly involving only family members, (2) board of directors, involving two independent non-family members, and (3) executive board, involving only non-family professionals. The family participates the meetings of the executive board from time to time or follows the meeting notes.

Plan for non-family professionals as shareholders

As specified by Interviewee C2, Case C has always adopted a corporate vision, even though it is family business. Since it has been recently in the process of becoming an institution, the family plans to include the professionals as profit partners and shareholders as the family members in the firm. The non-family shareholders are selected from the actors in the firm who contribute to the income and devote themselves to this firm through a merit-based process:

It is a logic that not only people having blood-relations, but also people who enter, manage and work in this brand are included in this family, so they can become shareholders. We talk about a larger family. So maybe we can call it a labor bond, not just a blood bond. (Interviewee C2)

The plan to have non-family shareholders sounds fair to the family as a vision to be transferred to the 21st century. Among the different versions of constitutions made over the years in a certain sequence of professionalism, this vision feels warmer structurally. Thus, Case C has already pressed the button to initiate the plan and the first group of shareholders to be added as family members are selected as well:

It is an ongoing process, but I think it is a very valuable one. I think this is what will really take us forward. (Interviewee C2)

Dynamic decision-making process: Engaging and open communication

The duration of the decision-making process differs according to the family's risk appetite, as it is pointed out by Interviewee C1. Since the team of managers and partners in Case C work in harmony, the teams sometimes meet extraordinarily often whereas run with the regular business routine if there is no urgent agenda.

In Case C, there is no written rule and a formal process for decision-making. Since there is a group of actors including the professionals from production management, finance management, purchasing management, and design involved in the process, all actors engage in proposing, giving ideas, and directions. Besides, not everyone gets to make any decisions in the firm and the captain usually has the right to do it for advanced issues:

Everyone has decision making responsibility, a lot of autonomous decisions can be made. But for bigger issues, it is usually right to have a captain. There

is no ship with more than one captain. Someone must face the risk and decides on what should be done. (Interviewee C2)

As explained by Interviewee C2, the formal institutional structures need many approvals for even a question to reach from bottom to up, and it mostly dissolves in the process. In Case C, there is no such structure, it is rather dynamic. The family occupies open spaces in the office area of the firm, which allows them to be transparent without barriers. Thus, all actors talk, ask, and consult whenever they want:

In some other firms, a person cannot ask questions to certain people or even meet them. Even if they encounter in the hallway, they may not be able to sit down and talk about a topic. So at least, that is not the case here. We have a dynamic structure here. (Interviewee C2)

4.3.2.2 Essence dimension

***Entrepreneurial spirit of designer/founder:** Insistent leadership with strong business vision*

The founder of the firm, the father of the interviewees, sets up the business as an architect directly after his graduation in the early 1970s, when there is no modern furniture in Turkey. As Interviewee C2 mentions, his father meets modernity while studying architecture with a group of students, who belong to a generation with a culture of changing things not only in Turkey but also in the world:

Additionally, in most cities in the world, such as Paris, Prague, and Mexico, there are many rebellions by that generation to the established management style and to the injustice in the distribution of income in the society, through renewal and change of the system. (Interviewee C2)

Similarly, the founder of Case C chooses furniture with the perspective of changing things and seeing them with a fresh eye, thus he starts to design and manufacture his own furniture. Since his father is a tailor and barely affords his son's university expenses, the founder has no financial capital for Case C. Therefore, he produces various parts for cars in the auto industry and makes money by selling those parts. After the establishment of the first small workshop, the business builds itself and continues to grow.

Since the founding process starts with home furniture creating its own production, sales channels, and capital, it is important to mention that the founder of Case C is an architect. As it is specified by Interviewee C2, on the contrary, the owners and/or founders of the furniture industry in the world are not designers/architects. The unique feature of Case C is not to have an industrialist founder/owner working with designers, as it is the case for other industries in Turkey (e.g., food, automotive, white goods), but rather to have a designer/founder, as well as another designer among the second-generation family members.

In the work culture, the founder mostly directs and speaks his own mind, and sometimes even imposes them very strongly since he has a specific opinion on that matter. According to Interviewee C2, either that persistence often turns out to be right decision and right thing to do, or he sometimes leaves things as they are and lets others do whatever they want. Interviewee C2 describes the general structure in this way, which does not have a written order or a system. The order includes a captain – the founder – and the managers actively bringing ideas and making most of the decisions. The Case C family members determine the color of the business because the character, direction, risk, change, and stance of the firm is directly reflected from within the family. The family creates, shapes, and develops the way of working, the ethics of doing business, and the awareness of certain things as they live, behave, go along, and do things in time:

Like the family, the child does not seem to do what the parents do not do. I do not actually say this in a very paternal sense, but I am saying this for the company as a symbol, an organism that lives somewhere. Here, the family is both an example and a very important guide. Most of the vision comes from there. The founder's approach has a lot of guidance in that sense. (Interviewee C2)

Thus, the firm is inherited the vision of the family such as a living organism (i.e., from parents to children). Additionally, Interviewee C2 adds that this vision also evolves through time not in the way things coming to mind, but in the way of adding a question or a proposition, and even changing it including everyone into the process. However, the answers to the questions of what to change and how the firm evolves towards the 21st century mostly comes from within the family, as stated by Interviewee C2.

The family also has a character of courage to change in personal, corporate, and organizational sense, since the notion of truth alters over time as well:

Sometimes it takes courage to change what is done, to transform, and to accept that what was right yesterday would not be right for tomorrow. The companies should invent themselves once again to exist. (Interviewee C2)

The founder, his personal characteristics, and the way he does business matches with that vision of renewal, change, and evolution. This culture is embedded in the firm since all internal actors sustain this behavior of changing what and/or how to do things, putting aside the past, not giving up, being ready to start from scratch, reviewing and revising constantly, and not getting tired of this renewal. Therefore, Case C is carried forward through this vision.

Entrepreneurial spirit of designer/founder: Interdynamic management style

Case C internalize a design management structure, where it is not about managing design but looking at management through the eyes of a designer. This unique feature is created after the founder brings the director/founder of Design Management Institute (DMI) to Turkey for a seminar 10 years ago.

This new structure not only changes the hierarchical order (i.e., who rules whom, which unit is connected to which unit, who is top/below whom) but also describes the dynamics within this order (i.e., binding the relationship, communication, and hierarchical setup among the units/people with different ties). This interdynamic management style follows a system design with horizontal connections, where inter-departmental and inter-administrative ties are positively affected:

It is not about a management system that goes from the top to the bottom, but a management system that goes horizontally and connects them crosswise. This structure creates our company's management understanding and its form. It also affects inter-administrative and inter-departmental ties. This is also design, even more valuable to us than product design. (Interviewee C2)

This business model innovation of Case C is significant and worth mentioning amongst the reconfiguring dynamic capabilities of the firm as well (see in Section 4.3.3.3).

Entrepreneurial spirit of designer/founder: Socio-cultural perspective to industry

Interviewee C2 mentions that having a designer/founder has both positive and negative effects. The founder tends to raise further questions about any issue and criticize anything even himself, instead of following the opportunities to be gained in the industry. Therefore, the growing speed of Case C sometimes falls short compared to the industry, but Interviewee C2 acknowledges this as a healthy growth.

Since the founder grows up with a sociologist mother, his approach is mostly to make sense of the system of the society and read its layers, the cultural structure within, and the internal relationship between production and consumption. Therefore, this perspective affects how Case C handles a product, not only as a commercial offer to the industry but also a socio-cultural tie with the society:

Therefore, this is not just a product designed, produced, sold, and marketed, it is our cultural and economic ties with the society in which people live and our duty in it. What we can get and what we can give pass through different filters in our minds. The fact that family is organizing this business can bring a difference from the standard industrial perspective. (Interviewee C2)

Consequently, the critical socio-cultural perspective of Case C to the industry (1) slows down the growth rate and negatively affects the adaptation of the firm, and (2) strengthens the position in the industry through radical innovations coherent with the society.

Generational transition through holistic firm experience

The transition of second-generation in Case C involves an internship process in almost all departments of the firm to have the most knowledge and experience. Interviewee C1, the second-generation eldest brother, officially starts working immediately after graduating from the university. However, until that time, he spends one to two months in accounting, sales, marketing, and production of the firm every summer since he is 15 years old. The other two second-generation siblings go through the similar process.

Long-term commitment to non-family professionals and external stakeholders

Interviewee C1 claims that Case C has a progressing institutional structure, where they include non-family professionals at all levels of the firm (e.g., board of directors with two non-family members, executive board with all non-family members). The average

seniority of these colleagues in Case C is 20 years, and these non-family professionals constitute 60% of the firm's integrity. According to Case C, the word family business indicates a bond not just by blood but also by labor, thus Case C family involves those professionals as well as their own families.

The family never defines the firm as a family business, rather a business managed by professionals and includes the family, as specified by Interviewee C2. This intention to provide a professional structure sometimes results in a positive, sometimes in a negative way. Interviewee C2 acknowledges that the family cannot be an objective judge in that manner, nevertheless the long-term commitment of Case C to the professionals, who love their jobs and motivated to work, progresses that process.

The family have been working with its clients, suppliers, and architects at least 20 years. As Interviewee C1 explains, Case C supplies good quality raw material with a reasonable price rather than the cheapest one in the market, and both parties get their claimed share. Thus, the family never wants to leave or change a good supplier:

There is an African saying that we accept as a principle: "If you walk alone, you walk fast; if you walk together, you walk long." We do not want to go fast but go long. (Interviewee C1)

Culture and non-economic values vs vision of change and professionalism

Culture is not easy to explain since it cannot be bought, supplied, or outsourced, but the basic motto of the family is stated by Interviewee C1 as follows:

We do not give up the values that made us who we are in the past as we are moving forward. We take care of the assets that make us who we are. We protect our heritage. However, we also know that the paths that led us to success yesterday while moving forward will not lead us to the same success in the coming days. Thus, change your way, keep your principle. Change your route, keep your value. (Interviewee C2)

This framework summarizes how the constant values of Case C work against their vision of change, without compromising the level of quality and design achieved.

Becoming a professional business guides the firm to think about quantitative issues, becoming economically bigger or smaller, reducing or increasing numbers, eliminating a product if it is not sold or adding a profitable product. However,

Interviewee C2 claims that the business does not only depend on mathematical and statistical criteria, and it is not such a mechanical process. There are intangible values that cannot be sold but can be reflected by the family and felt by the others. Therefore, the character and the color of Case C is formed through these non-economic values and the firm goes beyond just being a commercial institution.

Holistic knowledge and distributed ability

Interviewee C2 explains that the family always run from one task to another, and constantly changes their hats. Even though family members have their own specialties and manages their own departments, they are coordinators with the ability to act as a buffer zone to regulate the relationship and communication between units, and as a transition zone to connect these units.

Interviewee C2 additionally mentions that the family needs to coexist and maintain dialogues at the international level, and to enrich the knowledge by following the perspectives of different geographies. Thus, Interviewee C2 spends last 10 years travelling around the world (e.g., most cities in Europe and the US, several places in the Middle East, Singapore, Hong Kong) with the aim of crosschecking his knowledge, thoughts, and ideas.

Vision of dialogue in business: Co-existence of ideas leads to radical design

Interviewee C2 describes vision as a world view and a perspective, where Case C is focused on the dialogue as a state of communication and gathering around. The family significantly manages this dialogue involving the encounter, attraction, activation, and explosion of ideas, opinions, and dynamics. Interviewee C2 explains the reason of fast development in some regions as the energy released through the conflict and friction of different ideas coming together:

For instance, a problematic situation in our country is that when people come together, they are expected to think alike. When everyone thinks the same, the one who thinks differently changes himself in line with the others. Hence, the element of coexistence can be seen as thinking about the same things and dreaming the same things. Today, there is such a global worldview put by Trump that cannot even be a vision. However, I think the association of people who come together but think differently and do not agree with each other is more valuable. (Interviewee C2)

This co-existence of ideas positively affects the level of communication with the ability to respect different views, and to listen and understand others. That conflict and friction of ideas lead to design, which is the ability to understand people's troubles, to intend to cure them and to produce solutions in this way. Interviewee C2 adds that the role and duty of a designer is shaped accordingly. Hereby, a designer must understand the society, make sense of it, and criticize certain things; similarly, his duty is pointing out what is wrong, sharing his suggestions, and opening discussions, as it is supported by the vision of Case C family.

Since design can develop and change the realities of the world as well as the needs of the users, Case C adopts the vision of designing a product with an open dialogue:

Therefore, it is not a static table, chair, or cupboard, but a portfolio of objects that respond to needs, and a fiction in which all of them can change, develop, and speak with the environments they encounter. This is the basis of the vision.
(Interviewee C2)

Design awareness: Design as producing vs giving life

The founder himself describes Case C as ‘a firm in the service of design’ with the aim of creating innovative designs through collaborations with architects/designers and guidance of family’s art direction.

Interviewee C2 points out the difference between doing or producing something and giving life to it while explaining the design awareness of Case C as a conception, a birthing process. Design process is not finalized when the product is launched and stands passively on his own, but the product is later revived with every customer and can take different forms:

Birth is a very important word in a sense because there is a difference between producing or doing something and giving life. When you do something, it is stable and passive. We produced pens, tables, and they stayed there. It stands there as a table, an object. Birth is not like that. Something is being given life and you do not even know what will happen to it after it is born, and where it will go. It is so magical and about life. (Interviewee C2)

4.3.2.3 Organizational identity dimension

Non-family professionals seen as family members

The family tends to have an advanced professional structure as well as a family business culture, where every employee is included in the family as well as the firm. The average seniority of these employees in Case C is 20 years, and these non-family professionals constitute 60% of the firm's integrity. According to Case C, it is the culture of running the business with such sincerity by seeing all non-family professionals including their own families as family members of the firm.

Risk-taking investment for survival

The founder has no financial capital during the establishment process of Case C since his father is a tailor and barely afford his son's university expenses. Nevertheless, he takes the risk and invest in the business by even manufacturing various car parts and selling them in the auto industry for survival. This identity of being a risk-taker is embedded in the identity of the family as well as the firm, as stated by Interviewee C2.

Dialogue at international level for radical innovation

The behavior of dialogue within firm, as well as at national, and especially at international level brings wealth, according to Interviewee C2. The co-existence of ideas and maintaining dialogues at international level enrich the design with opinions, knowledge, and propositions from different geographies around the world:

And I had the opportunity to crosscheck these thoughts from many different places. Because there isn't only one right. This brought a wealth in my opinion. And at the end of that process, many international projects came out. We made solutions for many offices, and none are alike. We offer a lot of projects, none of them are alike. (Interviewee C2)

Interviewee C2 individually creates a platform of dialogue by travelling abroad and sitting up with designers. During these trips, he makes a presentation, called 'design and pathos', to many architectural groups from Australia, Europe, and the US, where he later opens a discussion about semiology, language, and even music. This explosion of observations where everyone is throwing ideas creates an opportunity to meet professionals of the business and to get the necessary information which cannot be found by research:

There is a serious interaction going on there, in fact, an exchange of ideas. Thus, a link is established. This is such an unstoppable feeding process and I always get prior information on what will change. (Interviewee C2)

Consequently, Interviewee C2 admits that the identity of international dialogue throughout the family and the firm leads to radical innovation.

Training community and creating platform for external stakeholders

The family adopts an attitude of training the society for more external stakeholders as well as their existing internal and external stakeholders. As it is told by Interviewee C2, they think that there are many talented women with great potential but cannot participate in the workforce and that is one of the biggest problems in the society. Thus, Case C creates a platform for them to realize themselves by contributing to the production and getting income (e.g., weaving carpets, sewing textiles, making jewelry).

Case C has a non-commercial link with external stakeholders. Interviewee C2 says that they would like to question the existence, expression, and performance of the society. Many architectural exhibitions, meetings, and talks are held for promoting different professions as well. One of the characteristic features of Case C is to establish these diverse relations with stakeholders and society, naturally and instinctively.

4.3.3 Analysis of dynamic innovation capabilities

Exploring dynamic innovation capabilities (DICs) in Case C, this study follows the same procedure as in Case A and Case B. The three DIC dimensions are explained in section 2.3, and the framework used this study can be seen in Table 2.5.

4.3.3.1 Sensing capabilities

Customer-oriented innovation decisions: Support by non-family professionals

When Interviewee C1 first starts working in the firm, Case C has a professional manager at that time, coming from a large international hypermarket group. This manager has a motto that everything is a lie, but selling is real, which he always tells the first-generation father, the founder of Case C. Thus, Case C adopts this understanding that everything depends on sales figures, customer makes the last decision, and people bring innovation to the firm, to its agenda. Thus, the basic

functioning of the firm is customer-oriented (i.e., human-oriented). Case C moves forward with an effort to reflect all information such as customer feedback, sales figures, or knowledge transfer from customer to salesperson, to product or process.

Managing design ideas: Conflict in dialogue, research, and inspiration

Since Case C believes that the association of people thinking differently but gathering around despite not agreeing with each other is very valuable, they tend to manage the positivity of this conflict. Interviewee C2 initiates the sense of design ideas by creating a dialogue where there is appropriate level of communication, respect for different views, and appreciation for listening and understanding others:

This is where the design starts. It is not just a mathematical or as it is taught in the university that a table should look like this, that material comes on top, it is molded, and screws are tightened, etc. Design is the ability to understand people's troubles, to intend to cure them and to produce solutions in this way.

This is the main goal of design. (Interviewee C2)

Additionally, Case C is conscious about the reality that the future of the office cannot be known rather it can only be suggested. Thus, they adopt some strategies to develop the ability to make the most accurate proposition for design by approaching it as a scientific study and writing own theories through integrating the logic of theory and grounding the predictions to basic principles.

Moreover, the significance of inspiration in managing design ideas is approved by Case C. For instance, Interviewee C2, the designer of many awarded products in Case C, sometimes gets an inspiration as a reflection of emotion intuitively (i.e., like composing a song) and transforms it into an innovative design.

Managing design ideas: Fairs for growth, design feedback, and idea exchange

The family adopts an attitude of training the society to have more external stakeholders as well as to improve their existing internal and external stakeholders.

Case C follows a process of observation, including examination and understanding of what is changing and what is being done. The professional observation is mainly done at fairs where it is possible to see the competition, to get feedback, and to exchange ideas. Moreover, according to Case C, the competition does not reveal what the future

brings rather it portrays what has been done in the past but can still highlight the tendency.

Managing innovation feedbacks: Making sense of customer feedbacks by whole firm

Case C mostly uses social channels to review comments from where they promote products and firm information. In addition, an internal department collects customer feedback, takes questions, conveys demands and problems, and reports them to the factory. Interviewee C2 also receives feedback about the missing issues in the portfolio or the need for some products in one-to-one meetings with external architects. There are even some individual end-users writing tweets, posting, or sharing stories on Instagram about their comments on products or services of the firm. Case C tries to see, read, listen, and make sense of each feedback as the whole firm; thus, the feedback system goes towards de-departmentalization since it is not one person's job. Therefore, the communication department of Case C embraces an attitude of listening rather than talking within and outside the firm.

Managing innovation feedbacks: Data flow in digital world

Interviewee C1 mentions that the current digital revolution affects all generations of the family and the firm, and it requires a skill to see the needs and movements in this digital world. In Case C, they need to get on a plane and fly 15 hours to see an opening space in New York in the past. However, nowadays, any event, product, or project is posted online, and experienced through a virtual tour. Therefore, Case C carefully follows this data flow since managing the digital world is the key to innovation for them.

Role of design: Management process, method, and an inquiry model

According to Interviewee C2, design can be defined as the management of a process to establish a way of doing something differently, and to ensure the cause-effect relationship through theoretical and practical data. In Case C, all processes such production, planning, communication, finance model, and sales channels are designed:

So, the design here is something very different from the product now. We can say it is like method. It is a look, an interpretation, a way of seeing, and an inquiry model that can be applied to anything. Did we have to do it like this? Because it is the biggest thing of design, the question of why we do it this way. Did we have to connect it that way? Do we have to use this material? Do we

have to give this answer to that question? In all this process, the most important feature of design is to question. Could not it be done differently? Could not there be a better solution? After all, this is the trigger of all development and evolution, questioning and saying whether this can be thought or looked at in another way. (Interviewee C2)

Case C acts on the belief that major breakthroughs are achieved during or right after hard times. For instance, great disasters, poverty, and pain in the world lead to the experience of huge breaks, questioning, and renewals (e.g., the change in the US during and after the Great Depression), as stated by Interviewee C2. Thus, the current pandemic period relatively triggers the inquiry model of design in Case C:

We are not going through something that big relatively. But even recent situations again lead to questioning and restructuring. Returning to your question, what design brings here is questioning. Questioning the way of doing business, managing, and communicating. And that is the ability to offer a new solution. (Interviewee C2)

The role and effect of design is seen through national and international awards received by Case C with a total number of 40 since 2007.

Observation of mega trends & inner structures: International brainstorming vs traditional media

Case C adopts an observation process at international level through generating platforms for dialogue, where Interviewee C2 especially travels abroad, meets with designers, makes presentation, and later opens discussion about any subject and current trends. During this brainstorming session, Case C makes the necessary observation that is inaccessible through research and information given by traditional media:

At the end, we start talking face to face for one hour, everyone is throwing ideas, saying something about the issues there, and this is the explosion of this observation, and we talk about what is happening in the world for example. How they solve it in Australia, how Singapore approaches this, whether these places are really being a problem in America, whether there is a need, what is changing, whether these areas not being produced anymore, why the workstations are decreased too much, and whether people are now working in

other spaces. Different feedbacks are coming for all these issues. (Interviewee C2)

Additionally, this environment of idea exchange establishes a link for Case C leading to an ongoing communication for collaborative projects, book exchange, share of sketches, informal get-togethers, and coffee or wine sessions. Interviewee C2 defines it as an unstoppable feeding process of getting the information on changes and future trends:

For instance, there was a plan in Hamburg, for example, we work one-on-one with the architect and talk about things that the people there do not even know about. The plan was to allocate this place to houses and dismantle an entire port and return to the housing completely. The infrastructure for this project is discussed now, but I saw it 15 years ago, for example. So, I saw where the residences would go in the future and made a proposal for the project there. (Interviewee C2)

The biggest opportunity of this observation is to be able to meet people, share ideas, get involved in the creation of trends, and to be fed by any new information. According to Case C, it is possible to follow the current events, projects, and people through traditional media (e.g., television, magazines) as well, but it is almost impossible to find a radical innovation this way.

Moreover, the observation process in Case C is to see the acquaintances, encounters, different needs, and big changes emerging in countries (i.e., mega trends). They observe the changes in sites and premises in big cities, in structure of offices, in the way the institutions do business, and in the inner structures:

For example, we are doing three projects of Google. One in San Francisco, one in Google DeepMind London, and one in San Diego. We know about the dynamics that all of them go through inside, and they can give us signals about what will be done differently, and what will change. (Interviewee C2)

Therefore, Case C makes designs accordingly since these observations act as design briefs.

Observation of mega trends & inner structures: Effect of irrelevant changes on business and design

Case C follows the changes and trends not only within the profession but also outside the profession, which they foresee might affect the profession in near future as well. For instance, Case C plans and thinks even according to the economic changes in cities. The observation of these changes not only affect design but also the structure of the firm, as it is stated by Interviewee C2.

Additionally, Case C predicts that there would be an economic depression worldwide for the last five years while they are preparing a new home brand. Interviewee C2 explains that the prediction indicates the decrease in people's purchasing power with the acceleration of injustice and the unfair distribution of income, however nobody could have predicted the pandemic. Therefore, Case C wants this new home line to be more affordable and accessible even though there is a possibility to regulate the structure according to the high-end customer since there is always people with high-purchasing power during economic crisis.

Moreover, Case C looks at the business with a critical thinking since the multi-storey office buildings hosting thousands of employees recently become inoperable because of not being sustainable, as it is understood especially during the pandemic period. Therefore, Case C diligently follows these discussions about new opportunities (e.g., open space, daylight, fresh air).

4.3.3.2 Seizing capabilities

Production know-how: Integrated in a closed circuit

Case C manufactures and sells its own productions. Thus, the firm faces the threat of imitation, since the competitors copy them, and make cheap, fast versions of their productions. Therefore, Case C does not prefer to outsource for keeping the production know-how inside the firm:

For example, when we make our metalwork or woodwork outside the company to a contractor, a year later, they make our copy and sell it to a cheaper price.
(Interviewee C2)

Thus, Case C keeps everything integrated, in their own closed circuit, does not put the know-how as an open source, and does not share it with outside world.

Unique operating system: Establishing design and R&D center

Case C have two design and R&D centers, which are approved by the Ministry of Industry and Technology in Turkey and included in the *Turquality* program as a one of the few centers of the industry. This title given by the state to the firms, fulfilling certain criteria (e.g., number of employees and projects). Case C establishes its first design and R&D center in 2017 in Tekirdag location, where the firm has its production facility, and the second center in 2019 in Istanbul location, where the firm has its headquarters. The center in Tekirdag currently works more technically, whereas the one in Istanbul works more towards design. Case C has already been working like a design and R&D center with these vision in mind even before the formal establishment, as added by Interviewee C1.

Unique operating system: Automated system

Since the beginning of the 1980s, Case C always tries to set up the whole system through a software. They become one of the first companies to use one of the world's leading enterprise resource planning (ERP) software called Systems Applications and Products in Data Processing (SAP) in Turkey. As it is told by Interviewee C2, it takes 8 to 10 years for SAP to be set up and operated in practice, since Case C wants to use this software for the automation of the whole system such as material requirements planning (MRP), production, sales, and marketing. The aim and plan of the family from the very beginning is to make Case C work in a way that all professionals can manage.

Unique operating system: Dynamic communication structure

The communication operation of Case C has been gone through a serious change that many companies cannot follow its cultural structure:

For example, in the period until the digital network was established during 80's and 90's, there was an industry and a product manufactured by the industry, massively. Then the product is introduced in the mass media, described with a monologue in the media and sold to the masses. This was a linear and one-way communication. (Interviewee C2)

This old-fashioned, linear, and one-way communication format is currently invalid, since it is not only the brand does something, produces, advertises, and sells it. However, the current format works when the brand launches a product, tells and

narrates it through most social channels, listens to people's comments after sales, retrieves these comments, revise this product according to feedbacks, updates, improves and rehabilitates it, then puts it back on the market, and listens to the critics again. The previous linear top-down structure is replaced with this loop structure. This new design of the communication system as well as the brand is accepted as business model and marketing innovation of Case C, as it is stated by Interviewee C2. The brand's new feature of listening people, making sense of what they say, and reflecting this to its work is offered instead of brand's old feature of only expressing itself. Therefore, Case C changes the dynamics of its brand and the way how it approaches communication.

Unique operating system: Social responsibility project fits with business

The way how Case C approaches social responsibility projects is different from the common system where public relations (PR) firms communicate with the firms and offer the projects themselves. As it is explained by Interviewee C2, Case C sees these offers and projects done in this way as “an awkward insertion to any company”. The projects that are not related to what the company does in general, not related to its affiliation, life stance, and practices, may be even harmful for those companies in return:

For example, it is not right when a company like Shell advertises its social responsibility projects after destroying Africa. In this sense, it is important that these projects coincide with what they really do, what they think and all their practices. (Interviewee C2)

Therefore, Case C believes in making real projects and integrating them into their operation, rather than conceptual projects made just for the sake of doing social responsibility projects.

Product development: Organic structure through management

The organic and intuitive structure of product development in Case C becomes its seizing capability through management. Case C adopts the update of governance model, its development, evolution, and transformation from a dull and rooted structure to a slightly more organic one:

It is not methodological, but we take this information, share it with each other, meet and do it in a natural flow within the company. Maybe an American firm

could do this much more systematically, in a much more functional way between departments. We try to make sense of it in a much more instinctive way. (Interviewee C2)

Corporate brand building: Brand awareness at international level

Case C builds its corporate brand through sales stores/showrooms, making collaborations and partnerships, and new branding. In 2011, the first store is opened in London, UK to be recognized as a design-oriented brand in the global market. Thus, Interviewee C1 mentions its significance as the beginning of brand awareness of Case C at international level. Besides, Case C recently has many companies on its table for strategic collaborations and partnerships such as being a multinational enterprise (MNE) since Turkey gets a rising interest from abroad in this regard. Moreover, Case C's second brand is currently in the incubation process. This new brand is given an easy-read international name to be understood anywhere in the world, including the word design in it. Therefore, Interviewee C1 thinks that this brand may grow faster than the first one considering the conditions of the business environment in 21st century.

Structure of value creation: Added value through design and quality

Case C acts differently in terms of structure and strategy since the mission is to create value by making a difference. Therefore, Case C's products are distinguished and appreciated both in terms of design and quality, as well as through their management. Interviewee C1 mentions the creation of value chain, thus an added value through the example of one of the products:

One of our products, Oblivion is not a furniture, for instance. One of our customers in America ordered 150 sets of this product, a large group. The reason for this is that they need rooms there, and our product creates a semi-divided meeting environment or a space we call co-working. That furniture steps out of line, so we do as a company. (Interviewee C1)

This trend of customer-oriented value chain adopted by Case C make them produce a product that is not a furniture but a unit with spatial and architectural features. This product offers a flexibility for each architect to position it in a different way, according to the needs of the customers. Therefore, Case C has this capability by having both a

technical and design team in Istanbul (headquarter), and Tekirdag (production facility), and working with both national and international external designers.

Structure of value creation: Value through management

Case C structures the value chain through the logic of slow and solid management. As it is stated by Interviewee C1, they do not rush value creation for fast but cheap results, rather they do things right by searching for right time with right cost. Thus, the management of Case C has a certain and unbreakable stance, which is different from the market standards, even though it is difficult especially during the economic conditions in an unstable emerging market, such as Turkey.

4.3.3.3 Reconfiguring capabilities

Adding new specializations for growth: Renewed firm policy through new brand

Case C's vision for tomorrow includes not having factories anymore, thus no conventional production. Interviewee C2 adds that these kinds of revolutionary propositions emerge from within the firm. As a result of this vision, Case C currently constructing an e-commerce system through a newborn brand (e.g., an entirely online home line) with an internal team set up for this proposition.

Case C currently prepares this system through a renewed firm policy. With this system, they renew the product portfolio with new cost structure through online sales. Each product is offered with an assembly setup with affordable prices for the customers. The techniques of production, assembly, and distribution is reviewed to fulfill the needs for this system:

For example, a table has four legs, each is tightened with three screws, has as a total of 12 screws and we need a screwdriver to assemble. But unlike that system, we developed such details and parts that when you put the leg on and turn it, it locks. Thus, it is more comfortable to set up and there is no need for a tool. For someone who does not know how to do this, it is much simpler to attach, much lighter to pack and ship, and much cheaper because it consists of less parts. (Interviewee C2)

This decision for renewal in Case C is the result of a vision for the change in economic conditions, the people, and the market. This envision is then briefed to the design team, who create the outputs. Interviewee C2 calls this cycle as the development of dynamic

capabilities for the firm: (1) getting information from different places, (2) making sense of this information in some way, (3) making some goals and predictions after this interpretation process, (4) taking this as a brief, and (5) directing it to production unit and product portfolio accordingly.

Change in operation: *Through smaller team and bigger workload*

Interviewee C2 indicates that Turkey is going through hard times for almost two years, Covid-19 pandemic aside. The turmoil of all exchange rates affects the investments abroad done by Case C and the system is finally collapsed when wages and rents have increased three to four times overnight. Thus, the congestion in the system causes Case C not to lay off but to continue with smaller number of people. Many employees move and leave because of rents, income, and expenses of living, especially in Istanbul. Therefore, the workload of the remaining staff has increased accordingly as well as their job description, and responsibilities, thus the internal structure of Case C is reconfigured.

Restructuring sales network: *Evolution due to emerging customer profile*

There is a word that we have used at least three times a day for the last three years, and sometimes even more often: Evolve. Our business and decisions are constantly evolving. (Interviewee C1)

The business of Case C includes architects, customers, and basically an office plan in the past, however it evolves with the changing conditions of workplace and business environment. As an example, an emerging trend of rental open office systems, where those spaces are used by many people with monthly fees instead of making big investments, currently challenges architects as well as office builders. Interviewee C1 clarifies that this trend comes as a threat to furniture companies, which make fit-out. Nevertheless, Case C chooses to see it as a challenge rather than a threat without making an investment decision with a rush. Since Case C manufactures and sells furniture, the decision is to be a solution partner with an ultimate change of mind-set. As a result of this, Case C immediately restructures the sales system according to these emerging customers, who would lead to the evolution of business, and currently all large companies in rental open office system in Istanbul are working with Case C.

Plan for institutional structure

Case C plans to be a corporate company since the beginning of 1980s, when this institutionalization process starts with the use of an ERP software (i.e., SAP) for an automated system for the whole operation, including MRP, production, sales, and marketing. This software takes a long time to be set up and operated in practice since Case C is the first company to integrate such a system in office furniture manufacturing industry in Turkey. This plan of full institutionalized structure that can be managed by professionals, is not yet complete and possibly never will be since there is always the family:

We always wanted it to become a job that professionals can manage. Has it become exactly as we wanted? No. The fact that the family was always involved in some way gave that family color and taste. (Interviewee C2)

Change in business model: Socio-ecological plan

Case C never aims to become mainstream and get involved in mainstream activities, as Interviewee C1 tells.

For instance, Case C establishes a Design Foundation as the vision of first-generation designer/founder, where studies about the values of Anatolia is done, and the founder contributes most of his time to this foundation. Since the beginning of 2020, the activities of this foundation cease with the economic crisis. The foundation deals with Eastern provinces and cities in Turkey (e.g., Mardin, Midyat, Şanlıurfa). Many issues related to city plans, residences, the reasons why young people stay in these cities or not, the requirements for the change, transformation, and reconstruction of these cities to make people stay with a university or an institution, how these cities survive with their own internal dynamics, and why women in these cities cannot be involved in and contribute to the workforce. However, Case C points out the last issue of women being excluded as the biggest challenge since there is a great potential of talented women. Since this is not just an issue about workforce but also a social issue on women's self-actualization, this Case C initiative makes these women add value to the industry and gets both economic and social value in return:

Carpets, textiles, weavings that they know and remember, jewelry and their contribution were given back to them as income. It has been worked as a foundation; it goes beyond profit. (Interviewee C2)

Besides, the foundation of Case C holds exhibitions in this region to reveal forgotten or unknown techniques, materials, and/or artists. For instance, the introduction of an Assyrian artist at the age of 98, who is still writing and painting intrigues European Foundation, then the artist makes his last personal exhibition in Europe. Therefore, Case C keeps this bond and presents the designs of these people through the foundation:

These lands are the sources of the story. There is mythology and history here. There are stories, tales, and formal relationships of the people here. We have stories that make us who we are, that are in our memory and that we can tell and live on them. (Interviewee C2)

In addition, Case C prepares a project with a panel of judges, who photographs all architectural work in Turkey and present the outcomes with a yearbook of architecture. Those kind of projects of the foundation have serious costs, which is hardly handled by Case C. However, this aim to create an architectural memory continues until it is sustained due to economic conditions. Interviewee C2 adds that Case C will always try to establish a sincere bond with the society, whenever they can.

Apart from that, Case C deals with the use of highly recyclable raw materials, products grown in cultural forests rather than trees of natural forests, while designing and manufacturing a product. Interviewee C1 insists on the awareness of Case C about their own consumption of production and the principle of consuming with sustainable notions as much as possible. Moreover, according to Interviewee C1, Turkey also takes important steps in the last 10 to 15 years about sustainability, and the industries reach certain level of environmental awareness. During this time, every standard brought by the state for sustainability is already existing in the codes of Case C (e.g., recycling investment of 700 million TL). This ecological vision is already embedded in Case C's business model, as Interviewee C1 calls it their lifestyle.

In addition, Case C provides spatial opportunities for certain groups of people and associations in the industry (e.g., Free Association of Architects) according to their needs such as gatherings, seminars, exhibitions, etc.

Change in business model: New global initiative

Case C currently creates a new brand for home furniture as a global initiative with the aim to grow faster than the main brand, since it is adapted according to the new needs

of 21st century. Interviewee C2 explains that all home products from dinner sets to accessories, from textiles to furniture can be found from various manufactures and sales stores in the market, however one brand to design and sell them all is negligible. The significance of designing and manufacturing all items and bringing all product groups and collections together by a single brand shows the vision of the firm. Case C revises its brand and transforms the business through this new initiative after answering to the issues on how to do business, the purchasing behavior of 21st century, and the level of communication with customer through which media and channels in near future.

Change in business model: De-departmentalization

Case C is currently goes towards de-departmentalization process where the aim is to make everyone speak within the firm and the communication department starts listening rather than talking accordingly:

There is a Hungarian proverb that I love very much: “Why do we have one mouth and two ears? Because we need to listen twice as much as we speak.” I think this can be taken as a motto of life. (Interviewee C2)

Case C’s business model supports that this idea of listening more than speaking is the job of the whole company, not to one department. The communication takes an idea, shares it with production, engineering, sales, and design, and they listen. Thus, Case C updates, and develops its governance model from a dull and rooted structure to a more organic one that can evolve itself.

Change in business model: From B2B to B2C with new brand

Case C’s business model dramatically changes with the new brand. Previously, the revenue model of the firm is big contracts and projects, where Case C knows the customer, who is the single-buyer end-user, and the firm handles a quite large amount of work with tens, hundreds of tables, and chairs. Since the industry becomes competitive in Turkey over the years, this system brings low income with several price cuts and big discounts as well as little profit, which even melts away because of re-manufacturing when a problem occurs. Even though this is a well-known conventional income model, Case C knows that the huge money inflow is not enough to generate profit.

The rationale of the new business model developed because of this understanding is to put aside the model of the firm's income, which is the main source and makes up 80% of the way of doing business, and to propose a brand-new model. In this model, Case C meets with individual customers one-by-one and spends time even selling even a single coffee table instead of a thousand tables. Interviewee C2 explains that the sales representatives react against the new model of moving from project to retail because they do not want to deal with one table and two chairs instead of 400 tables and making considerable amount of turnover. The preparation time for this change takes one and a half years, and the salespeople slowly understand that the risk is even less with this model since the loss is much bigger when the firm loses one customer otherwise. Finally, Case C faces larger number of customers with a more balanced income and standard products rather than customized special production. Case C develops faster with this change from business-to-business (B2B) to business-to-customer (B2C) model, and becomes a firm built on retailing:

Its cost and profit are more balanced and distinct. There might be lower cost and less profit but at least much less risk. (Interviewee C2)

An online channel is then added to this B2C model with the establishment of a new brand focused on home furniture. Case C first sets up the platform with home furniture to reach a larger platform, then plans to move to office furniture. Interviewee C2 explains this transformation of business model as a disruptive innovation, which even questions the model that is the actual reason for Case C's existence and even sees it as a threat that might bring the firm down. Interviewee C2 also adds that the result of this change has not seen yet, but they believe it would be positive.

Lastly but most importantly, the importance of design in this change is worth mentioning according to Interviewee C2:

For example, it can be packaged, transported, assembled by the user himself, it is more durable and easier to exchange when something happens. It is light and does not break when the package is dropped. Most data that we did not have before having become criteria now and we have worked on a completely different modeling. (Interviewee C2)

This model completely changes the design criteria, especially related to packaging, transportation, and assembly since the shipping companies carry, and the end-users

install and assemble the products henceforth. Before that, Case C carries, installs, assembles, comes back for missing parts, takes them back, fixes everything, brings back the product again, and sometimes assembles a product even more than three times, thus it has a considerable cost. Consequently, according to Case C, this transition acquires to use the practicality of design and leads to a lower cost, less profit but less risk, and an adaptation to new era.

4.3.4 Summary of the findings and discussion

After the analysis of familiness dimensions and dynamic innovation capabilities (DICs) of Case C, this section gives the summary of these findings focusing on the influence of familiness on DICs, and the roles of each familiness dimension (involvement, essence, organizational identity) in the development of three forms of DICs (sensing, seizing, reconfiguring).

Firstly, the findings related with family's *involvement* and the affected capability in Case C are summarized in Table 4.10 and explained below:

- The first-generation design-educated family founder in Case C has a constant leadership in the firm. Thus, design is a *sensing* capability and used as the management of production, planning, communication, finance, and sales processes to establish way of doing something differently and as an inquiry model to ensure the cause-effect relationship through theoretical and practical data.
- The generational involvement in Case C happens gradually through a culturally embedded rather than a planned process. This involvement leads to a *sensing* capability of managing design ideas through conflict in dialogue, where there is an appropriate level of communication, respect for different views, and appreciation for listening, as well as research and inspiration, where there is approach for scientific study, own theories, and reflection of emotions.
- Case C family prepares a family contract for a systematic engagement and plans to involve non-family professionals in the ownership and management of the firm as shareholders. These involvement issues lead to a *reconfiguring* capability for an institutional structure in Case C.

- Case C family is always in the leadership position however they also involve non-family professionals in the management of the firm and receive consultancy from external stakeholders. This involvement by all stakeholders leads to a *seizing* capability of a unique operating system with dynamic communication structure, where the firm listens to everyone, tries to make sense of what is said, and reflect it to the business.
- Case C family's decision-making process has no rules and a formal structure, involves total engagement and open communication, where all actors propose, give ideas, and directions. Thus, they have a *sensing* capability of seeing, reading, listening, and making sense of customer feedbacks by the whole firm. Additionally, as a *reconfiguring* capability of changing operation to a structure with smaller team and bigger workload is made through this dynamic and open decision-making process because of a turmoil in the economy of studied emerging market, Turkey.

Table 4.10 : Summary of findings related with family's involvement affecting dynamic innovation capabilities in Case C.

Findings related with family's involvement	Sensing capability affected	Seizing capability affected	Reconfiguring capability affected
Design-educated family entrepreneur with constant leadership	. Design as management process, method, and an inquiry model		
Gradual involvement of generations: Not planned by culturally embedded	. Conflict in dialogue, research, and inspiration to manage design ideas		
Plan for family contract/constitution engagement			. Plan for institutional structure in the firm
Plan for non-family professionals as shareholders			
Family's leadership, management by both family and non-family, external consultancy from stakeholders		. Dynamic communication structure for operating system	
Dynamic decision-making process: Engaging and open communication	. Making sense of customer feedbacks by whole firm		. Change in operation through smaller team and bigger workload

Secondly, the findings related with family's *essence* and the affected capability in Case C are summarized in Table 4.11 and explained below:

- The first-generation designer/founder of Case C has an entrepreneurial spirit as starting the business with no capital and designing/manufacturing

own furniture to change the perspective in the industry. He shows insistent leadership with strong business vision as often speaking his own mind and imposing his specific opinions in the firm, where he becomes the captain determining the essence of the business. Additionally, the captain engages an interdynamic management style where there are only horizontal connections rather than hierarchical ones. These two findings about family's essence affect Case C to have a *seizing* capability of a value chain structure through a slow but solid management, where the firm does things in the right time with the right cost despite being in an unstable emerging market. The other *seizing* capability affected by the essence of having designer/founder is to establish a design and R&D center as the first in the industry. Case C later opens a second center to differentiate the focus of the centers as one is production, and the other is design.

- The generational transition through a holistic firm experience in Case C, together with the previous essence of interdynamic management style by the designer/founder, affects the *reconfiguring* capability of changing the business model through de-departmentalization with the aim to allow all internal actors to speak up and to listen to each other, where the model is organic and evolves itself.
- The designer/founder of Case C has a socio-cultural perspective to the industry, since he studies sociology, tends to raise questions about any issue, and to criticize anything rather than follows the opportunities to be gained by the industry. Thus, this perspective leads to a *sensing* capability of observing mega trends worldwide as well as inner structures in the society, which then act as design briefs. Additionally, a *seizing* capability of unique operations through social responsibility projects fitting with the business is generated, where Case C searches, finds, and offers the projects themselves instead of other PR firms.
- Case C has long-term commitment to non-family professionals and external stakeholders. With the consultancy from non-family professionals, the firm adopts a *sensing* capability of making customer-oriented innovation decisions reflecting on user feedback, sales figures, or

knowledge transfer from customer to salesperson, from salesperson to product/process.

- The cultural essence of Case C can be summarized as the constant non-economic values working against the vision of change without compromising professionalism, level of quality, and design. This essence leads to a *sensing* capability of observing through international brainstorming, where there are platforms for dialogue, ongoing communication, and idea exchange on changes and future trends; instead of observing through traditional media, where current events, projects, and people are followed. Additionally, this dichotomy in culture makes Case C to adopt an organic structure and organization for product development, where there is an intuitive methodology and a natural flow of information as a *seizing* capability. Moreover, a *reconfiguring* capability to restructuring sales network for an emerging customer profile when it comes as a threat but is faced as a challenge to adapt to the changing business environment.
- Case C family gains a holistic knowledge of the firm since childhood and shapes the final positions in the firm according to the abilities, which are distributed among family members. Thus, this essence of the family leads to the *seizing* of a production know-how through an integrated facility as a closed circuit and through an automated operating system.
- Case C family essentially believes that the co-existence of diverse ideas in the firm lead to radical design. This essence affects the *sensing* capability of observing irrelevant changes in business even outside the related industry by predicting economical instabilities and looking at design practice with a critical thinking by predicting the trends in decline or non-existing in near future, which would not only affect the product innovation, but also process, organizational, and marketing innovations. Additionally, Case C adopts a *seizing* capability of customer-oriented value chain through product design and its quality and by making a difference. Moreover, Case C builds its corporate brand as a *seizing* capability through creating brand awareness at international level through new global branding, opening showrooms/sales stores abroad, and making

collaboration and partnerships, as an outcome of idea exchange and aim for radical design.

- Case C has design awareness since its foundation by a designer as ‘a firm in the service of design’, and essentially believes in the idea of design process to giving life rather than just producing. Thus, design awareness creates a *sensing* capability of integration of design ideas as a management tool, a process method, and an inquiry model in the firm. Additionally, this essence, together with the previous one, leads to two *seizing* capabilities of customer-oriented value chain through design and quality, and corporate brand building through brand awareness at international level, which are considered as outcomes of design awareness.

Table 4.11 : Summary of findings related with family’s essence affecting dynamic innovation capabilities in Case C.

Findings related with family’s essence	Sensing capability affected	Seizing capability affected	Reconfiguring capability affected
Insistent leadership with strong business vision by designer/founder		. Structure of value creation through management	
Interdynamic management style by designer/founder		. Establishing design and R&D center	
Generational transition through holistic firm experience			. Change in business model through de-departmentalization
Socio-cultural perspective to industry by designer/founder	. Observation of mega trends and inner structures	. Social responsibility project fits with business	
Long-term commitment to non-family professionals and external stakeholders	. Support by non-family professionals for customer-oriented innovation decisions		
Culture and non-economic values vs vision of change and professionalism	. International brainstorming vs traditional media	. Organic structure and organization for product development	. Restructuring sales network for emerging customer profile
Holistic knowledge and distributed ability		. Production know-how integrated in a closed circuit . Automated system for operating system	
Co-existence of ideas in business leading to radical design	. Observing irrelevant changes on business and design . Design as	. Structure of added value through design and quality	
Design awareness as producing life vs giving life	management process, method, and an inquiry model	. Brand awareness at international level	

Thirdly, the findings related with family’s *organizational identity* and the affected capability in Case C are summarized in Table 4.12 and explained below:

- Case C family adopts an organizational identity, where non-family professionals are seen as family members. Thus, it leads to *reconfiguring* capabilities of planning an institutional structure in Case C, as an outcome of having professionals as strategic human resources in the firm.
- Case C family takes risk and makes investments for survival and growth as an embedded identity. Thus, this identity leads to the *reconfiguring* capabilities of adding new specializations through a renewed firm policy and a newborn brand with an e-commerce system of entirely online home furniture line, and changing the business model from B2B to B2C, where Case C moves 20% of business from project to retail. These reconfiguring capabilities are the outcomes of an envision for the change in economic conditions, people, and market.
- Case C family has a behavior of dialogue within firm, at national, and especially at international level, which brings wealth and leads to radical innovation. Thus, this behavior entails a *sensing* capability of visiting fairs to learn and scan the business environment, to get design feedback, and to exchange ideas through networking. Additionally, another *sensing* capability involves managing innovation feedback through monitoring the data flow, which is the way of dialogue in current digital world. Moreover, as a *reconfiguring* capability, Case C changes its business model with a new global initiative of one brand designing and selling all home products as an outcome of dialogue on business, purchasing behavior of 21st century, and level of customer communication.
- Case C family has an attitude of training the society and creating platforms for external stakeholders, which leads to a unique organizational identity. This attitude leads to a *reconfiguring* capability of changing the business model through a socio-ecological plan by establishing a design foundation focusing mainly Eastern part of Turkey, where (1) there is an imbalance of gender in the workforce as well as a social issue of self-actualization of women with great talent, (2) there are the oldest city plans to be transformed, (3) there are architectural values to be preserved, and architectural memory to be archived, and (4) there are forgotten and/or unknown techniques, methods, and materials to be revealed. Case C also

provides spatial opportunities for certain groups of people and associations in the industry as the second part of their social phase of the plan. For the ecological phase of this plan, Case C uses highly recyclable raw materials and products grown in cultural forests.

Table 4.12 : Summary of findings related with family's organizational identity affecting dynamic innovation capabilities in Case C.

Findings related with family's organizational identity	Sensing capability affected	Seizing capability affected	Reconfiguring capability affected
Non-family professionals seen as family members			. Plan for institutional structure
Risk-taking investment for survival			. Change in business model from B2B to B2C with new brand . Adding new specializations through renewed firm policy with e-commerce system
Dialogue at international level for radical innovation	. Fairs for growth, design feedback, and idea exchange . Managing innovation feedback through data flow in digital world		. Change in business model with new global initiative
Training community and platform for external stakeholders			. Change in business model with socio-ecological plan

5. CROSS-CASE ANALYSIS

This chapter presents cross-case analysis and discussion. The chapter is structured as follows: Section 5.1 focuses on the strategies of design-intensive family firms (FFs) to manage innovation in an emerging market and reveals the influence of familiness on dynamic innovation capability (DIC) development (RQ1-RQ2). Section 5.2 presents the role of design on FFs' DICs (RQ3), while Section 5.3 discusses the findings of the study, highlighting the distinctive aspects of the context – Turkey as emerging market – and involving expert opinions.

5.1 The Strategies of Design-intensive Family Firms to Manage Innovation

This study explores the strategies of design-intensive FFs to manage innovation in an emerging market (Research Question 1). These strategies and their decision-making processes are analyzed through the development of DICs and how they are affected by familiness (Research Question 2). The findings from the case study FFs reveal thirteen recurring behaviors that are crucial for competitive advantage through successful innovation management.

These recurring behaviors are categorized as three strategies for *sensing* opportunities: (1) visiting fairs for design feedback and idea exchange, (2) monitoring trends and international markets, and analyzing changes in industry and business, (3) managing ideas through support of internal and external stakeholders; six strategies for *seizing* opportunities: (1) strengthening production know-how through experience and technological investment, (2) establishing design and R&D center for external support, (3) adopting organic structure for product development, (4) adapting automated system for operation, (5) building corporate brand awareness at international level, (6) creating social responsibility projects fit with firm identity; and four strategies for *reconfiguring* assets and structures: (1) adding new service for e-commerce sales, (2) adapting know-how for fully customized product mechanisms, (3) planning for institutional structure, (4) changing business model for innovation.

5.1.1 Strategies for sensing opportunities

5.1.1.1 Visiting fairs for design feedback and idea exchange

Design-intensive FFs sense new opportunities for innovation, get design feedback, and exchange ideas by visiting national and international industrial fairs. This strategy is supported with the vision of constant dialogue, idea exchange and knowledge sharing, and dynamic decision-making process adopted by the firms.

The non-family Corporate Communications and Marketing Director of *Case A*, Interviewee A1 mentions that they regularly attend Orgatec fair, the leading international trade fair of business environment, since 2000.

Additionally, the non-family Chief Industrial Designer of *Case B*, Interviewee B1 claims that 90% of innovations are sensed during international fairs through dialogues on branding strategies and sales innovations among firms, design feedback on products, and networking. *Case B* even attends irrelevant fairs for more external knowledge and learn about the global trends.

Moreover, the second-generation family CEO of *Case C*, Interviewee B2 explains that the professional observation is mainly done at fairs where it is possible to see the competition, to get feedback, and to exchange ideas, since they follow a process of observation on what is changing to highlight the tendency.

5.1.1.2 Monitoring trends and international markets, and analyzing changes in industry

Design-intensive FFs monitor trends and international markets via social media and news on the internet rather than traditional media, and through critically analyzing the industry to sense the potential opportunities and act on them. This strategy is mainly supported with the entrepreneurial spirit and vision of the founders in these firms since the innovation success comes with the monitoring and analyzing powers of the founders.

The third-generation family General Manager of Sales and Marketing, Interviewee A2 states that *Case A* carefully analyzes the industry, and finds the gaps to be filled such as (1) transforming craft profession into an engineered industry, (2) adding new specializations to the firm by transferring to wood production when there is no manufacturer in the industry, (3) moving to a new location as the first in the industry,

and (4) integrating design to its business when there is no design awareness in the industry. Additionally, according to second-generation family Chairman of the Board in *Case A*, Interviewee A3, they are aware of whatever happens around the world, follows any update, or change anywhere in the world in seconds and exchanges ideas in real time, rather than reading it from traditional media hours, days or even weeks later.

Additionally, the second-generation family CEO of *Case C*, Interviewee C2 argues the value of monitoring international market and brainstorming through generating platforms of meetings, seminars, exhibitions, and presentations to get necessary information that is inaccessible through research and traditional media. Moreover, *Case C* follows global trends and changes that might affect the profession and business in general, such as (1) predicting the worldwide economic depression and generating the idea of new service offer accordingly, and (2) foreseeing the recent inoperability of multi-storey office buildings and changing the customer target to new shared and rental offices. Lastly, *Case C* monitors the data flow via internet, similar with *Case A*.

On the other hand, the third-generation family Product and Marketing Manager of *Case B*, Interviewee B2 mentions that they carry out a strict control for international markets and their monitoring concentration changes from one market to another, since the global market is quite volatile. It has recently changed from Balkans to Middle East, and from China to Africa.

5.1.1.3 Managing ideas with support of internal and external stakeholders

Design-intensive FFs manage ideas for design and innovation with the help of internal and external stakeholders, including external designers and design teams, in-house designers and design team, external consultancy companies, suppliers, sales team, R&D team, customers, industrial associations, public institutions, dealers/franchises, and all internal family and non-family professionals. Since the families trust in professionals, put non-family professionals in management positions of the firms, and family members are even trained and raised by them, FFs get consultancy and support from all actors.

The second-generation family Chairman of the Board, Interviewee A3 mentions that *Case A* values external designers for providing value-added products, since design briefs mostly arise from external designers' portfolios. For instance, *Case A* (1)

develops a material and turns it into a seating unit together with a foreign design team, (2) receives technical consultancy and support for mold needed for a product design and (3) gets proposals for product revision ideas from material suppliers. Additionally, in-house design team in *Case A* makes revisions on designs offered by external designers according to the production technologies. Moreover, sales team sends sales reports and customers feedbacks about lack of tables with adjustable height, products not sold for several years, products with high prices, lack of varied sized coffee tables, dimension alternatives for meeting tables, and lack of modular tables, to R&D team and to all internal actors. Lastly, industrial associations and public institutions act as external resources of information and ideas related with unfair competition, government regulations, and industry conditions.

Additionally, the third-generation family Product and Marketing Manager of *Case B*, Interviewee B2 states that after-sales unit collects the feedback and comments from the dealers about existing products. *Case B* sends new design ideas to the dealers, their main customers. The architects and salespeople in the dealers review the products through the system, get the accordingly revised prototypes with their original packages. unpack and assemble them, and then send the final comments. Design specialists in Turkey and abroad (e.g., architects, industrial designers), dealer acquaintances in Turkey and abroad, and professionals in the firm (e.g., bosses, marketing director, design department, product management) are other providers of support. However, *Case B* believes that opportunity for innovation is mainly generated within the firm from internal resources through know-how, and experience, thus even a smallest contribution and idea sharing is valued. Interviewee B2 mentions the significance of dynamic interplay of knowledge in and outside the firm, even from another industry such as a multinational household appliances manufacturer or a e-commerce platform for valuable information from the stories of successful designs and good marketing skills.

Moreover, the second-generation family Design and Brand Director of *Case C*, Interviewee C1 explains the basic functioning of customer-oriented ideas through sales figures and feedback, transferred from customer to sales, and then to product and process units. In addition to that, they use social channels to review comments on products or services of the firm and make sense of each feedback with all internal staff.

Case C initiates the sense of design ideas by creating a conflict of dialogue with various internal and external actors.

5.1.2 Strategies for seizing opportunities

5.1.2.1 Strengthening production know-how through experience and technological investment

Design-intensive FFs constantly strengthening their production know-how through experience gained over the years and transferred to the generations because of being a family firm in a manufacturing industry, and through technological investment by purchasing machines, training staff, and learning new methods/techniques. This strategy is mainly supported with the holistic knowledge caused by the gradual generational transition in the firm and distributed ability of the family members. The production know-how is also strengthened with the vision of family for idea exchange and knowledge sharing, which lead them to search for alternatives, and to invest in technological advances.

The non-family Corporate Communications and Marketing Director of *Case A*, Interviewee A1 indicates the production know-how of panel production embedded in *Case A* throughout the years leads to the manufacture of innovative acoustic panels and partition wall panels made of felt, recycled from pet bottles. During the growing period of transferring to wood production, *Case A* invests on special machines for post-forming technique and become the pioneer of that technology in Turkey. Then, they learn about the high material of this technique and overcome the challenge gaining a certain know-how after a long trial and error process. Additionally, *Case A* establishes a unique injection molding and casting method during a contract project. When the supplied material cracks during transportation, *Case A* searches for a different approach to make it more durable using a previous know-how with the same material. Lastly, *Case A* recently invests in an energy-saving closed-loop production facility.

Hence, *Case B* gradually grows from a small workshop to a large facility in an industrial area and gains production know-how through experience by making contract manufacturing (making agreement to produce certain products and/or components of product for a certain period as a third-party organization). The non-family Chief Industrial Designer of *Case B*, Interviewee B1 adds that they invest in order and production tracking system, and injection molding and casting machines. Later, they

manage to design and engineer aluminum injection, metal casting, and plastic injection molds, and even to produce low-level mechanisms for their own products. Lastly, *Case B* recently establishes a fully integrated production facility involving mainly management, operation, quality control, and manufacturing of panel, upholstery, and metal. This facility manufactures almost every piece of furniture and product found in any office space.

Similarly, *Case C* gains its production know-how through the experience of manufacturing and selling their own furniture and invests in a closed-circuit integrated production facility as well. Besides, the second-generation family CEO of *Case C*, Interviewee C2 emphasizes the preference of the firm not to outsource and not to put the know-how as an open source because of the threats of imitation by competitors.

5.1.2.2 Establishing design and R&D center for external support

Being in a design-intensive industry, FFs feel the need to establish design and R&D centers since it is supported and regulated by the state. The sampled FFs become the pioneers in furniture manufacturing industry in Turkey, and it is supported by the families' awareness to design.

Case A receives the license of R&D center located at the production facility in 2017, as well as design center located at the headquarters. Design center has a team of interior architects, industrial designers, and forest industry engineers, whereas R&D center has a group of electrical engineer and forest industry engineers, and technicians. For the projects in R&D center, *Case A* applies to TUBITAK and Ministry of Industry for design registrations and necessary patents, or petty patents, that requires several tests, and quality control processes, which then need to be documented and presented in accordance with the state regulations for R&D centers. The third-generation family General Manager of Sales and Marketing, Interviewee A2 mentions that the incentives received from Ministry of Industry for R&D and design center make significant contribution for *Case A*. Thus, they manage to establish an ERP system.

According to the non-family Chief Industrial Designer Interviewee B1, *Case B* has already been working like a design center, fulfilling certain criteria such as number and profession of employees or the scope and significance of the project, before approval by the Ministry of Industry and Technology in Turkey, and inclusion in the *Turquality* program as the formal establishment in 2018.

Similarly, *Case C* two design and R&D centers. The first center located in the production facility currently works more technically (e.g., engineering, production methods), while the second one located in the headquarters of the firm works more towards design (e.g., functionality, form, aesthetics). The second-generation family Design and Brand Director, Interviewee C1 adds that their vision to design, research, and product development is like the functioning of these center.

5.1.2.3 Adopting organic structure for product development

Design-intensive FFs adopt dynamic decision-making processes caused by the entrepreneurial spirit, vision, and design awareness of the founder and transferred to other generations, thus the product development process is structured and organized organically.

The product development process varies in *Case A* mainly according to the team and product group. In-house teams work on an idea proposal, develop it, and start the preparation phase, whereas external teams receive an in-house generated idea (e.g., a renewal for a timely executive set), make proposals, and prepare samples/prototypes for the development phase. The second-generation family Chairman of the Board, Interviewee A3 states that the development structure of innovation is intertwined and difficult to distinguish, since *Case A* develops all types of innovation (e.g., designing a new product, building a new machine park, giving training to the team who market it). On the other hand, *Case A* receives technical support for the development of certain products or materials (e.g., acoustics, plastic, flooring) when it is necessary. Thus, these external stakeholders become strategic partners for material innovations or production technologies. The product development process organically adds or removes certain actors and/or phases.

Similarly, in *Case B*, there is an effective organizational system of organic interaction (e.g., not always via e-mails), informal communication (e.g., unstable meeting schedule), and non-professional decision-making protocol (e.g., final decision mostly by CEO) during product development process. According to non-family Chief Executive Designer, Interviewee B1, the process is managed with an informal and mostly intuitive organizational as well as managerial structure since the fast-decision-making process in a dynamic and informal way allows *Case B* to adapt to change more quickly. Additionally, similar with *Case A*, *Case B* gets external support for technical

analysis and detailing of products from an engineering company, and they make faster and accurate analysis.

Moreover, *Case C* adopts an organic and intuitive structure of product development. The second-generation family CEO, Interviewee C2 explains that the information is taken and shared with a natural flow within the firm in an instinctive way, without following a methodology.

5.1.2.4 Adapting automated system for operation

Design-intensive FFs adapt fully automated operating system to monitor and check all the steps of the operation anywhere anytime since the families require a holistic knowledge of the firm with distributed ability of the members.

Case A has a functioning, fully automated, and online operating system since 2021, where it is possible to enter orders digitally, follow the quantity of produced and awaited orders, and monitor the locations. This system, established with the incentives given by *Turquality* program, requires an enterprise resource planning (ERP) software called SAP. The third-generation family General Manager of Sales and Marketing, Interviewee A2 mentions that this level of automation, without physical servers but only the cloud with all uploaded information, is only reached by German automobile companies or similar institutions. Thus, *Case A* becomes the pioneer of the industry.

On the other hand, the non-family Chief Industrial Designer, Interviewee B1 states that *Case B* cannot fully implement industry 4.0 yet but has an automated system structured within all departments from ordering, to production, and to sales.

Moreover, the second-generation family CEO, Interviewee C2 declares that *Case C* tries to set up the whole system of the firm through a software since 1980s so that any professionals manage the work, and it takes 8 to 10 years for SAP to be set up and operated in practice when they execute that plan.

5.1.2.5 Building corporate brand awareness at international level

Design-intensive FFs aim to build a globally known corporate brand with the entrepreneurial spirit, and design awareness of the families.

With the aim of global awareness, *Case A* makes international sales to Middle East and UK, before the inclusion in *Turquality* program. After being a member of

Turquality program, *Case A* establishes showrooms abroad and begins to raise own brand awareness.

Similarly, *Case B* aims to create brand awareness to compete with international leading brands. During the growing phase of the firm, *Case B* uses the surname of the family for the firm. However, the third-generation family Product and Marketing Manager, Interviewee B2 mentions that the family acknowledges the need to change the name and build a corporate image with the name and the brand, during an international fair, when the family has hard time to communicate with others. Attending international fairs with the new corporate image helps them to be appreciated by both Italian and German firms. Additionally, *Case B* tries to build a corporate brand associated with trust, quality, and affordability at national level since the connotations of brand are expensive and top-level customer target. Besides, *Case B* brand is associated with Eastern culture since 80% of market is share is originated from that region, however in-house designers push to change this perception with contemporary designs mostly derived from Western culture.

Moreover, *Case C* builds its corporate brand through sales stores and showrooms (e.g., first store in London in 2011), making collaborations and partnerships (e.g., plan for being an MNE), and new branding (e.g., easy-read global name).

5.1.2.6 Creating social responsibility projects fit with firm identity

Design-intensive FFs aim to create high-quality and well-designed products, to provide environments to ensure the availability of these products for as many people as possible, and to highlight social responsibility. The families' essential features of awareness and vision of responsibility inherited from the founders support this strategy.

Case A feels responsible about the issues and values related to its own community on a national scale and have initiatives such as art and design magazine, core ideas interactive showroom, and collaboration and/or sponsorships for several events (e.g., talks, exhibitions, seminars, workshops) with the the aim of social responsibility to the industry, to the people, and to the market. Firstly, the third-generation family General Manager of Sales and Marketing, Interviewee A2 talks about a documentary project including a series of short documentaries about local and traditional professions that are about to be forgotten in Anatolia, and *Case A* participates in the international

design biennial with it. Secondly, the art and design magazine is established mainly to give opportunities and provide platform to young designers and newly graduates. Thirdly, *Case A* trains many employees for top-rated firms of the defense industry since the period spent in *Case A* can be considered as a 6-month orientation process and education for newly graduated engineers, where they are introduced with highest technology machines and fully automated operation systems. Finally, *Case A* recently makes an agreement for the eco design project with an international company on the design of green product and green business model, showing the concerns of the firm sustainability.

Similarly, as it is explained by the second-generation family CEO, Interviewee C2, they create social responsibility projects related to the affiliation, life stance, and practices of the family and the firm, otherwise those projects would be “an awkward insertion to any company”. *Case C* establishes a Design Foundation as the vision of the first-generation designer/founder, where studies about the values of Anatolia is done, and the founder contributes most of his time to this foundation. The foundation deals with Eastern provinces and cities in Turkey (e.g., Mardin, Midyat, Şanlıurfa) and many issues related to city plans, residences, requirements for the change, transformation and reconstruction in this region, long-term internal dynamics of these cities, and imbalance in the workforce where women are not involved and do not contribute. The initiatives of this foundation (1) make these women add value to the industry and get both economic and social value in return, (2) hold exhibitions in this region to reveal forgotten or unknown techniques, materials, and/or artists, (3) prepares a project with a panel of judges, who photographs all architectural work in Turkey and present the outcomes with a yearbook of architecture. Apart from these, *Case C* deals with the use of highly recyclable raw materials, products grown in cultural forests rather than trees of natural forests, while designing and manufacturing a product with an ecological vision.

Moreover, the third-generation family Product and Marketing Manager, Interviewee B2 explains that they train the community for open-mind and self-actualization by (1) giving lunch during Ramadan in a very conservative region as the first and only firm in Central Anatolia, (2) self-confidence, self-stance, and speech training for woman workers in the factory, and (3) increasing woman employees' percentage from 10 to 80 in *Case B*.

5.1.3 Strategies for reconfiguring assets and structures

5.1.3.1 Adding new service for e-commerce sales

Design-intensive FFs are willing to add new specializations and make investments for growth and success. Recently, they offer new services of e-commerce sales to manage the demand for furniture sales through internet as a service innovation. This strategy is supported with (1) gradual involvement of new generations of family born to a more digital world balancing and bridging across generations in the firm, (2) vision of idea exchange and entrepreneurial spirit of the family to search for alternative perspectives for future, (3) willingness to change the culture of the firm by breaking habits, and (4) motivation to take risks for innovation investment. Additionally, FFs' decision of renewal and change in business model from B2B to B2C is the result of an envision for the change in economical conditions, the people, and the market, and it is mentioned by all sampled firms.

Case A launches a new service of online sales through the firm's web page in 2021 and adds home furniture production and sales to the services provided by the firm. The non-family Corporate Communications Marketing Director, Interviewee A1 mentions that each product is offered with an assembly setup for the customers with this new service offer and the techniques of production, assembly, and distribution is reviewed to fulfill the needs for this system.

Similarly, the third-generation family Product and Marketing Manager, Interviewee B2 mentions the trend of internet sales changing the way how easily and instantly products are accessed by everyone, *Case B* checks the demand and criteria of selling furniture through e-commerce in both national and international context (e.g., firms offering assembly are mostly preferred), and adapts a strategy to prepare a new e-commerce sales network accordingly for the upcoming years.

Moreover, *Case C* has a vision for tomorrow without factories and conventional production and because of this vision, they are currently constructing an e-commerce system through a newborn brand (e.g., an entirely online home line) with an internal team set up for this proposition. The second-generation family CEO, Interviewee C2 explains that they prepare this system through a renewed firm policy, where they renew the product portfolio with new cost structure, and review the production, assembly, and distribution techniques.

5.1.3.2 Adapting know-how for fully customized product mechanisms

Design-intensive FFs are aware that they need to adapt their production know-how to manufacture fully customized product mechanisms. There is a huge gap and lack of high-level engineering know-how and production quality, especially for office furniture manufacturing industry in Turkey since the crucial pieces of industry such as office chairs and adjustable desk systems cannot be fully manufactured. For instance, the non-family Corporate Communications and Marketing Director of *Case A*, Interviewee A1 declares that an international office furniture company works for at least five years through hundreds of tests and prototypes for an office chair, thus it needs dedication and huge investment. She adds that Turkey, as an emerging market with sub-industry product imitations from unlicensed competitors, economic instability, cost of investment, lack of rights' protection, and lack of vision, fails to have a global and leading office furniture brand. The non-family Chief Industrial Designer of *Case B*, Interviewee B1 additionally states that office chairs are globally the most difficult furniture group in terms of production, design, ergonomic engineering, and supply, thus the firms manufacturing ergonomic office chairs stand out and lead the global market. Thus, the sampled FFs value and invest in radical process innovation for the achievement of this goal.

The non-family R&D director of *Case A*, Interviewee A4 states that demand for customized product mechanisms, which are all imported, would eventually arise in Turkey. Thus, they currently develop a mechanism, apply to Technology and Innovation Support Programs (TEYDEP) offered by TUBITAK for support, and aim to start production as soon as possible.

Similarly, *Case B* prepares to adapt its production to manufacture own fully customized and synchronized product mechanisms and related components and plans to achieve this goal in the next three to five years. Besides, *Case B* gets external support for technical analysis, engineering analysis, and detailing of the products, works with foreign suppliers for product mechanisms (i.e., back frame of an office chair) being one of the rare firms producing own low-level mechanisms.

5.1.3.3 Planning for institutional structure

Design-intensive FFs plan to have an institutional structure with the aim of long-term orientation and keeping the family culture in line with professional rules and

regulations. This strategy is supported with family's essence of generational transition through holistic firm experience and gradual involvement of generations to the firm, and plan for a family constitution to regulate the criteria through systematic engagement and succession of generations.

Case A makes the decision of institutionalization in 2012 and takes professional support from a consulting company. Besides, *Case A* builds a functioning, fully automated, and online operating system as of 2021 and they receive quite high incentives from the state through *Turquality* program during the process of ERP integration (SAP). The third-generation family General Manager of Sales and Marketing, Interviewee A2 claims that *Case A* has quite high level of institutionalization since having SAP without physical servers is the first in the industry and can even compete with German automobile companies. Additionally, *Case A* has an active family constitution, signed in 2012, where unique and customized items are created by family members and the main goal is to structure a merit-based system (e.g., when there is a non-family professional member who is more equipped for the same position than a family member, the firm prefers the professional). With the same goal in mind, the agreement supports the long-term and holistic experience of upcoming generations (e.g., family members must start working in the firm before the end of their education).

The third-generation family Product and Marketing Manager, Interviewee B2 states that *Case B* feels the need and necessity of some criteria and regulations through succession of generations, since the fourth-generation involvement is in progress. Besides, the non-family Chief Executive Designer, Interviewee B1 mentions that even the family plans to become more institutionalized, there are still certain habits and established cultures (e.g., organic product development structure, non-structured system of innovation generation and dynamic decision-making process) hard to change and transform. However, he adds that the willingness of the family to increase the abilities of the firm despite the risk of losing the steady position in the market would realize this plan in near future.

The second-generation family Design and brand Director, Interviewee C1 claims that they have a progressing institutional structure, where they include non-family professionals at all levels of the firm (e.g., board of directors with two non-family members, executive board with all non-family members). In addition to that, *Case C*

plans to involve non-family professionals in the ownership and management of the firm as shareholders. Moreover, *Case C* plans to be a corporate company since the beginning of 1980s, when this institutionalization process starts with the use of SAP for an automated system for the whole operation, including MRP, production, sales, and marketing. Even though *Case C* has an order in practice involving both written and unwritten rules, they make certain studies about rules and regulations of family engagement in the firm and is currently supported by a global consulting firm (i.e., Ernst & Young) for the family contract with the aim use it for the succession of third generation. Lastly, the second-generation family CEO, Interviewee C2 reveals that they plan to have a full institutionalized structure that can be managed by any professional, however this plan might not be executed 100% because of the family involvement with own *color and taste*.

5.1.3.4 Changing business model for innovation

Design-intensive FFs feel the need to change their business models throughout the establishment, growth, and development of the firm to manage and achieve innovation for competitive advantage, especially in an emerging market where demands, needs, and economical conditions are constantly changing. Starting from the entrepreneurial spirit of the founders and integration of design awareness in the firms, the motivation to invest in innovation and to take risks supports this strategy of sampled firms. Besides, the integration of more diverse-educated generations of families leads this change in business models of the firms. Additionally, the online sales channel added to the B2C model of the FFs is considered as transformation of business model, which is an example of disruptive innovation, as it is stated by the second-generation family CEO of *Case C*, Interviewee C2.

From the establishment of the firm, *Case A* has a retailing business model. With the development of production because of the entrepreneurial spirit of the founder, *Case A* additionally forms two business models and customer profiles: (1) projects with public institutions through tender, and (2) contract projects with architecture/construction companies. Since the adoption of design, marketing, and corporate communication awareness almost 12 years ago, they restructure the business model with designed, value-added, and quality products for private sector. Thus, previously public-oriented business model changed to a more private-oriented one. At

the same time, *Case A* is an industry manufacturer for over 60 years with a continuous and highest ratio of investment in production, however the business model recently has more evenly distributed investment plan. The third-generation family General Manager of Sales and Marketing, Interviewee A2 explains this revision with the following statement: the investment for all innovation types, including (1) marketing through corporate communication and social responsibility, (2) organization through structure and system, (3) product together with service, and (4) production processes through technology and engineering becomes equally crucial for success and competitive advantage. The business model recently involves a global brand initiative through a strategic partnership with a German company, where *Case A* integrates its own patented material (i.e., a nano-technological fabric) to various furniture in collaboration with this company and sells this furniture in foreign markets (i.e., Germany, The Netherlands, UK). Additionally, *Case A* makes a recent agreement for an eco design project with an international company to design green products with a green business model.

Similarly, during the growing phase of *Case B*, the business model is changed from kitchen to office furniture production because of the personal experience of the actual founding generation of the firm. The reason for that reconfiguration is the individual concern and opinion of second-generation family CEO, when he faces the challenges of anger and complaints directly from the end-users (e.g., housewives). Even though this entrepreneurial generation of three brothers are not educated, they make crucial decisions for survival and growth through experience and tacit knowledge. Additionally, *Case B* previously has a business model with a sales network of 300 to 600 dealerships as sales points. However, later, at the beginning of 2000s, *Case B* renews this model with a new franchise system of 60 exclusive concept stores. The third-generation family Product and Marketing Manager, Interviewee B2 explains that the decision is to restructure the dealers as franchises to sell *Case B* products exclusively through the vision of building a corporate brand and design awareness.

On the other hand, since *Case C* has a designer/founder, they internalize a design management structure in their business model, as the second-generation family Design and Brand Director, Interviewee C1 defines as “looking at management through the eyes of a designer”. This structure does not have a hierarchical order (i.e., vertical from top to bottom), otherwise has an interdynamic structure with horizontal connections

(i.e., strong inter-departmental and inter-administrative ties). For instance, the internal communication operation of *Case C* has a loop structure rather than a top-down one, where there is a constant dialogue, idea exchange, and knowledge sharing among all actors. The second-generation family CEO, Interviewee C2 calls this communication model *de-departmentalization*, where communication department is listening rather than speaking, built around a Hungarian proverb: “Why do we have one mouth and two ears? Because we need to listen twice as much as we speak”. This dynamic communication structure is also adopted by *Case C* brand and changes how it communicates with the customers. The brand’s new feature – as a part of the business model – of listening people, making sense of what they say, and reflecting this to its work leads to product innovation.

5.2 The Role of Design on Family Firm’s Dynamic Innovation Capabilities

This study explores the role of design on FFs’ DICs and how it contributes to this development process (Research Question 3). The findings from the case study FFs reveal three roles of design that contribute to these capabilities.

These are (1) idea generation through external resources; (2) value addition through high-quality products; (3) vision accumulation through the founder.

5.2.1 Idea generation through external resources

In design-intensive FFs, the ideas for innovation are generated mainly through collaboration approaches with external resources (Dell’Era and Verganti, 2010; Magistretti et al, 2019). These external resources include external designers/architects, technical consultancy companies, customers, industrial associations, public institutions, internet data, industry, international companies/markets, suppliers, dealers/franchises, and fairs. In contrast to the widely mentioned attitude of being close to external environment (Cassia et al, 2011, 2012; Bennesen and Foss, 2015; Chrisman et al, 2015), the FFs can make continuous market and technology search through the strategy of long-term orientation (Bergfeld and Weber, 2011). Since FFs have the goal of long-term orientation (Cassia et al, 2011, 2012; Kammerlander and Ganter, 2015), they keep the connections with internal and external stakeholders (Miller et al, 2015), and trust all professionals to receive the skills and knowledge needed to innovate (Garcia and Calantone, 2002).

This role of design contributes to the following strategies for *sensing* opportunities: visiting fairs for design feedback and idea exchange (Section 5.1.1.1), monitoring trends and international markets, and analyzing changes in industry (Section 5.1.1.2), and managing ideas through support of internal and external stakeholders (Section 5.1.1.3).

5.2.2 Value addition through high-quality products

The value addition of design-intensive FFs is through offering high-quality products. To achieve this goal, FFs mainly invest in production technologies and make process innovations, which is very significant in emerging markets since production and product/service grow in parallel (Gupta and Gupta, 2019). They constantly strengthen their production know-how through technological investment by purchasing machines, training staff, and learning new methods/techniques. Additionally, FFs invest in R&D projects and establish design and R&D centers for highly-engineered and well-designed products, even though most FFs avoid these investments (Block, 2012; Chen and Hsu, 2009; Chrisman et al, 2012; Kotlar et al, 2013) since the financial risk is reduced with the support and additional incentives from several initiatives of the state (e.g., Ministry of Industry, TUBITAK, TEYDEP).

This role of design contributes to the following strategies for *seizing* opportunities: strengthening production know-how through experience and technological investment (Section 5.1.2.1), (2) establishing design and R&D center for external support (Section 5.1.2.2), adopting organic structure for product development (Section 5.1.2.3), adapting automated system for operation (Section 5.1.2.4); and following strategy for *reconfiguring* assets and structures: adapting know-how for fully customized product mechanisms (Section 5.1.3.2).

5.2.3 Vision accumulation through the founder

The vision of design-intensive FFs are related to the educational status, and personality traits of the founder, also named “founder effect” (Kellermanns, 2012), since the founders are essentially entrepreneurs (Salvato, 2004). Having a non-educated but experienced founder has different effects on FFs than having a design-educated founder. FF with a design-educated founder has design awareness embedded in the firm since the foundation, where the founder shows a strong business vision, imposes his specific opinions, and acts as the captain of the firm. Besides, the position of the

founder as the captain continues even after the involvement of second generation. Whereas FF with non-educated but experienced founder integrates design to the firm in later stages with the involvement of second and third generations with diverse educational backgrounds (e.g., architecture, business, economy, engineering) and positioned in the management of the firm where the founder stays in the governance as a consultant and active decision-maker only for radical changes.

This role of design contributes to the following strategies for *seizing* opportunities: building corporate brand awareness at international level (Section 5.1.2.5), creating social responsibility projects fit with firm identity (Section 5.1.2.6); and following strategies for *reconfiguring* assets and structures: (Section 5.1.3.1) adding new service for e-commerce sales, (Section 5.1.3.3) planning for institutional structure, (Section 5.1.3.4), and changing business model for innovation.

5.3 General Discussion

Scholars from multidisciplinary backgrounds have examined dynamic capabilities, familiness, organizational learning, and knowledge sharing based on innovation management capabilities of FFs with a strong global presence (De Massis et al, 2022; Karagouni, 2018). Since the findings of the studies to reveal positive and negative associations between family firms and innovation are inconclusive and limited (Duran et al, 2016), and FB literature lacks empirical support for various opposing theoretical frameworks (Zahra, 2016), it is significant to explore good practices and approaches to innovate more successfully, and compete on international markets (Urbinati et al, 2017) through a qualitative methodology that is not used in its full potential (Feltcher et al, 2016). Moreover, although it is widely acknowledged that FFs have a strong presence in design-intensive industries, and that the family members are highly involved in innovation decisions and activities (Dalpiaz et al, 2014), prior literature lacks the knowledge on how unique characteristics of family affects dynamic capabilities and thus influence innovation processes. Therefore, this study aims to examine the innovation strategies and capabilities of design-intensive FFs in an emerging market context.

Firstly, the strategies of design-intensive FFs to manage innovation in an emerging market are explored (Research Question 1). These strategies and their decision-making processes are analyzed through the development of DICs and how they are affected by

familiness (Research Question 2). The findings from the multiple-case study with three FFs operating in office-furniture manufacturing industry in Turkey reveal thirteen recurring behaviors that are crucial for competitive advantage through successful innovation management (Section 5.1).

The discussion on strategies for *sensing* opportunities is below:

Visiting fairs for design feedback and idea exchange: Design-intensive FFs sense new opportunities for innovation, get design feedback, and exchange ideas by visiting national and international industrial fairs. This strategy is supported with the vision of constant dialogue, idea exchange and knowledge sharing, and dynamic decision-making process adopted by the firms. Since the family maintains the ownership and control of the firm (Cassia et al., 2011; Gomez-Mejia et al, 2014; Kammerlander and Ganter, 2015), it provides collective orientation in the firm (Cassia et al, 2011, Chirico and Salvato, 2016) to a vision of dialogue, exchange of ideas and knowledge sharing. Additionally, the dynamic decision-making process resulting from the informal but effective structures (Daily and Dollinger, 1992) and the behavior to favor independency (Gomez-Mejia et al, 2007) of the family, lead to the search of new ideas from several external sources such as international fairs.

Monitoring trends and international markets and analyzing changes in industry: Design-intensive FFs monitor trends and international markets via social media and news on the internet rather than traditional media, and through critically analyzing the industry to sense the potential opportunities and act on them. This strategy is mainly supported with the entrepreneurial spirit and vision of the founders in these firms since the innovation success comes with the monitoring and analyzing powers of the founders. Since the family's high ability to innovate is influenced by family members as successors and their choices (Grundström et al, 2012) and this influence grows as the firm evolves (Mitchell et al, 2003), family members assess the emerging trends and modify organizational actions if necessary (De Massis et al, 2015). In contrast to the widely mentioned attitude of being close to external environment (Cassia et al, 2011, 2012; Bennedsen and Foss, 2015; Chrisman et al, 2015), the FFs can make continuous market search through the strategy of long-term orientation (Bergfeld and Weber, 2011).

Managing ideas through support of internal and external stakeholders: Design-intensive FFs manage ideas for design and innovation with the help of internal and external stakeholders, including external designers and design teams, in-house designers and design team, external consultancy companies, suppliers, sales team, R&D team, customers, industrial associations, public institutions, dealers/franchises, and all internal family and non-family professionals. Since the families trust in professionals, put non-family professionals in management positions of the firms, and family members are even trained and raised by them, FFs get consultancy and support from all actors. Since FFs have the goal of long-term orientation (Cassia et al, 2011, 2012; Kammerlander and Ganter, 2015), they keep the connections with internal and external stakeholders (Miller et al, 2015), and trust all professionals to receive the skills and knowledge needed to innovate (Garcia and Calantone, 2002).

The discussion on strategies for *seizing* opportunities is below:

Strengthening production know-how through experience and technological investment: Design-intensive FFs constantly strengthening their production know-how through experience gained over the years and transferred to the generations because of being a family firm in a manufacturing industry, and through technological investment by purchasing machines, training staff, and learning new methods/techniques. This strategy is mainly supported with the holistic knowledge caused by the gradual generational transition in the firm and distributed ability of the family members. The production know-how is also strengthened with the vision of family for idea exchange and knowledge sharing, which lead them to search for alternatives, and to invest in technological advances. Since FFs have the ability of discretion to act as a driver of family governance (Chrisman et al, 2015) and family members feel close to the firm (De Massis et al, 2015; Chirico and Salvato, 2016) through holistic firm experience, the family show commitment to strengthen the production know-how of the firm. To achieve this goal, FFs invest in production technologies and make process innovations. As it is highlighted by Gupta and Gupta (2019), process innovation is very significant in emerging markets since production and product/service grow in parallel.

Establishing design and R&D center for external support: Being in a design-intensive industry, FFs feel the need to establish design and R&D centers since it is supported and regulated by the state. The sampled FFs become the pioneers in furniture manufacturing industry in Turkey, and it is supported by the families' awareness to

design. Since it is widely accepted by FB innovation literature, FFs mostly avoid R&D investments (Block, 2012; Chen and Hsu, 2009; Chrisman et al, 2012; Kotlar et al, 2013) due to risk-aversion (De Massis et al, 2015). However, few studies show R&D investments in FFs due to less financial risk (Asaba, 2013), long-term survival (Le Breton-Miller and Miller, 2006) and long-term orientation (Chrisman and Patel, 2012). This study reveals that FFs highly invest in design and R&D when they are financially supported.

Adopting organic structure for product development: Design-intensive FFs adopt dynamic decision-making processes caused by the entrepreneurial spirit, vision, and design awareness of the founder and transferred to other generations, thus the product development process is structured and organized organically. Similarly, De Massis et al. (2015) mention that FFs are highly independent in decision-making and have unorganized and informal structures, when they develop product innovations.

Adapting automated system for operation: Design-intensive FFs adapts fully automated operating system to monitor and check all the steps of the operation anywhere anytime since the families require a holistic knowledge of the firm with distributed ability of the members. This strategy can be considered as the behavior of family to maintain control of the firm (Cassia et al, 2011; Gomez-Mejia et al, 2014) and to have monitoring power over the actors in the firm (De Massis et al, 2016).

Building corporate brand awareness at international level: Design-intensive FFs aim to build a globally known corporate brand with the entrepreneurial spirit, and design awareness of the families. In addition to the influence of the founder's entrepreneurial spirit growing as the firm evolves (Mitchell et al, 2003), following generations boost innovation (Hillebrand, 2019) and act as catalyst of revolutionary change (Kotlar and De Massis, 2013) by integrating corporate brand as well as design awareness is integrated in the firm.

Creating social responsibility projects fit with firm identity: Design-intensive FFs aim to create high-quality and well-designed products, to provide environments to ensure the availability of these products for as many people as possible, and to highlight social responsibility. This strategy is supported with the founders' vision of creating trust and strong social networks (Bennedsen and Foss, 2015) not only within the firm but also with the environments outside the firm including industry, society, national and

international markets. This non-financial strategy of FFs is considered as identity and reputation dimension of their socioemotional wealth (SEW), which includes the value related with the identification of the firm and its influence over the community (Gomez-Mejia et al, 2007).

The discussion on strategies for *reconfiguring* assets and structures is below:

Adding new service for e-commerce sales: Design-intensive FFs are willing to add new specializations and make investments for growth and success. Recently, they offer new services of e-commerce sales to manage the demand for furniture sales through internet as a service innovation. This strategy is supported with the gradual involvement of new generations of family born to a more digital world balancing and bridging across generations in the firm (Carvalho and Williams, 2014; Hillebrand, 2018; Kotlar and De Massis, 2013), and the vision of idea exchange and entrepreneurial spirit of the family to search for alternative perspectives for future (Mitchell et al, 2003). Additionally, the willingness to change the culture of the firm by breaking habits (Chrisman et al, 2015) and the motivation to take risks for innovation investment are seen in this strategy of FFs, in contrast to the conservatism and risk-aversion behaviors of the families (Cassia et al, 2011, 2012; De Massis et al, 2015). Since Additionally, FFs' decision of renewal and change in business model from B2B to B2C is the result of an envision for the change in economic conditions, the people, and the market (Bergfeld and Weber, 2011).

Adapting know-how for fully customized product mechanisms: Design-intensive FFs are aware that they need to adapt their production know-how to manufacture fully customized product mechanisms. There is a huge gap and lack of high-level engineering know-how and production quality, especially for office furniture manufacturing industry in Turkey since the crucial pieces of industry such as office chairs and adjustable desk systems cannot be fully manufactured. For instance, the non-family Corporate Communications and Marketing Director of Case A, Interviewee A1 declares that an international office furniture company works for at least five years through hundreds of tests and prototypes for an office chair, thus it needs dedication and huge investment. She adds that Turkey, as an emerging market with sub-industry product imitations from unlicensed competitors, economic instability, cost of investment, lack of rights' protection, and lack of vision, fails to have a global and leading office furniture brand. The non-family Chief Industrial

Designer of *Case B*, Interviewee B1 additionally states that office chairs are globally the most difficult furniture group in terms of production, design, ergonomic engineering, and supply, thus the firms manufacturing ergonomic office chairs stand out and lead the global market. Thus, FFs value and invest in radical process innovation with the aim of long-term survival and sustainability of the firm and the business (Le Breton-Miller and Miller, 2006).

Planning for institutional structure: Design-intensive FFs plan to have an institutional structure with the aim of long-term orientation and keeping the family culture in line with professional rules and regulations. This strategy is supported with family's essence of generational transition through holistic firm experience and gradual involvement of generations to the firm, and plan for a family constitution to regulate the criteria through systematic engagement and succession of generations. Considering these features, this strategy is the result of FFs non-financial goals of transgenerational control as a part of its SEW (Gomez-Mejia et al, 2007), and long-term orientation (Cassia et al, 2011, 2012; Kammerlander and Ganter, 2015).

Changing business model for innovation: Design-intensive FFs feel the need to change their business models throughout the establishment, growth, and development of the firm to manage and achieve innovation for competitive advantage, especially in an emerging market where demands, needs, and economic conditions are constantly changing. Starting from the entrepreneurial spirit of the founders and integration of design awareness in the firms, the motivation to invest in innovation and to take risks supports this strategy of sampled firms. Besides, the integration of more diverse-educated generations of families leads this change in business models of the firms. As a result of this, family succession can be considered an opportunity for renewal and to find a better fit for the organization (Rondi et al, 2019), since new generations have the capability to change the stabilized business models (Kotlar and De Massis, 2013). Additionally, the online sales channel added to the B2C model of the FFs is considered as transformation of business model, which is an example of disruptive innovation, as it is stated by the second-generation family CEO of *Case C*, Interviewee C2. Therefore, FFs are able to make continuous market and technology search through the strategy of long-term orientation (Bergfeld and Weber, 2011), and take risks through a diverse perspective (Gomez-Mejia et al, 2007; Zahra, 2005).

Secondly, the role of design on FFs' DICs and how it contributes to this development process is explored (Research Question 3). The findings from the case study reveal three roles of design that contribute to these capabilities. These are (1) *idea generation through external resources*; (2) *value addition through high-quality products*; (3) *vision accumulation through the founder*. The findings and related discussion on *role of design* is presented in Section 5.2.

Additionally, the summary of innovation outputs of sampled design-intensive FFs shows high number of design registries (i.e., an average of 130 national and 32 international design registries), design awards (i.e., an average 35 awards in 10 years), and utility models (i.e., an average of 18 registered models), whereas few number of patents (i.e., an average of 3 registries) (Table 5.1). Since there are mixed findings on the association of family involvement with innovation outputs (De Massis et al, 2013), this study similarly has paradoxical conclusions. Even though FFs have few number of patents and are late adopters to discontinuous technology with radical or disruptive innovation compared to developed markets (Chin et al, 2009; König et al, 2013), they make fast decisions, implement technology, reconfigure their assets for various product, process, business model, and marketing innovations, and become pioneers in an emerging market context in a 10-year time (for details, see Chapter 4). Additionally, the findings show a continuous emphasis on process innovation, since it is very significant in emerging markets, where production and product/service grow in parallel (Gupta and Gupta, 2019; Zahra and George, 2002). The findings of this study additionally reveal that product innovation is still in the initial stages of emergence, since Gupta and Gupta (2019) mention the increasing attention given to product innovation in the manufacturing industries of emerging markets.

Table 5.1 : Summary of innovation outputs of case companies (Author).

	CASE A	CASE B	CASE C
<i>Branding</i> (Turquality National Brand-building Program, Ministry of Trade)	. Turquality program (2017)	. Turquality program (2008)	. Turquality program (2010)
<i>R&D Center</i> (Ministry of Industry and Technology - MIT)	. 1 R&D center (2017)	. 1 R&D center (2018)	. 2 R&D centers (2017, 2019)
<i>Design Center</i> (MIT)	. 1 Design center (2017)	. 1 Design center (2018)	. 2 Design centers (2017, 2019)
<i>National Patents</i> (Turkish Patent and Trademark Office - TPTO, MIT)	. 3 Patents . 9 Utility models (since 2017)	. 1 Patent . 32 Utility models (since 2007)	. 5 Patents . 13 Utility models (since 2006)
<i>National Design Registries</i> (TPTO, MIT)	. 84 Designs (since 2006)	. 115 Designs (since 2000)	. 198 Designs (since 1999)
<i>National Trademarks</i> (TPTO, MIT)	. 5 Registries (1999, 2011, 2015, 2016)	. 9 Registries (1995, 2011, 2014, 2020, 2021)	. 5 Registries (2003, 2010, 2011, 2013, 2014)
<i>International Patents</i> (WIPO, United Nations - UN)	-	. 1 Patent (2012)	-
<i>International Design Registries</i> (WIPO, UN)	-	. 12 Designs (2011)	. 84 Designs (2002 – 2018)
<i>International Trademarks</i> (WIPO, UN)	2014, 2016, 2020	2004, 2007, 2008, 2010, 2014, 2016	2000, 2012, 2015, 2016
<i>National and International Awards</i> (Design Turkey, Red Dot, IF, Good Design, German Design)	. 50 Awards (2010 – 2020)	. 20 Awards (2010 – 2020)	. 40 Awards (2007 – 2019)
<i>Production Facility</i>	60.000 m2	140.000 m2	84.000 m2
<i>Certificates</i> (Turkish Standards Institution - TSI, Leadership in Energy and Environmental Design - LEED, TÜV Rheinland, etc.)	. TS EN ISO 9001 – Quality Management . TS EN ISO 14001 – Environment Management . TS ISO/IEC 27001 – International Information Management . TS EN ISO 50001 – Energy Management System . TS ISO 10002 – Customer Satisfaction Management System . TS 18001 – Occupational Health and Safety Management	. TS EN ISO 9001 – Quality Management . TS EN ISO 14001 – Environment Management . TS 18001 – Occupational Health and Safety Management . Greenguard GOLD . TÜV Rheinland-GS Mark – German Product and Equipment Safety . US Patent and Trademark Office – Trademark, Service Mark, Principal Register	. TS EN ISO 9001 – Quality Management . TS EN ISO 14001 – Environment Management . TS ISO/IEC 27001 – International Information Management . TS EN ISO 50001 – Energy Management System . TS ISO 10002 – Customer Satisfaction Management System . TS 18001 – Occupational Health and Safety Management

Additionally, this study involves expert interviews to present the overview of the theoretical and contextual themes to complement the literature review, the insights of the experts on the local and national conditions of the industry and the market, and the additional data on the sampled cases. The main results from the analysis of the expert interviews are presented below:

Expert 1 (E1) is an industrial designer and a family firm partner from the founding company of the industry with at least 35 years of experience. According to E1, the industry in Turkey progresses through hiring machines due to high cost, financial strategies due to economic instability, individual effort with external support, being eager to invest despite high risk, visionary and futuristic strategies. The main feature of the industry is lack of quality production. The firms face low-cost labor, challenges MNEs entering market, lack of materials due to lack of demand, challenges in production quality with the beginning of market trade, and statistics out of reach. The emerging market of Turkey lacks holistic approach to production and lack of free trade agreements, compared to developed markets.

Expert 2 (E2) is an industrial designer and a marketing manager working in and with case study firms with more than 10 years of experience. According to E2, the industry in Turkey progresses through emerging of raw material supplier leading to development of machinery and industry, and supplier support for product development. The main feature of industry is the interplay between family bosses and designers. The emerging market of Turkey works with organic and personal relationships rather than systematic framework. The firms are resistant to change and unwilling to invest.

Expert 3 (E3) is an industrial designer working externally with all case study firms with almost 25 years of experience. According to E3, the industry in Turkey progresses through lack of product offerings and without design, and more systematic and corporate structure. The main features of industry are no design perception, resistance to change due to financial risk, low trust to designers, and resistance to designed products. The emerging market of Turkey has alternative innovation types such as process innovation due to economic instability and political conflicts.

Expert 4 (E4) is the general secretary of a national industrial association with more than 10 years of experience. According to E4, the industry progresses through strong export, low international visibility, low sectoral data accessibility and verification, metal and wood production, state supply office leading the firms, and professional support for structuring and institutionalization. The main weaknesses of industry are standardization, institutionalization, R&D and design, qualified staff, training, and university collaborations. The main threats of industry are funds, raw material cost, state supply office versus private customer profile, and tax. The main opportunities of

industry are association support, collaboration, coordination, and support of government.

As a summary of the expert opinions and the case study findings, it is revealed that the emerging market of Turkey lacks a systematic framework with economic instability and without unprotected as well as predefined rules, and pushes the Turkish family firms (FFs) to seize opportunities asymmetrically in various organic ways. Turkish FFs use their informal relationships to ask for support, to get incentives, to gain tenders, and to access confidential information. This *social capital* – defined by Pearson et al. (2008) and Zellweger (2017) – of Turkish FFs related with network-based relationships and their unique attributes (Pearson et al, 2008; Zellweger, 2017) creates an articulated diversification with value creation as the finding of Chirico et al. (2012) and leads to successful dynamic capabilities (DCs) as the finding of Chirico and Salvato (2008). This result gained by a higher family social capital cannot be found in advanced markets because there is the issue of know-how as a dynamic capability. In these markets, if FFs do not develop this capability quickly, they would be eventually wiped out from the competition. Whereas the Turkish FFs can maintain their positions and hinder competition thanks to their access to different resources through various mechanisms. For instance, some FFs can enter the state tenders while the others cannot with their personal connections and insider acquaintances. The market has its own informal rules working through a social capital logic and formulized so that not every FF has access. This finding can be seen as the counterpart of the concept of *heterogeneity* in FB literature related with unique features of FFs (e.g., Chrisman et al, 2015; Chua et al, 2012; De Massis et al, 2014).



6. CONCLUSIONS

This chapter presents the findings from three case studies connecting them with the aim of the study and discusses the contributions to literature. Section 6.1 focuses on the major conclusions of this study revealing the findings in relation to the research questions and themes/theories from literature. Section 6.2 presents the contributions to knowledge elaborating the interdisciplinary approach and significance of the study. Section 6.3 discusses several implications and recommendations of the study for design practitioners and managers, while Section 6.4 explains the limitations in the scope and implementation period of the study and gives several directions for future studies.

This study aims to explore the strategies of design-intensive family firms to manage innovation, the effect of *familiness* – unique resources and capabilities of a firm resulting from family involvement – on this process, how these strategies change in the business environment of an emerging market through a *dynamic innovation capability* (DIC) perspective – analyzing firm's processes of using resources to adapt to market change, capacity to sense/shape and seize opportunities, and to orchestrate resource manipulation by reconfiguring/transforming, and how design acts as an innovation driver and contributes to the development of these dynamic innovation capabilities (DICs). Thus, this study adopts empirical research, a multiple-case study with three design-intensive FFs operating in office furniture manufacturing industry in Turkey.

The three aims of the study are listed below:

- The first aim is to *explore the strategies of innovation management in design-intensive FFs operating in an emerging market*. These strategies are obtained by analyzing the familiness dimensions (involvement, essence, organizational identity), DICs (sensing, seizing, reconfiguring) of the firms, and the effect of familiness in the development of DICs.

- The second aim is to *understand how the strategies and its related capabilities (DICs) of design-intensive FFs change in the business environment of an emerging market.*
- The third aim is to *reveal the role and contribution of design to the strategies and related capabilities (DICs) of design-intensive FFs.*

The conclusions of this study contribute to the growing research on innovation in family firms (FFs) by studying design-intensive organizations' efforts to discover and manage new product and/or service opportunities and to make improvements to existing processes and systems (Cooper and Kleinschmidt, 1987) through a dynamic innovation capability (DIC) perspective and the effect of familiness to this process. Therefore, the findings propose strategic approaches to family managers, manufacturers, and design practitioners, aiming to provide and maintain competitive advantage through successful innovations in a design-intensive industry.

6.1 Major Conclusions

This study examines the innovation strategies and capabilities of design-intensive FFs in an emerging market context. Innovation strategies of three FFs operating in office-furniture manufacturing industry in Turkey are investigated as cases of this study. In this multidisciplinary study, two main themes are used from FB and innovation literature. *Familiness* theory from FB literature and its three dimensions are used to understand the resources of family involvement in these firms. *Dynamic innovation capability* framework from innovation management literature and its three forms are used to examine these firms' processes of using resources to sense and seize opportunities, and to reconfigure assets and structures in a changing business environment, an emerging market context.

Firstly, the *strategies* of design-intensive FFs to manage innovation in an emerging market are explored (Research Question 1). These strategies and their decision-making processes are analyzed through the development of DICs and how they are affected by familiness (Research Question 2). The findings from the multiple-case study reveal thirteen recurring behaviors that are crucial for competitive advantage through successful innovation management. These recurring behaviors are categorized into three types of strategy. The first type are three strategies for *sensing* opportunities: (1)

visiting fairs for design feedback and idea exchange, (2) monitoring trends and international markets, and analyzing changes in industry and business, (3) managing ideas through support of internal and external stakeholders. In the second type, there are six strategies for *seizing* opportunities: (1) strengthening production know-how through experience and technological investment, (2) establishing design and R&D center for external support, (3) adopting organic structure for product development, (4) adapting automated system for operation, (5) building corporate brand awareness at international level, (6) creating social responsibility projects fit with firm identity. In the final type, there are four strategies for *reconfiguring* assets and structures: (1) adding new service for e-commerce sales, (2) adapting know-how for fully customized product mechanisms, (3) planning for institutional structure, (4) changing business model for innovation.

Secondly, the *role of design* on FFs' DICs is explored and its contribution to this development process (Research Question 3). The findings from the case study reveal three roles of design that contribute to these capabilities. These are (1) idea generation through external resources, (2) value addition through high-quality products, and (3) vision accumulation through the founder.

These three findings on the *role of design* highlight the interaction between design and innovation practices of FFs and provide insights on how a family-owned and -managed manufacturing company operating in a design-intensive industry could achieve innovation in an emerging market. Firstly, for *sensing* innovation opportunities, the collaborative approach to idea generation through external sources is used. Secondly, for *seizing* innovation opportunities, the value addition is achieved with high-quality products often through investment in production technologies and process innovations, and rarely through investment in R&D, design, and product innovations. Thirdly, for *reconfiguring* assets and structures, the vision for innovation is adopted through the founder, mainly related to the educational status and personality traits.

Additionally, the findings show that FFs have a continuous emphasis on process innovation, and the case study reveals that product innovation in these firms is still in the initial stages of emergence as being in a manufacturing industry in an emerging market. However, the focus is shifting from production to product and service offerings in line with the integration of design to the firms.

Consequently, the strategies revealed as recurring behaviors provide insights for manufacturers, family managers, and design professionals aiming to pursue opportunities for innovation; and propose a guideline for newly established manufacturing firms in a design-intensive industry (e.g., furniture, lighting, kitchenware) or for first-generation FFs, from an emerging market. The following are critical for innovation: (1) for *sensing* opportunities, being open and critical to external environment and new ideas, (2) for *seizing* opportunities, having production know-how, controlled operation, organic product development, corporate identity, and social awareness, and (3) for *reconfiguring* assets and structures, being adaptive to technology, willing to change, and continuous learners of new ideas.

The findings from cross-case analysis and their relationship with the research questions of this study is displayed in Figure 6.1.



Research Questions	Findings from Cross-case Analysis		
RQ1: . strategies of design-intensive family firms (FFs) to manage innovation in an emerging market	Strategies for sensing opportunities: 1. visiting fairs for design feedback and idea exchange 2. monitoring trends and international markets, and analyzing changes in industry and business 3. managing ideas through support of internal and external stakeholders	Strategies for seizing opportunities: 1. strengthening production know-how through experience and technological investment 2. establishing design and R&D center for external support 3. adopting organic structure for product development 4. adapting automated system for operation 5. building corporate brand awareness at international level 6. creating social responsibility projects fit with firm identity	Strategies for reconfiguring opportunities: 1. adding new service for e-commerce sales 2. adapting know-how for fully customized product mechanisms 3. planning for institutional structure 4. changing business model for innovation
RQ1a - familiness dimensions RQ1b - dynamic innovation capabilities (DIC) RQ1c - effect of “familiness” on “DICs”			
RQ2: . change in DICs			
RQ3: . contribution of design to DICs	Role of design on FFs DICs: 1. idea generation through external resources 2. value addition through high-quality products 3. vision accumulation through the founder		

Figure 6.1 : Research questions and findings of the study (Author).

6.2 Contributions to Literature

This study contributes to the growing research on innovation in family firms (FFs) by studying the effect familiness in a business organization on managing innovation, a design-intensive organization's efforts to discover and manage new product and/or service opportunities and to make improvements to existing processes and systems (Cooper and Kleinschmidt, 1987) through a dynamic innovation capability (DIC) perspective.

This study provides contributions the following areas of literature:

- First, it contributes to *family business research* by deepening our understanding on the effect of familiness to innovation strategies and behaviors.
- Second, this study contributes to *innovation management* research by revealing the strategies and recurring behaviors of FFs to manage innovation.
- Third, this study contributes to *dynamic capability* perspective used to analyze the innovation strategies and behavior of FFs. Thus, it recognizes the significance of this theory in the context of FB and innovation literature.
- Fourth, this study contributes to *design practice* and *design-intensive industry* literature by exploring the role of design on innovation strategies of FFs, and its contribution to this process.

This study explores the strategies of design-intensive FFs to manage innovation in an emerging market (Research Question 1). These strategies and their decision-making processes are analyzed through the development of DICs and how they are affected by familiness (Research Question 2). The findings reveal the recurring behaviors design-intensive FFs that are crucial for competitive advantage through successful innovation management, categorized according to the related form of DIC.

As *sensing* capabilities, *firstly*, design-intensive FFs sense new opportunities for innovation, get design feedback, and exchange ideas by visiting national and international industrial fairs. Since the family maintains the ownership and control of the firm (Cassia et al., 2011; Gomez-Mejia et al, 2014; Kammerlander and Ganter, 2015), it provides collective orientation in the firm (Cassia et al, 2011, Chirico and

Salvato, 2016) to a vision of dialogue, exchange of ideas and knowledge sharing. Additionally, the dynamic decision-making process resulting from the informal but effective structures (Daily and Dollinger, 1992) and the behavior to favor independency (Gomez-Mejia et al, 2007) of the family, lead to the search of new ideas from several external sources such as international fairs. *Secondly*, design-intensive FFs monitor trends and international markets via social media and news on the internet rather than traditional media, and through critically analyzing the industry to sense the potential opportunities and act on them. Since the family's high ability to innovate is influenced by family members as successors and their choices (Grundström et al, 2012) and this influence grows as the firm evolves (Mitchell et al, 2003), family members assess the emerging trends and modify organizational actions if necessary (De Massis et al, 2015). In contrast to the widely mentioned attitude of being close to external environment (Cassia et al, 2011, 2012; Bennesen and Foss, 2015; Chrisman et al, 2015), the FFs can make continuous market search through the strategy of long-term orientation (Bergfeld and Weber, 2011). *Thirdly*, design-intensive FFs manage ideas for design and innovation with the help of internal and external stakeholders, including external designers and design teams, in-house designers and design team, external consultancy companies, suppliers, sales team, R&D team, customers, industrial associations, public institutions, dealers/franchises, and all internal family and non-family professionals. Since FFs have the goal of long-term orientation (Cassia et al, 2011, 2012; Kammerlander and Ganter, 2015), they keep the connections with internal and external stakeholders (Miller et al, 2015), and trust all professionals to receive the skills and knowledge needed to innovate (Garcia and Calantone, 2002).

As *seizing* capabilities, *firstly*, design-intensive FFs constantly strengthen their production know-how through experience gained over the years and transferred to the generations because of being a family firm in a manufacturing industry, and through technological investment by purchasing machines, training staff, and learning new methods/techniques. Since FFs have the ability of discretion to act as a driver of family governance (Chrisman et al, 2015) and family members feel close to the firm (De Massis et al, 2015; Chirico and Salvato, 2016) through holistic firm experience, the family show commitment to strengthen the production know-how of the firm. To achieve this goal, FFs invest in production technologies and make process innovations. As it is highlighted by Gupta and Gupta (2019), process innovation is very significant

in emerging markets since production and product/service grow in parallel. *Secondly*, being in a design-intensive industry, FFs feel the need to establish design and R&D centers since it is supported and regulated by the state. The sampled FFs become the pioneers in furniture manufacturing industry in Turkey, and it is supported by the families' awareness to design. Since it is widely accepted by FB innovation literature, FFs mostly avoid R&D investments (Block, 2012; Chen and Hsu, 2009; Chrisman et al, 2012; Kotlar et al, 2013) due to risk-aversion (De Massis et al, 2015). However, few studies show R&D investments in FFs due to less financial risk (Asaba, 2013), long-term survival (Le Breton-Miller and Miller, 2006) and long-term orientation (Chrisman and Patel, 2012). This study reveals that FFs highly invest in design and R&D when they are financially supported. *Thirdly*, design-intensive FFs adopt dynamic decision-making processes caused by the entrepreneurial spirit, vision, and design awareness of the founder and transferred to other generations, thus the product development process is structured and organized organically. Similarly, De Massis et al. (2015) mention that FFs are highly independent in decision-making and have unorganized and informal structures, when they develop product innovations. *Fourthly*, design-intensive FFs adapts fully automated operating system to monitor and check all the steps of the operation anywhere anytime since the families require a holistic knowledge of the firm with distributed ability of the members. This strategy can be considered as the behavior of family to maintain control of the firm (Cassia et al, 2011; Gomez-Mejia et al, 2014) and to have monitoring power over the actors in the firm (De Massis et al, 2016). *Fifthly*, design-intensive FFs aim to build a globally known corporate brand with the entrepreneurial spirit, and design awareness of the families. In addition to the influence of the founder's entrepreneurial spirit growing as the firm evolves (Mitchell et al, 2003), following generations boost innovation (Hillebrand, 2019) and act as catalyst of revolutionary change (Kotlar and De Massis, 2013) by integrating corporate brand as well as design awareness is integrated in the firm. *Sixthly*, design-intensive FFs aim to create high-quality and well-designed products, to provide environments to ensure the availability of these products for as many people as possible, and to highlight social responsibility. This strategy is supported with the founders' vision of creating trust and strong social networks (Bennedsen and Foss, 2015) not only within the firm but also with the environments outside the firm including industry, society, national and international markets. This non-financial strategy of FFs is considered as identity and reputation dimension of

their socioemotional wealth (SEW), which includes the value related with the identification of the firm and its influence over the community (Gomez-Mejia et al, 2007).

As the capabilities to *reconfigure* assets and structures, firstly, design-intensive FFs are willing to add new specializations and make investments for growth and success. Recently, they offer new services of e-commerce sales to manage the demand for furniture sales through internet as a service innovation. This strategy is supported with the gradual involvement of new generations of family born to a more digital world balancing and bridging across generations in the firm (Carvalho and Williams, 2014; Hillebrand, 2018; Kotlar and De Massis, 2013), and the vision of idea exchange and entrepreneurial spirit of the family to search for alternative perspectives for future (Mitchell et al, 2003). Additionally, the willingness to change the culture of the firm by breaking habits (Chrisman et al, 2015) and the motivation to take risks for innovation investment are seen in this strategy of FFs, in contrast to the conservatism and risk-aversion behaviors of the families (Cassia et al, 2011, 2012; De Massis et al, 2015). Since Additionally, FFs' decision of renewal and change in business model from B2B to B2C is the result of an envision for the change in economical conditions, the people, and the market (Bergfeld and Weber, 2011). *Secondly*, design-intensive FFs are aware that they need to adapt their production know-how to manufacture fully customized product mechanisms. There is a huge gap and lack of high-level engineering know-how and production quality, especially for office furniture manufacturing industry in Turkey since the crucial pieces of industry such as office chairs and adjustable desk systems cannot be fully manufactured. Thus, FFs value and invest in radical process innovation with the aim of long-term survival and sustainability of the firm and the business (Le Breton-Miller and Miller, 2006). *Thirdly*, design-intensive FFs plan to have an institutional structure with the aim of long-term orientation (Cassia et al, 2011, 2012; Kammerlander and Ganter, 2015) and keeping the family culture in line with professional rules and regulations. Considering these features, this strategy is the result of FFs non-financial goals of transgenerational control as a part of its SEW (Gomez-Mejia et al, 2007). *Fourthly*, design-intensive FFs feel the need to change their business models throughout the establishment, growth, and development of the firm to manage and achieve innovation for competitive advantage, especially in an emerging market where demands, needs, and economical conditions are constantly

changing. As a result of this, family succession can be considered an an opportunity for renewal and to find a better fit for the organization (Rondi et al, 2019), since new generations have the capability to change the stabilized business models (Kotlar and De Massis, 2013). Additionally, the online sales channel added to the B2C model of the FFs is considered as transformation of business model, which is an example of disruptive innovation. Therefore, FFs are able to make continuous market and technology search through the strategy of long-term orientation (Bergfeld and Weber, 2011), and take risks through a diverse perspective (Gomez-Mejia et al, 2007; Zahra, 2005).

This study reveals the role of design on FFs' DICs and how it contributes to this development process (Research Question 3).

Firstly, design-intensive FFs generate ideas mainly through collaboration approaches with external resources (Dell'Era and Verganti, 2010; Magistretti et al, 2019). In contrast to the widely mentioned attitude of being close to external environment (Cassia et al, 2011, 2012; Bennedsen and Foss, 2015; Chrisman et al, 2015), the FFs can make continuous market and technology search through the strategy of long-term orientation (Bergfeld and Weber, 2011). Since FFs have the goal of long-term orientation (Cassia et al, 2011, 2012; Kammerlander and Ganter, 2015), they keep the connections with internal and external stakeholders (Miller et al, 2015), and trust all professionals to receive the skills and knowledge needed to innovate (Garcia and Calantone, 2002). Secondly, the value addition of design-intensive FFs is through offering high-quality products. To achieve this goal, FFs mainly invest in production technologies and make process innovations, which is very significant in emerging markets since production and product/service grow in parallel (Gupta and Gupta, 2019). They constantly strengthen their production know-how through technological investment by purchasing machines, training staff, and learning new methods/techniques. Additionally, FFs invest in R&D projects and establish design and R&D centers for highly-engineered and well-designed products, even though most FFs avoid these investments (Block, 2012; Chen and Hsu, 2009; Chrisman et al, 2012; Kotlar et al, 2013) since the financial risk is reduced with the support and additional incentives from several initiatives of the state. Thirdly, the vision of design-intensive FFs are related to the educational status, and personality traits of the founder, also

named *founder effect* (Kellermanns, 2012), since the founders are essentially entrepreneurs (Salvato, 2004).

Additionally, the findings reveal a continuous emphasis on process innovation, since it is very significant in emerging markets, where production and product/service grow in parallel (Gupta and Gupta, 2019; Zahra and George, 2002). Besides, this study claims that product innovation is still in the initial stages of emergence, since Gupta and Gupta (2019) mention the increasing attention given to product innovation in the manufacturing industries of emerging markets. Thus, this study additionally contributes to the emerging market context.

6.3 Implications and Recommendations for Design Practice

The strategies revealed as recurring behaviors provide insights for manufacturers, family managers, and design professionals aiming to pursue opportunities for innovation; and is proposed as a guideline for newly established manufacturing firms in a design-intensive industry (e.g., furniture, lighting, kitchenware) or for first-generation FFs, from an emerging market. Providing and maintaining competitive advantage through innovation in an emerging market is a challenge for manufacturing firms, especially when they are operating in a design-intensive industry with the aim to achieve product innovation. Because the emerging markets lack high-level of engineering know-how and production quality, and product innovation is in the initial phases of emergence with the late integration of design awareness. Thus, the firms must equally distribute their investments for all types of innovation, reconfigure their structure accordingly, and product/service, process, business model, and marketing innovations should go parallel. On the other hand, with the founder effect, FFs are advantageous through the accumulation entrepreneurial spirit and vision in the firm.

The recommendations for both family and design managers are summarized as (1) being open and critical to external environment and new ideas for *sensing* opportunities, (2) having production know-how, controlled operation, organic product development, corporate identity, and social awareness for *seizing* opportunities, and (3) being adaptive to technology, willing to change, and continuous learner for new things for *reconfiguring* assets and structures, are critical for innovation.

6.4 Limitations and Future Research Directions

There are several limitations of this study. Firstly, the study focuses on the firms in Turkey, and therefore the findings can only be validated for emerging markets but reveal limited data more generalization. Secondly, since it is an in-depth multiple-case study focusing on many themes through a multidisciplinary approach, the time limit prevents to get more intrinsic data.

This study might be extended to other emerging markets; thus, the findings can be validated in a wider context. The sampling size might be enlarged by including other design-intensive industries in further studies. Future research might implement the same study in developing markets, thus it can be possible to make comparisons. A longitudinal study might reveal the changes in DICs and familiness dimensions and their reasons in more detail.

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APPENDICES

APPENDIX A: Additional tables of literature review

APPENDIX B: Additional tables of research methodology



APPENDIX A : Additional tables of literature review

Table A.1 : Sampled studies on familiness.

Year	Author(s)	Nature	Theoretical framework	Study subject
1999	Habbershon & Williams	Conceptual	RBV	Introduction of familiness: unique bundle of resources
2002	Astrachan, Klein, & Smyrnios	Quantitative	Multiple views	Introduction of F-PEC scale of familiness: (1) power – ownership, management, governance, (2) experience – no. of generation, and (3) culture – values, commitment
2003	Habbershon, Williams, & MacMillan	Conceptual	RBV	Development of a unified system performance model of familiness: (1) family unit, (2) business entity, and (3) individual family members
2003	Chrisman, Chua, & Litz	Commentary	-	Commentary on Habbershon et al (2003)
2003	Sirmon & Hitt	Conceptual	RBV	Development of two-level resource management process in family firms: (1) resource provider – financial, human, social, physical, reputational capital, and (2) resource configuration – selecting, deploying, bundling, leveraging, shedding
2005	Klein, Astrachan, & Smyrnios	Quantitative	Multiple views	Empirical testing of the F-PEC scale, confirmation of validation and significance for theory development in future research
2005	Chrisman, Chua & Sharma	Conceptual	Agency theory, RBV	Development of dimensions of familiness: (1) involvement – ownership, management, governance, and (2) essence – interactional behavior between family and business, transgenerational intentions, commitment
2007	Tokarczyk, Hensen, Green, & Down	Qualitative	RBV	Translation of familiness attributes (physical, human, organizational, process resources) into competitive advantage for market orientation
2008	Pearson, Carr, & Shaw	Conceptual	Social capital theory	Development of social capital model of familiness with social capital development conditions: (1) time and stability, (2) interdependence, (3) interaction, (4) closure; family firm social capital resources: (1) structural – network ties, appropriate organization, (2) cognitive – shared vision and language, (3) relational – trust, norms, obligation, identification; family firms capabilities: (1) information access – efficient actions, exchange, (2) associability – collective goals and actions
2010	Zellweger, Eddleston, & Kellermanns	Conceptual	Agency theory, RBV	Introduction of family firm organizational identity dimension as a third dimension of familiness (after involvement and essence) as shared unique identity, collective behavior
2010	Irava & Moores	Qualitative	RBV	Development of a familiness resource model with paradoxical dimensions: (1) human resources – reputation, experience for insight and skills, (2) organizational resources – decision-making, learning, and (3) process resources – relationships, networks
2010	Frank, Lueger, Nose, & Suchy	Literature review	Systems theory	Development of four clusters of research in familiness literature; (1) conceptual, (2) social capital theory, (3) area-specific, (4) measurement, and propositions of systems-theory reflections on familiness as being both distinctive and constrictive, as to be studied through a holistic view with case study methodology

Table A.1 (continued) : Sampled studies on familiness.

Year	Author(s)	Nature	Theoretical framework	Study subject
2013	Carnes & Ireland	Conceptual	RBV	Development of a three-phase resource accumulation process model for familiness-innovation interaction: (1) stabilizing – conservation of competitive advantage and its capabilities, (2) enriching – extension and elaboration of capabilities, (3) pioneering – creation of new capabilities
2013	Weismeier-Sammer, Frank, & von Schlippe	Literature review	-	Development of three categories of familiness literature: (1) theoretical perspectives, (2) development and impact of familiness, and (3) empirical approaches, and propositions of systems theory view (examination of decision-making processes with dimensions of involvement, essence, and identity) and qualitative in-depth case study methodology.
2014	Weismeier-Sammer	Qualitative	Systems theory	Development of understanding familiness-innovation interaction with exploratory case study methodology, and proposition of (1) holistic innovative attitude for opportunity search, (2) succession as a result of change in innovative attitude, and (3) process perspective of innovation.
2017	Frank, Kessler, Rusch, Suess-Reyes, & Weismeier-Sammer	Quantitative	Systems theory	Development of a new multidimensional familiness scale called Family Influence Familiness Scale (FIFS) with six dimensions: (1) ownership, management, control; (2) proficiency level of family members; (3) information share of family members; (4) transgenerational orientation; (5) family-employee bond; and (6) family business identity.
2018	Janssen, Kato, & Bueno	Quantitative	DCs view	Development of understanding whether familiness affects the link between DCs and performance: (1) DCs positively affects performance – learning is the most effective; (2) familiness has a mediation effect, but greater with clearer governance rules, more agreement and willingness; and (3) managerial evolution of FBs with familiness to reconstruct strategies

Table A.2 : Sampled literature review studies on innovation in FB.

Year	Author(s)	Study description	Main findings
2013	De Massis, Frattini, and Lichtenthaler	23 articles between 1997-2013 (4 qualitative, 19 quantitative)	Three groups of studies on direct effects of family involvement on technological innovation (1) inputs (R&D expenditures), (2) activities (leadership in new product development projects), and (3) outputs (number of new products).
2016	Filser, Brem, Gast, Kraus, and Calabro	81 publications (16 theoretical, 15 qualitative, 50 quantitative)	Five topical clusters: (1) family ownership and governance, (2) structural settings within FBs, (3) organizational culture and behavior, (4) specific resources of FBs, (5) innovation and strategy Research revenues: (1) members' individual human capital and their leadership behavior, (2) openness to externals, (3) cross-country comparisons, and (4) the family's functional integrity on innovation performance
2016	Röd	78 articles between 2001-2015 (60 quantitative, 17 qualitative, 1 mixed-method)	A conceptual framework - holistic view of the multi-staged innovation process. Research avenues: (1) innovation input (skills of R&D personnel, individual resources, capabilities, or knowledge), (2) innovation activities (portfolio management, project management, or commercialization), (3) innovation output (process, administrative, service, social, or radical innovation), (4) various aspects of the family and its influence on innovation, (5) typologies of family business innovation
2017	Fuetsch and Suess-Reyes	50 articles between 2004-2015 (43 quantitative, 7 qualitative)	Five main recurring themes: (1) Innovation and its relation to business performance, (2) Innovation and its relation to the components of family involvement, (3) Innovation and its relation to the essence of FF, (4) Innovation and its relation to contextual factors, (5) Innovation across generations and lifecycles Findings: Significant shortcomings to extent and depth of practical implications, importance of "relevance" in FB research
2017	Urbinati, Franzo, De Massis, and Frattini	Studies in literature on innovation in FB	Three groups of studies on effect of family governance on innovation (1) input, (2) activities, and (3) output. Four sources of FBs' knowledge resources to foster innovation process: (1) internal R&D, (2) tradition and past history (3) clients/suppliers/competitors, and (4) universities/research centres.
2018	Calabro, Vecchiarini, Gast, Campopiano, De Massis, and Kraus	118 articles between 1961-2017 (21 theoretical, 18 qualitative, 79 quantitative)	Eight research avenues: (1) TMT members and non-family CEO external ties and innovation, (2) temporal evolution of innovation, (3) family history, tradition, and innovation, (4) board of directors, TMT composition, and innovation, (5) knowledge transfer for innovation during succession processes, (6) socioemotional priorities, non-economic goals and green innovation, (7) open innovation in FBs, heterogeneity of FBs and innovation
2019	Serrano-Bedia, Palma-Ruiz, and Flores-Rivera	152 articles until December 2017	(1) analysis of the inputs and outputs derived from the innovation process (family factors influencing firm's R&D intensity and innovative output, comparison between family and non-family firms with respect to their innovative behavior and results), (2) firm's entrepreneurial orientation, its antecedents and its effects on performance, (3) innovation processes (mostly concerning decisions and practices implemented), (4) analysis of some of its determinants, such as strategy and culture
2021	Casado-Belmonte, Capobianco-Uriarte, Martínez-Alonso, and Martínez-Romero	975 publications between 1987-2019	Four theoretical roots: (1) entrepreneurship, (2) behavioural agency theory, (3) resource-based view, (4) agency theory. Five thematic clusters: (1) family firms, (2) innovation, (3) socioemotional wealth, (4) firm performance, (5) internationalization.

Table A.3 : Sampled definitions of dynamic capabilities.

Study	Definition
Teece & Pisano (1994)	The subset of the competences and capabilities that allow the firm to create new products and processes and respond to changing market circumstances
Teece, Pisano, & Shuen (1997)	The firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments
Eisenhardt & Martin (2000)	The firm's processes that use resources—specifically the processes to integrate, reconfigure, gain, and release resources—to match and even create market change; dynamic capabilities thus are the organizational and strategic routines by which firms achieve new resource configurations as markets emerge, collide, split, evolve, and die
Teece (2000)	The ability to sense and then seize opportunities quickly and proficiently
Zollo & Winter (2002)	A dynamic capability is a learned and stable pattern of collective activity through which the organization systematically generates and modifies its operating routines in pursuit of improved effectiveness
Winter (2003)	Those (capabilities) that operate to extend, modify, or create ordinary capabilities
Zahra, Sapienza, & Davidsson (2006)	The abilities to reconfigure a firm's resources and routines in the manner envisioned and deemed appropriate by its principal decision maker(s)
Helfat et al. (2007)	The capacity of an organization to purposefully create, extend, or modify its resource base
Teece (2007)	Dynamic capabilities can be disaggregated into the capacity (a) to sense and shape opportunities and threats, (b) to seize opportunities, and (c) to maintain competitiveness through enhancing, combining, protecting, and, when necessary, reconfiguring the business enterprise's intangible and tangible assets

Table A.4 : Overview of studies on family business with dynamic capability perspective.

Studies	Method of the study	Data of the study	Aim of the study	Main findings	Theories/Terms used
Chirico (2007)	Qualitative: multiple-case study	Four family firms from Switzerland and Italy	Explore process of value creation in FFs by knowledge through entrepreneurial performance through dynamic capabilities perspective	The crucial role of the organizational culture emerges and family inertia - affected by entrepreneurial orientation and paternalism - is considered to be a factor preventing the creation of dynamic capabilities.	- DCs: processes sense, seize and transform internal and external resources (Teece et al., 1997; Eisenhardt & Martin, 2010) - (Trans-generational) Value creation (Tagiuri & Davis, 1996; Chirico & Salvato, 2008; Salvato & Melin, 2008) - Knowledge (Cabrera-Suarez et al., 2001; Zollo & Winter, 2002; Chirico, 2008)
Chirico and Nordqvist (2010)	Qualitative: multiple-case study	Four family firms from Switzerland and Italy	Explore dynamic capabilities and trans-generational value creation in FFs by knowledge through entrepreneurial orientation	Family inertia is observed to be a factor constraining the creation of dynamic capabilities. It can be a result of the family business culture, where paternalism promotes family inertia and entrepreneurial orientation (EO) counteracts it.	- Entrepreneurial performance (Barney, 1991; Zahra & George, 2002) - Family inertia: paternalism vs entrepreneurial drive (Hall et al., 2001; Zahra et al., 2004)
Chirico, Nordqvist, Colombo and Wollona (2012)	Conceptual: simulation study	Virtual experiment using system dynamics methods	Interpret how and when paternalism affects dynamic capabilities (DCs) and by association value creation in family firms	Initially, increasing levels of family social capital and low levels of paternalism are associated with high rates of DCs and value creation (asset). Later, higher levels of paternalism decrease DCs, value creation, and family social capital (liability).	- Value creation - Family social capital: structural, cognitive and relational nexus between individuals within firm (Arregle et al., 2007) - Paternalism
Jones, Ghobadian, O'Regan and Antcliff (2013)	Qualitative: single-case study	Sixth-generation family-owned company in UK	Demonstrate how multigenerational ownership contributes to the creation of dynamic capabilities in family firms	The study highlights the importance of entrepreneurial cognition. Long-standing family business is related to unique assets such as patient capital, flexible governance structures as well as the ability to mobilize social and human capital.	- DCs: leveraging existing resources, creating new resources internally, accessing external resources, releasing resources (Eisenhardt & Martin, 2000) - Entrepreneurial cognition: ability to take judgemental decisions about coordination of scarce resources (Casson, 1999; Gregoire, Corbett & McMullen, 2011)
Chang, Lin, and Hou (2014)	Conceptual: theoretical model	Literature review	Investigate how family businesses would use dynamic capabilities to renew their resources	The findings are (1) family business governance involves four important elements; (2) agency theory explains that agency cost is minimized in family business, and stewardship theory explains that altruism does exist in family business; (3) how family businesses renew their resources is illustrated from the perspective of dynamic capabilities, which can be divided into incremental, renewing and regenerative capabilities.	- Family business (Miller & Le Breton-Miller, 2006): family ownership and control, family management, multiple owners / managers and multiple family generations - FB governance viewpoints: (1) agency theory: agency costs, (2) stewardship theory: stewardship attitudes - Dynamic capabilities (Teece et al., 1997; Teece, 2007; Wang & Ahmed, 2007; Helfat et al., 2007): sensing capability, relationship capability, absorptive capability and integration capability.
Perlines and Araque (2015)	Qualitative: multiple-case study	Six family firms in Spain	Determine whether absorptive dynamic capability (ACAP) (i.e. absorptive capacity) mediates the connection between training and performance in family firms	The practice of training has a positive impact on ACAP, and, in turn, on business performance. Training is also considered as a way to promote succession in family firms.	- Absorptive capacity (ACAP) (Cohen & Levinthal, 1990; Lumpkin & Dess, 1996; Alvarez & Merino, 2003; Wang & Ahmed, 2007) - Training - Performance

Table A.4 (continued) : Overview of studies on family business with dynamic capability perspective.

Studies	Method of the study	Data of the study	Aim of the study	Main findings	Theories used
Barros, Hernangomez and Martin-Cruz (2016)	Conceptual: theoretical model	Literature review	Develop a theoretical model to serve as a framework for helping family firms in the strategic decision making process with dynamic capabilities approach	The model is based on the elements of familiness including ownership, governance, experience based on the transgenerational intention and family learning mechanisms, including knowledge accumulation, integration, codification and socioemotional wealth preservation.	- Familiness (Habbershon & Williams, 1999): ownership, governance, experience (i.e. Chrisman, Chua, Pearson & Barnett, 2012), transgenerational intention (Litz, 1995; Chua et al., 1999; Chrisman, Chua & Litz, 2004) - Family learning mechanisms: knowledge accumulation, integration, codification (Zollo & Winter, 2002; Zahra et al., 2007; Chirico & Salvato, 2008), socioemotional wealth preservation (Gomez-Meija et al., 2007; Gomez-Meija, Makri & Kintana, 2010; Berrone, Cruz & Gomez-Meija, 2012)
Wang (2016a)	Quantitative: survey method	137 sampled family firms from a company database in UK	Explore the impact of environmental dynamism, uncertainty, complexity, unpredictable change in the business environment, on dynamic capabilities of family firms, and to examine the role of trust	The results suggest that environmental dynamism is an antecedent of dynamic capabilities. Furthermore, findings show the presence of trust moderates the environmental dynamism-dynamic capabilities nexus.	- DCs (Wang & Ahmed, 2007): absorptive (Cohen & Levinthal, 1990), adaptive (Chakravarthy, 1982; Alvarez & Merino, 2003), innovative (Lumpkin & Dess, 1996) - Environmental dynamism: uncertainty, complexity, unpredictable change in business environment (Wang & Ahmed, 2007; Chirico & Bau, 2014) - Trust (Corbetta & Salvato, 2004; Sundaramurthy, 2008; Eddleston et al., 2010)
Wang (2016b)	Quantitative: survey method	628 responses from business database in China	Investigate the nexus between dynamic capabilities and social capital in family businesses, based on three elements of dynamic capabilities, absorptive capability, adaptive capability, and innovative capability	Results show that the three dimensions of social capital, namely, structural, cognitive, and relational capital, influence dynamic capabilities of family businesses positively.	- DCs: absorptive, adaptive, innovative - Family social capital: structural, cognitive and relational (Arregle et al., 2007; Pearson et al., 2008; Nordstrom & Steier, 2015; Shi et al., 2015)
Alonso, Kok and O'Shea (2018)	Qualitative: multiple-case study	10 family businesses in Western Australia	Explore how family businesses adapt to a rapidly changing environment and propose a framework centered on the dynamic capabilities approach	The framework first hypothesises strong links between FBs, the changing business environment, DCs and the DCA. In turn, these elements are interlinked with the clusters of activities, or sensing, seizing, and transforming and sources of competitive advantage including VRIN resources, organizational heritage, signature processes, home-grown capabilities, culture and knowledge.	- Dynamic capabilities approach (DCA): clusters of activities - sensing/shaping, seizing, transforming (Teece 2007; 2012; 2014a) - Sources of competitive advantage: VRIN (valuable, rare, inimitable, non-sustainable) resources, organizational heritage (Teece, 2014a), signature processes - interest, passion within firm (Gratton & Ghoshal, 2005), home-grown capabilities (Helfat & Winter, 2011), culture and knowledge (Chirico & Nordqvist, 2010) - Entrepreneurial performance
Alonso, Kok and O'Shea (2019)	Qualitative: single-case study	A family firm in UK	Propose a framework based on the knowledge-based view framework and the dynamic capabilities approach and examine adaptation to adversity and to a changing business environment	This study reveals the association between dynamic capabilities, knowledge acquisition, networking and innovation. The study's findings also revealed the crucial role that both DCs and knowledge-based attributes have on studied FB.	- DCA: managerial decisions (sensing, seizing, transforming) and heterogeneous resources (VRIN) (Eisenhardt & Martin, 2000; Teece et al., 1997), - Knowledge-based view: operationalizing tacit knowledge, acquiring explicit knowledge, knowledge sharing, problem solving (Grant, 1996, 2013; Nickerson & Zenger, 2004), - Family adaptation: to adversity and change (Zahra et al., 2006; Chirico & Salvato, 2008; Memili et al., 2015)

Table A.4 (continued) : Overview of studies on family business with dynamic capability perspective.

Studies	Method of the study	Data of the study	Aim of the study	Main findings	Theories used
Camison-Zornoza, Fores-Julian, and Puig-Denia (2020)	Quantitative: survey method	748 sampled family firms in Spain	Offer a framework within which to examine the nature of dynamic capabilities in family firms, and how they are affected by the ownership, governance and management structures	A concentrated ownership structure with a high degree of family control and a substantial share of family wealth committed to the business are shown to have a negative effect. The management structure is shown to be the key body for fostering the accumulation of dynamic capabilities, although a high level of family involvement in the top management team and having a family member as CEO represent major barriers to this process. The most powerful structural factor in facilitating the development of innovation capabilities is the existence of an effective family board and the implementation of family management instruments.	- Resource-and capabilities-based view: technology-based capabilities (sensing, seizing, transforming capabilities) - Agency theory - Family involvement - three distinct structures that underpin decision-making power and control capacity in family firms: (1) capital structure, (2) governance and management structure of the business, (3) governance structure of the family itself - Determinants of DCs of FFs: (1) ownership structure (concentration of capital, family control of share capital, family wealth linked to business); (2) corporate governance structure (existence of management committee, existence of board of directors, family involvement in management committee, family involvement in board of directors, CEO or managing director being a family member) family governance structure (frequency of family board meetings, family governance instruments)
Massa, Andreassi, Lana, and Lyra (2020)	Qualitative: single-case study	A family firm in Brasil	Analyze how the concepts of paradigm, organizational culture, and cognition of resources influence mindset of managers and skew choice of which dynamic capabilities should be developed by an organization, in process of innovation and change	The results reveal that organizational paradigms skew the choice of which dynamic capabilities should be developed, prioritizing those that are in accordance with the organizational paradigm. The organization tends to be aligned with its own paradigm, rather than aligning with context. It demonstrates the importance of the organizational paradigm, organizational culture, and cognition of resources in the mindset of managers.	- Theoretical framework: (1) operating mechanisms of dynamic capabilities, (2) definition of the routines moderated by market dynamics, (3) bias in the development decision of dynamic capabilities, (4) links to strategy and organizational culture, (5) skewed decision making - Dynamic capabilities (Eisenhardt & Martin, 2000): (1) resources leverage, (2) creating new resources, (3) access to external resources, (4) resource saving, (5) cognition of resources (Danneels, 2010)
Glyptis, Hadjielias, Christofi, Kvasova, and Vrontis (2021)	Qualitative: single-case study	A family firm in Greece	Examine how dynamic capabilities evolve in relation to familiness resources in order to facilitate family business growth and the way the context underpins dynamic capabilities in the family business	The findings highlight the influences exerted by the controlling family on searching, seizing, and reconfiguring processes within management accounting to enable reconfiguration of familiness resources in firm across dimensions of product strategy, governance, networking and staffing, and financing.	- Dynamic capabilities (Teece et al., 1997; Teece, 2007; Helfat & Peteraf, 2015): searching, seizing, reconfiguring - Familiness resources (Habbershon & Williams, 1999; Habbershon et al., 2003): product strategy, governance, networking and staffing, and financing
Soluk and Kammerlander (2021)	Qualitative: multiple-case study	15 family firms in Germany, Austria, Switzerland	Explore how small and medium-sized family-controlled firms with resource constraints handle digital transformation	This study proposes that digital transformation has stages: (1) process, (2) product and service, (3) business model digitalization; identifies enablers/barriers of DCs: (1) FF paternalism & cash opportunities, (2) inconsistent understanding of digital transformation/strategy, (3) employee resistance and communication of early success stories	- Digital transformation of organizations (Kammerlander & Ganter, 2015; De Massis et al., 2018; Nambisan, 2017): peer and external influences, environmental and firm factors - Dynamic capabilities (Teece, 2014): sensing, seizing, reconfiguring

Table A.5 : Overview of studies on family business innovation with dynamic capability perspective.

Studies	Method of the study	Data of the study	Aim of the study	Main findings	Theories/Terms used
Lichtenthaler & Muetler (2012)	Quantitative: survey method	119 medium-sized manufacturing family firms in Germany	Explore whether family involvement affect a firm's level of sensing, seizing, and transforming capacity in innovation and provide new theoretical arguments related to dynamic innovation capabilities (DIC) rather than realized innovation output in firms with family involvement	The degree of family involvement, showing the owner family's ability to influence firm behavior, is positively related to sensing innovation opportunities and to transforming a firm's innovation processes, while it is insignificantly related to seizing innovation opportunities.	- Dynamic innovation capabilities (DIC): sensing, seizing, transforming (Teece, Pisano & Shuen, 1997; Helfat et al, 2007; Rothaermel & Hess, 2007; Teece, 2007; Lichtenthaler & Ernst, 2012) - Family involvement (Chrisman, Chua, Pearson & Barnett, 2012): . Long-term orientation (-), long top management tenure (-), social capital (+), socioemotional wealth (+) (Miller & Le-Breton-Miller, 2005; Le-Breton Miller & Miller, 2006; Zahra, 2010) . Unification of ownership control (+), avoidance of debt financing (+), risk aversion (+) (Mishra & McConaughy, 1999; Zahra, 2005; Schulze & Gedajovic, 2010)
De Massis, Frattini, Kotlar, Petruzzelli, & Wright (2016)	Qualitative: multiple-case study	Six long-lasting family businesses in Italy	Conceptualize a new product innovation strategy called innovation through tradition (ITT) and identify its underlying capabilities of interiorizing and reinterpreting past knowledge, combining prior research on innovation, dynamic capabilities and family business	This study help visualize theoretical concepts and recognize the potential advantages of past knowledge in terms of value creation and capture. They develop an agenda for future research aimed at improving our understanding of the temporal search processes involved in the ITT strategy, within and outside the family business field, and thus contribute to innovation and organizational learning studies.	- Dynamic capabilities (e.g., Barney, 1991; Winter, 2003, Helfat & Peteraf, 2003) - Sources of past knowledge: knowledge pertaining to the tradition of the firm itself, and of its territory, (Messeni Petruzzelli & Albino, 2012) - Forms of past knowledge (Cowan et al., 2000): codified knowledge - raw materials, product signs, manufacturing processes (Saviotti, 1998; Zack, 1999), tacit knowledge - assumptions, values, beliefs (Von Krogh, Ichijo, & Nonaka, 2000) - Product innovation strategy (e.g., Henderson & Clark, 1990; Banbury and Mitchell, 1995; Calantone et al., 2006) leveraging on knowledge from the past, i.e. innovation of product functionalities or innovation of product meaning - Innovation Through Tradition (ITT): interiorization - assimilating and sharing past knowledge pertaining to the firm's tradition, reinterpretation - combination of selected forms of past knowledge with up-to-date technologies
Fitz-Koch & Nordqvist (2017)	Qualitative: single-case study	A medium-sized family firm in Sweden	Offer a framework that enables an investigation of the nature of innovation capabilities in family firms with the socioemotional wealth (SEW) perspective in combination with dynamic capabilities	They revealed a positive reciprocal relationship between the SEW dimensions and the innovation capabilities within the case company. They differentiated between sensing, seizing, and transforming capacity and the five dimensions of SEW. The majority of relations are positive, with two SEW dimensions negatively related to two innovation capabilities and two capability dimensions negatively related to two SEW dimensions.	- Dynamic innovation capabilities (DIC): sensing, seizing, transforming (Teece, 2007) - Socioemotional wealth (SEW): family control and influence, family members' identification with the firm, binding social ties, emotional attachment of the family members, renewal of family bonds to the firm through dynastic succession (Berrone, Cruz, & Gomez-Mejia, 2012)

Table A.5 (continued) : Overview of studies on family business innovation with dynamic capability perspective.

Studies	Method of the study	Data of the study	Aim of the study	Main findings	Theories/Terms used
Alonso, O'Brien and Kok (2018)	Qualitative: multiple-case study	Four family firms in Uruguay	Examine family firms' involvement in innovation practices, including reasons and ways to innovate, drawing on the dynamic capabilities framework (DCF)	. Ways of innovating are also revealed as absorptive capacity, adaptive capacity and innovative capacity. Reasons for innovating is also revealed as solving problems.	- DCs (Teece et al., 1997): coordination/integration (Cohen & Levinthal, 1990), learning (Teece et al., 1997), reconfiguration/transformation (Amit & Schoemaker, 1993) . DCs (Teece, 2007, 2014): sensing, seizing, reconfiguring - Antecedents of innovation (Rothaermel & Hess, 2007): intellectual human capital at individual level, social capital as R&D capabilities at firm level, and cognition as problem solving related impacts - Ways of innovating: absorptive capacity (identifying/assimilating external information and integrating technology/processes), adaptive capacity (applying information, building alliances with external entities, improving tasks, processes and performance), and innovative capacity (identifying new trends, updating, modernizing, learning, adapting). - Reasons for innovating: solving problems (extending firm life-cycle, achieving quality, adaptin to changing environment and gaining competitiveness)
Daspit, Long and Pearson (2019)	Conceptual: theoretical model	Literature review	Use a dynamic capability perspective to propose that familiness affects absorptive capacity, a knowledge-specific dynamic capability, and innovation outcomes in pursuit of competitive advantage	The conceptual model highlights the role of absorptive capacity in understanding how familiness affects innovation outcomes and elucidates the heterogeneity across family firms that results from nonfamily member involvement. It also acknowledges how these relationships are altered by the involvement of nonfamily members in the family firm.	- DC: Absorptive capacity (Winter, 2003; Zahra et al., 2007; Helfat & Winter, 2011) - Familiness (i.e. Habbershon & Williams, 1999; Habbershon et al., 2003, Chrisman et al., 2005; Sharma, 2008): three dimensions - structural (network ties, appropriable organization), relational (trust, norms, obligations, identification) and cognitive (shared vision, shared language)
Weimann, Gerken, and Hülbsbeck (2019)	Quantitative: survey method	154 sampled family firms in Germany	Explore how dynamic capabilities (DC) affect business model innovation (BMI) in family firms and how this relationship is moderated by socioemotional wealth (SEW)	This study reveals strong sensing and seizing as well as transforming capabilities as relevant antecedents of BMI and stress upon the positive moderating role of SEW for the relationship between reflecting and BMI.	- Business model innovation (Schneider & Spieth, 2013; Spieth & Schneider, 2016) - DCs view (Teece, 2007, 2014): sensing, seizing, reconfiguring - Socioemotional wealth (SEW): family control and influence, family members' identification with the firm, binding social ties, emotional attachment of the family members, renewal of family bonds to the firm through dynastic succession (Gómez-Mejía, Haynes, Nunez-Nickel, Jacobson, & Moyano-Fuentes, 2007; Berrone, Cruz, & Gómez-Mejía, 2012; Gómez-Mejía, Patel, & Zellweger, 2018)

Table A.5 (continued) : Overview of studies on family business innovation with dynamic capability perspective.

Studies	Method of the study	Data of the study	Aim of the study	Main findings	Theories/Terms used
Koentjoro and Gunawan (2020)	Qualitative: single-case study	A family firm in Indonesia	Examine the relationship between processes of managing knowledge, dynamic capabilities, and innovative performance in an Indonesian family company in order to improve business performance	The findings showed that a family company that mobilizes knowledge can improve its members' dynamic capabilities for proper business management and growth. Furthermore, the frequent process of mobilizing knowledge improves family members' dynamic capabilities to create new ideas. This creative process helps to improve its innovative performance, thereby creating a sustainable competitive advantage among family companies.	- DC: Absorptive capacity (Cohen and Levinthal, 1990; Lane and Koka, 2016; Zahra and George, 2002) - Organizational learning (March, 1991; Vera and Crossan, 2004) - Dynamic managerial capabilities (Adner and Helfat, 2003; Kor and Mesko, 2013): human capital, social capital, cognition - Entrepreneurial orientation (Chirico et al., 2011; Lumpkin and Dess, 1996): autonomy, innovation, risk-taking, being proactive, and competitive aggressiveness
Hernandez-Perlines, Riberio-Soriano, and Rodriguez-Garcia (2021)	Quantitative: survey method	106 sampled family firms	Examine how generation influences the effect of innovation capability on family business performance	This research sheds lights on the innovation capacity to influence the family businesses performance, and on the generational level moderating this effect. As a result, the influence of the innovation capacity in second generation family businesses performance is higher than in the first generation.	- Dynamic innovation capabilities (DICs): sensing, seizing, transforming (Teece, 2007) - Innovation capability (Prajojo and Sohal, 2006): product innovation, process innovation - Family performance (Chirico et al., 2011; Kellermanns et al., 2012; Kraus et al., 2012; Wiklund & Sheperd, 2003): - Generation (Casillas & Moreno, 2010; Cruz & Nordqvist, 2012; Sciascia et al., 2012)

APPENDIX B : Additional tables of research methodology

Table B.1 : Evolution of the thesis progress reports.

No	Date	Title	Aim of study	Field of research/Reasons for change	Academic activities	Primary sources	Secondary sources
1	Jan 2016	A framework for designing workplaces: Design process from theory to practice	Explore the design process (stages, methods, challenges, strategies) of work environments, particularly in office furniture companies	- Design management (DM) - DM and leadership in leading office furniture company; Herman Miller - Workplace design - Office furniture industry in TR	- Literature review - Development of research design	-	- DM (e.g. Borja de Mozota, 2003) - DM in Herman Miller (e.g. HM website, Blaich, 1993; Max de Pree, 2004) - Office furniture industry in TR (e.g. OMSIAD, company websites, sector reports)
2	June 2016	Exploring the impact of work practice on the design process: The case of office furniture industry in Turkey	Explore the design process the workplaces and design management of office furniture companies (visions, goals, roles of actors, stages, methods, strategies, challenges)	- Design management (DM) - DM and leadership in leading office furniture company; Herman Miller - Office furniture industry in TR	- Literature review - Development of research design - Proposal of interview protocol (company & design overview, design process, sample design project)	-	- DM in Herman Miller (e.g. HM website, Probst, 1968) - Workplaces (Saval, 2014) - Office furniture industry in TR (e.g. OMSIAD, companies' websites, sector reports)
3	Jan 2017	The influence of workplace design practices on new office furniture development: analysis of selected Turkish office furniture manufacturing firms	Explore the design process the workplaces and design management of office furniture companies (visions, goals, roles of actors, stages, methods, strategies, challenges)	- Workplace design (evolution of workplaces, global office furniture industry) - Case of Herman Miller (company timeline, products, solutions, services, design resources, values and culture) - Office furniture industry in TR	- Literature review - Desk search - Development of research design - Revision of interview protocol	-	- Evolution of workplaces (e.g. Meel, 2000) - Workplace design (e.g. Sundstrom et al., 1980; Amabile et al., 1996; Meel, 2000; Laing, 2006; Worthington, 2006; Moultrie et al., 2007; Hardy et al., 2008; Coradi et al., 2015) - Case of Herman Miller (e.g. Action Office)
4	July 2017	Design through research/theory: A framework for design process for office furniture in Turkish context	Explore the design process from theory to practice and design management in new office furniture development of manufacturers	- Office furniture industry - Workplace design - Design management - awareness pf design , process (design, NPD and DM), plan of design, DM expertise, design resources	- Literature review - Development of research design - Revision of interview protocol	- Pilot interview with industrial designer experienced in the industry (value of design, DM, style, design thinking, process, actors, services)	- Thesis on office furniture companies in 1990s (e.g. Er, 1995) - NPD (e.g. Cooper & Kleinschmidt, 1994; Gemser & Leenders, 2001; Goffin & Michel, 2010;;

Table B.1 (continued) : Evolution of the thesis progress reports.

No	Date	Title	Aim of study	Field of research/Reasons for change	Academic activities	Primary sources	Secondary sources
5	Jan 2018	Innovation Strategy in Turkish Design-Intensive Office Furniture Industry	Explore the design and innovation process from theory to practice in new office furniture development processes of manufacturers	- Innovation process - source of innovation (input), degree/dimension of innovation (output), innovation approach/strategy, innovation process (NPD, design) - DM style	- Literature review - Development of research design - Addition of innovation process literature because of lack in DM style	- Submissions accepted to Twelfth Int. Conf. on Design Principles and Practices (March 2018, Barcelona) & 25th IPDMC Innovation and Product Development Management Conf. (June 2018, Porto)	- Innovation process (Tidd & Bessant, 2017) - Stage-Gate NPD process (Cooper, 2001) - Design process (Ulrich & Eppinger, 2000)
6	July 2018	Innovation Strategy in Turkish Design-Intensive Office Furniture Industry	Explore the design and innovation process from theory to practice in new office furniture development processes of manufacturers	- Innovation process - source of innovation (input), degree/dimension of innovation (output), innovation approach/strategy, innovation process (NPD, design) - DM style	- Literature review - Development of research design - Participated two academic conferences (Twelfth Int. Conf. on Design Principles and Practices (March 2018, Barcelona) & 25th IPDMC Innov. and Prod. Development Management Conf. (June 2018, Porto)	- Semi-structured informal interview with corporate communications and marketing director of Case E (pilot company) on Jan 3, 2018 - lasted 3 hours	- Interview not allowed to be recorded, thus notes taken during intense conversation - Two formal presentations done by Case E used for R&D center application submission are reviewed
7	Jan 2019	Innovation Strategy of Family Firms: Case-based Evidence from an Emerging Market	Explore the innovation management of family firms, in office furniture manufacturing industry, in the context of emerging market	- Innovation input - family firm's ability as resources - Innovation activity - family firm's ability as discretion - Innovation output - family firm's willingness	- Literature review - Development of research design - Submission accepted to EAD 2019 13th International Conference of the European Academy of Design (April 2019, Dundee)	-	- FF's resource ability (capability, social, human, financial capital), discretion ability (strategy, power, governance, decision-making, process), willingness (goals, intentions, motivations)
8	July 2019	The Role of Design-Driven Family Firms in Managing Innovation: Case-based Evidence from an Emerging Market	Explore the innovation management of design-driven family firms, in office furniture manufacturing industry, in emerging market	- Management of innovation process (triggers, motivations, challenges, actors, approach, activities, structures/methods, sources of knowledge, collaborations, outcomes, method to control/monitor) - Family business (Capabilities, leadership, social/human/financial capital, willingness)	- Literature review - Development of case study (consent form, interview protocol) - Participated to EAD 2019 (April 2019, Dundee) - Full paper published (WoS-AHCI) - Possible journal submissions (Design Journal, JPIM)	- Case E interviews arranged (July-August 2019)	- Case E (transcription of videos such as interviews, an institutionalization story - 3 sessions, corporate promotional film)
9	Jan 2020	Innovation in Design-intensive Family Firms: A Dynamic Capability Perspective from an Emerging Market	Explore the influence of familiness on innovation in design-intensive FFs, from office furniture industry, in an emerging market	- Family business organization and management (the issue of familiness) - Management of innovation process - Dynamic capabilities (sensing/shaping, seizing, reconfiguring)	- Literature review - Development of case study (consent form, interview protocol) - PhD thesis template format - Contact with other three case companies & schedule interviews	- Three interviews in Case E (July 24 & August 7, 2019) - 2nd & 3rd generation family members, R&D director - Transcription - Coding themes, common patterns	- Innovation management - Dynamic capabilities in FB - Innovation in FB - Family firms' innovation with dynamic capability perspective

Table B.2 : Sampled innovation in FB articles using case studies.

Year	Author(s)	Case description	Theoretical framework	Study subject
2001	Litz and Kleysen	1 US FB	Multi-theoretical approach	Intergenerational innovation by family in the area of jazz improvisation
2010	McAdam, Reid, and Mitchell	5 manufacturing FBs	Behavioral theory	Radical innovation strategy and innovation pmlmentation in FBs
2011	Bergfeld and Weber	10 German FBs	Multi-theoretical approach	Innovation of dynastic families across generations
2011	Grundström et al.	10 Swedish SME FBs	Multi-theoretical approach	View and management of innovativeness in FBs
2011	Cassia, De Massis and Pizzurno	4 Italian SME FBs	Resource-based view, Agency theory, Stewardship theory, Behavioral theory	New product development in FBs
2012	Cassia, De Massis and Pizzurno	10 Italian firms (5 FBs, 5 Non-FBs)	Resource-based view, Agency theory, Stewardship theory, Behavioral theory	Strategic innovation and new product development in FBs
2012	Grundström, Öberg, and Rönnback	10 Swedish SME FBs	Resource-based view, Agency theory	Innovativeness in FBs
2012	Zellweger and Seiger	3 Swiss FBs	Entrepreneurial orientation theory	Entrepreneurial orientation for innovation in FBs
2013	Alberti and Pizzurno	4 Italian SME FBs	Knowledge-based view, Knowledge-creation theory	Market and technological knowledge and knowledge sharing in new product development of FBs
2013	Brines et al.	1 New Zealand FB	Resource-based view	Innovation in entrepreneurial family SMEs
2013	Lazzarotti	1 Italian micro-FB	Technology-adoption theory, Resource-based view, Social capital theory	Technology adoption process of FBs
2014	Weismeier-Sammer	1 Austrian FB	Systems theory-based view	Familiness and innovativeness of FBs
2015	De Massis, Frattini, Pizzurno and Cassia	10 Italian firms (5 FBs, 5 Non-FBs)	Resource-based view, Agency theory, Stewardship theory, Behavioral theory	Product innovation between FBs and non-FBs
2015	Kammerlander and Ganter	7 German FBs	Multi-theoretical approach	FBs' adaptation to discontinuous technologies and family CEOs' noneconomic goals
2015	Kammerlander, Dessi, Bird, Floris, and Murru	41 Italian FBs		Intergenerational family stories and FB innovation
2015	Shi, Shepherd, and Schmidts	8 Chinese FBs	Social capital theory	Social capital in entrepreneurial FBs
2015	Miller, Wright, Breton-Miller, and Scholes	7 FBs (1 US, 1 France, 2 Canada, 3 UK)	Socioemotional wealth	FBs' socioemotional preferences on innovation and resources

Table B.2 (continued) : Sampled innovation in FB articles using case studies.

Year	Author(s)	Case description	Theoretical framework	Study subject
2015	Bogers, Boyd, and Hollensen	1 Danish FB	Resource-dependence theory	Business model innovation in a FB
2016	De Massis, Frattini, Kotlar, Messeni-Petruzzelli, and Wright	6 Italian FBs	Dynamic capabilities view	Innovation through tradition in FBs
2016	De Massis, Kotlar, Frattini, Chrisman, and Nordqvist	6 Italian FBs	Multi-theoretical approach	New product development and family governance in family SMEs
2017	Ratten and Tajeddini	7 Australian FBs	Resource-based view	Innovativeness on internationalization of FBs
2017	Casprini, De Massis, Di Minin, Frattini, and Piccaluga	1 Italian FB	Knowledge-based view, Dynamic capabilities view	Open innovation strategies of a FB
2017	Woodfield and Husted	3 New Zealand FBs	Knowledge-based view, Knowledge-creation theory	Intergenerational knowledge sharing in FBs
2017	Lambrechts, Voordeckers, Roijakkers, and Vanhaverbeke	4 Belgian FBs	Open innovation, Socioemotional wealth	Open innovation in entrepreneurial FBs in low- and medium-technology industries
2018	De Massis, Audretsch, Uhlaner, and Kammerlander	20 German FBs	Resource-based view	Innovation in limited resources of FBs
2019	Rondi, De Massis, and Kotlar	4 Italian FBs	Willingness-ability paradox	FB innovation and role of family system
2020	Alrubaishi, Alorifi, and McAdam	4 Saudi Arabian FBs	Willingness-ability paradox	Heterogeneity of innovation in FBs



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