

**ADVANCED INFORMATION TECHNOLOGY
AND ITS EFFECT
ON URBAN OPEN SPACE**

Ph.D. Thesis by

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ABBREVIATIONS

ARPA	: Advanced Research Project Agency
ATM	: Automatic Teller Machine
BDDK	: Bankacılık Düzenleme ve Denetleme Kurumu : (Banking Regulation and Supervision Agency)
CD	: Compact Disc
DARPA	: Defence Advanced Research Project Agency
DSL	: Digital Subscriber Lines
GUI	: Graphical User Interface
HTML	: Hypertext Mark up Language
HTTP	: Hypertext Transfer Protocol
IBS	: Internet Broadcasting System
IP	: Internet Protocol
ISP	: Information Service Provider
IT	: Information Technology
OECD	: Organisation for Economic Co-operation and Development
POS	: Post of Sale
TCP	: Transmission Control Program
TNS	: Taylor Nelson Sofres

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ADVANCED INFORMATION TECHNOLOGY AND ITS EFFECT ON URBAN OPEN SPACE

SUMMARY

The development of information technology generates new forms of social interaction in the urban environment. Communication networks deliver information to people and provide services to institutions. Easy and rapid accessibility to information decreases the need for circulation in space. Drastic changes in the circulation system create diversified human activities in the urban areas.

Throughout history, urban open spaces have been subject to transformation according to their activities. Urban squares are gathering places and these areas are organized harmoniously with existing human activities. Advances in technology are reflected in the physical appearance of squares. In current urban spaces, new urban planning strategies have to be formulated and new design methods have to be implemented in order to adapt urban squares to rapidly progressing information technology.

This study aims to evaluate the changes in urban open space activities under the effects of the rapidly progressing and widely spreading information technology. In order to understand the transformation of these activities under the influence of technological changes, the Taksim Square in Istanbul is studied. Taksim Square has been chosen as a case study because of its essential functions and symbolic status in the history of the city.

The methodology of study at the initial stage consisted of the review of books, articles, historical maps, photographs and relevant internet web sites. Subsequent stages have involved interviews with experts, which were very important in order to learn the nature and diversification of activities in the square. A detailed visual survey of the square has been another source of exploration of activities which take place at different periods of the day and week. For the understanding of the impact of information technology on spatial transformation, a survey was taken of users of the square and addressed to 133 people. The objective of the second survey was to explore relations between the square and the surrounding district. This survey was addressed to 70 people and involved the collection of information about internet use and its effects on utilization of the square.

The thesis consists of seven chapters. The first chapter introduces the subject and explains the aim, scope and methodology of the thesis. The second chapter contains different definitions of urban open space from architectural, urban, geographical and sociological viewpoints. In the city, open spaces have many functions that can be classified into various categories according to their characteristics and hierarchical level in the urban open space system. The third chapter explains distinctive aspects

of the urban open spaces during historical periods. The fourth chapter provides details about the development and use of information technology in Turkey and in the world, emphasizing its significant effects on urban activities. The fifth chapter explains changes that occurred from the late Ottoman period through the 1980's in the Taksim Square.

The results of the surveys regarding the effects of information technology that began in the 1990's are presented in the sixth chapter. The conclusion of this chapter is that most commercial and banking services are provided through the internet and new physical elements replace the traditional facilities in this area. General conclusions which are given in the seventh chapter indicate that dematerialization, decentralization and demobilization of urban open space activities are consequences of the development of information technology. This study may be used as a source in formulating new strategies for the design of the urban open spaces and squares.

Key words: Urban Open Space, City Square-Taksim-, Information Technology, Communication Network



İLERİ BİLGİ TEKNOLOJİSİNİN KENT AÇIK MEKANINA ETKİSİ

ÖZET

Bilgi teknolojisinin gelişimi, kentsel çevrelerde yeni toplumsal etkileşim biçimleri ortaya çıkarmaktadır. İletişim ağları, kişilere bilgi erişirmekte, kurumlara hizmetler sağlamaktadır. Bilgiye erişimin hızı ve kolaylığı mekanda dolaşım gereksinimini azaltmaktadır. Ulaşım sistemindeki ciddi boyutlu değişimler, kentsel alanlarda çeşitlenmiş insan etkinliklerini yaratmaktadır.

Tarih boyunca, kent açık mekanları yeralan etkinliklere bağlı olarak değişimlere uğramıştır. Kentlileri biraraya getiren meydanlar etkinliklerle uyumlu olarak düzenlenmiş ve teknolojik ilerleme meydanların fiziksel görünümüne yansımıştır. Günümüz kent mekanlarının hızla gelişen bilgi teknolojisine uygun düzenlenebilmesi için yeni kent planlama stratejileri tanımlanmalı ve yeni tasarım yöntemleri uygulanmalıdır.

Bu çalışma, hızla gelişen ve kullanımı artan bilgi teknolojisinin etkisi altında, kent açık mekan etkinliklerinin değişimini değerlendirmeyi amaçlamaktadır. Teknolojinin etkisi altında, etkinliklerin dönüşümünü anlamak üzere araştırma İstanbul'un Taksim Meydanı'nda yapılmıştır. Kentin tarihindeki sembolik yeri ve temel işlevleri nedeniyle Taksim Meydanı örnek alan olarak seçilmiştir.

Çalışmanın başlangıcında kitaplar, makaleler, tarihi haritalar, fotoğraflar ve konuyla ilgili internet siteleri incelenmiştir. Bunu takip eden aşamada, Taksim Meydanı etkinliklerinin doğası ve çeşitlenmelerini anlamak üzere uzman kişilerle sözlü görüşmeler yapılmıştır. Meydanda yapılan ayrıntılı gözlemler, günün ve haftanın farklı zamanlarında yeralan etkinlikleri belirlemede diğer bir kaynak olmuştur. Bilgi teknolojisinin mekan değişimindeki etkilerini anlamak üzere Taksim Meydanı'nda 133 kişiye anket yapılmıştır. Meydanın yakın çevresiyle ilişkisini belirlemek üzere ise ikinci bir anket yapılmıştır. Bilgi teknolojisinin meydan kullanımını nasıl etkilediği hakkında bilgi sağlamayı amaçlayan bu anket, meydan yakın çevresinde olan ve internet bağlantısı bulunan iki binada 70 kişiye yapılmıştır.

Yedi bölümden oluşan tezin birinci bölümünde konu sunulmakta, çalışmanın amaç, kapsam ve yöntemi açıklanmaktadır. İkinci bölümde, kent açık mekanı, mimarlık, şehircilik, coğrafya ve sosyolojik açıdan ele alınarak tanımlar yapılmaktadır. Kent açık mekanları özelliklerine ve kent açık alan sistemi içindeki konumlarına göre çeşitli gruplara ayrılmakta ve taşıdıkları işlevlere göre sınıflandırılmaktadırlar. Üçüncü bölüm, tarihsel dönemlerde kent açık mekanlarının belirgin özelliklerini açıklamaktadır. Dördüncü bölüm, bilgi teknolojisinin Türkiye ve Dünyada gelişimi, kullanımı ile ilgili ayrıntıları açıklamakta, kent etkinlikleri üzerindeki etkilerini ele almaktadır. Beşinci bölüm, son Osmanlı döneminden 1980'lere kadar Taksim Meydanı'ndaki değişimleri açıklamaktadır.

Taksim Meydanı'nda, 1990'lı yıllarda başlayan bilgi teknolojisinin etkisi ve alanda yapılan anket sonuçları altıncı bölümde sunulmaktadır. Bu bölüm, ticaret ve bankacılık işlemlerinin internet ile yapılmaya başlandığını ve çalışma alanında geleneksel tesislerin yerini yeni fiziksel elemanların almaya başladığı sonucunu açıklamaktadır. Genel sonuçlar yedinci bölümde verilmekte ve artan sayıda kent açık mekan etkinliğinin, bilgi teknolojisindeki gelişimin sonucu olarak, merkezi alanda veya mekanda topluca bulunma gereksinimi olmadan sanal ortamda gerçekleştirildiği belirtilmektedir. Bu çalışmada elde edilen bulgular, kent açık mekanı ve meydan tasarımı için yeni stratejileri biçimlendirmede bir kaynak olarak kullanılabilecektir.

Anahtar Kelimeler: Kent Açık Mekanı, Kent Meydanı-Taksim-, Bilgi Teknolojisi, İletişim Ağı



1. INTRODUCTION

For centuries city centres have provided livability for much of urban life: shopping, civic activities, leisure, or simply for meeting and mixing. Today, city centers face real challenges.; they must respond to the changing needs and demands of modern-day living; squares need to prosper in order to survive. They must compete effectively with the advances in the means of technological communication. They have always faced a degree of competition throughout their historical past, but in the last ten years the competition has increased markedly.

Each square has a distinctive shape and personality. That is what makes them so rewarding to experience and so difficult to create. Vintage squares remind us of an era when good design was instinctive, and cities had a rich street life. It is impossible to bring back the past, but one can learn from it: an older square that is an organic part of its community usually serves present needs better than new space ordained by a planner or developer. People have always enjoyed coming together; even though this task can be accomplished by means of virtual space, the need for verbal and physical contact remains primordial and necessary.

The high speed development of information technology provides new opportunities for citizens, on the social level as well as on the economic level. It helps them to save money and time, but also poses a real problem for the direct use of public open space and particularly for activities held there.

Today, the ubiquitously present communication network, smart machines, online data bases, web sites, search engines, e-mail is rapidly replacing face-to-face communications. People need not even go to their local libraries. Bookstores, newsstands, magazine racks, theatres and playgrounds have their virtual equivalents.

Students surf into electronic encyclopaedias, professors put their lecture notes up on the web. Retailers put catalogues and order forms online, stock markets provide electronic delivery services. This new social tendency generates strategic urban

relationships, processes and patterns that will form and maybe reshape public open space and its surroundings.

1.1. Aim of the Study

Throughout history public open space has always been subject to transformation, in both its identity and in the activities held there. Some activities moved from outdoors to indoors, leaving the space free for other activities, and others disappeared completely under conditions existing at the time.

A square which is in direct and permanent contact with citizens certainly changes in activities and shape, but, in essence remains the same. Main features of the society are reflected in these spaces. It exists not only in the present but also incorporates the past.

History shows us that the square is a place where changes are rapidly felt. Information technology, through the facilities it offers, is creating new behaviour in social moods, which is transmitted through the actions of citizens. At this stage it is peculiar to the issue of the activities of the square.

Under these circumstances, this study aimed to clarify the relationship which exists between information technology (as the causative part of the phenomenon) and the vanishing or substituted activities in public open space (as the result of the phenomenon).

At this stage it is worthwhile to level some questions, with the intention to define the key words for solving the phenomenon:

1. What are the activities which have disappeared or will disappear from today's square, and by which activities will they be replaced?
2. What shape and morphology will the square of the 21st century adopt?
3. How would it be possible to make the square attractive without changing its identity?
4. What are the necessary arrangements to make in order to safeguard and revitalize the square?
5. What kind of public furniture would be used for the new design?

The scope of the study is limited to the activities which affect the square, and how they would be materially translated on the square.

1.2. Scope of the Study

Showing the degree of the effectiveness of rapidly changing information technology on the square necessitates a case study on which the pre-stated hypothesis will be projected. Taksim Square was selected as the case study area. It was chosen from among the large number of rival squares in Istanbul for the following reasons:

First, its architectural characteristics; it corresponds to the square-determined character by its shape; it is limited by public elements, streets and boundaries. It has self contained elements such as its monument and public services such as PTT, telephone banks and transportation facilities.

Second, throughout its history, from the 17th century when it was a simple empty field for cannon-firing exercises, through its life as a gathering place at the end of Ottoman Empire, to a ceremonial venue during the Republican period, it remains, through its past and present, the most popular square in the city.

Today it is a square connected worldwide via wire and wireless communication systems, reaching the different activities held there ranging from hotels, banks, shopping, and cultural facilities. On various occasions different events have been held in the square, such as festivities, workshops and fairs.

Its transportation scale seems enormous, because it is levelled at the whole city stage. Introducing metro service at the heart of the square has added the potential and capacity for receiving greater numbers of citizens and consequently increasing the services that have to be offered to them.

At the scale of the city it would not be possible to test how the use of information technology acts, so it is logical to start from a well-determined size of such as a square, where the boundaries are delineated and the activities are known. The results which could be obtained from the Taksim Square test would be generators for subsequent studies on other public spaces and later on the whole city.

1.3. Research Methodology

In order to give answers to research questions, a research design is required. Making a statement of study objectives is compulsory; that leads to selection of the type of research by which the phenomenon will be adequately tested. In this case co relational research has been adopted because of the existence of two elementary poles, cause–effect relationship, the causative part being information technology, with open public space being affected by information technology use.

Once the constituent elements of the problem are identified, providing sufficient information for both of them is of prime necessity to introduce experimentally in the research, and that is solely attained by collecting and processing information, through the literature; books, journals and periodicals, electronic data. Review of the literature clarifies the point of view and helps gain a good understanding of the phenomenon .

Limitation of the study permits the control of the problem. For this reason, Taksim Square is selected as a case study area. The scale of research is limited to Taksim Square and information technology. The logical hierarchical process requires first a good understanding of the phenomena in the square, and then to start testing it in detail. So firstly, Taksim Square is studied period by period throughout its history, extracting the changes that occurred during different periods and viewing the impact projected on activities in the square. In this stage, review of the books, articles, historical maps, and old photographs have been very useful. An understanding about transformations in the daily life of the square during the last decade is obtained by interviewing the expert persons (in the domain of architecture and urbanism) who have experiences related to the changes in the space by living in this area. These interviews provided the information which can not be found in written form; but, can only be transmitted from personal memories.

At the end of each period a diagnosis statement is formulated, in which to make a link between changes and the acting factors. Through its genesis and evolution in time, it would be possible to frame its identity, the objective of its existence, and the reason for its need to continue.

Once the subject area has been selected and seen historically, it would be necessary to test the phenomenon in place. The two parts of the problem have been identified previously; it remains to find the link between them. The elements are classified as follows:

1. Cause part: change variable, which is evolving information technology.
2. Affected part : outcome variable, which consists of the square activities.
3. Variables that affect relationship; human behaviour translated to the square through its daily action.
4. Connecting-linking variables are elements introduced to the square and which are related to information technology but at the same time control human behaviour, such as ATM machines, public phones, embedded cameras, and live TV cameras.

Once the study variables are determined, direct contact with the problem is required. The first stage is experimental observation. It is aimed to follow citizen movements, extract their new behaviour and actions, then formulate the framework for the surveys.

The first survey took place in the square itself and was addressed to users; it aimed to trace the link between internet use and square activities, and to show the degree of effectiveness between them. The second survey took place in buildings which have direct and permanent relations with the square, and in this case, questions are addressed to internet users to see how this affects their square visits.

The results gathered are analysed and categorised adequately into a logical structure in order to respond to the original questions, and become tools and material for the evaluation of the effects of information technology on the square activities. And according to the findings, final conclusions are formulated.

2. URBAN OPEN SPACE DEFINITIONS

2.1. Urban Definition of Public Open Space

The wide-ranging scope of the topic of public spaces demands the attention of many disciplines and researchers; designers, managers and policymakers. Public places and spaces include a sweeping array of settings, including urban streets, plazas and squares, malls, parks and other locales, and natural settings such as aquatic environments, national parks and forests, and wilderness areas.

The term “space” has been misused so often and in so many contexts that it seems to have lost its intrinsic meaning. Therefore it may be helpful to define it in order to give it freshness and usefulness. Here, “space”, designating generally a three-dimensional expanse of any kind, is used more specifically. It means a structural organization as a frame for human activities and is based on very definite factors; on the relation between the forms of the surrounding buildings; on their uniformity or their variety; on their absolute dimensions and their relative proportions in comparison with the width and length of the open area; on the angle of the entering streets; and, finally, on the location of monuments, fountains, or other three-dimensional accents (Zucker, 1959).

Space is perceived by the visualisation of its limits and by kinaesthetic experiences, by the sensation of our movement. People in their movements are influenced and directed by three-dimensional confines and by the structural lines of such confines; in other words, the general tension becomes a specifically “directed” dynamic tension. If these confines are architectural structures, their volumes and their scale exert pressure and resistance and stimulate and direct our reaction to the space around us (Zucker, 1959).

In Tuan’s words , what begins as undifferentiated space becomes place as we get to know it better and endow it with value (Tuan, 1977).

Expanding on the concept of place and space, Dovey stated that place encompasses the idea of the interaction between people and physical setting

together with a set of meanings that both emerge from and inform this experience and interaction (Dovey, 1985).

In a comprehensive review, Sime, stated that term of place, as opposed to space, implies a strong emotional tie, temporary or more long-lasting, between a person and particular physical location (Sime, 1986).

Altman and Zube, stated that the most obvious public lands in cities are streets, squares, playgrounds, and parks. But these settings have often been taken over by groups such as neighbourhood organizations, teenage gangs, or street people, with the result the many segments of the public have been effectively excluded from gaining access to urban public settings. And, in some instances, these urban public places and spaces are lacking necessary facilities or are designed so that they are inaccessible to the handicapped or different age groups, thereby denying the broadest possible concept of public (Altman, and Zube, 1989).

There are also privately owned areas, both urban and rural environments, that function as public places, such as conservation areas owned and managed by non-profit organizations and urban and suburban shopping malls.

2.2. Architectural Definition of Public Open Space

Squares are microcosms of urban life, offering excitement and repose, markets and public ceremonies, a place to meet friends and watch the world go by. They have been shaped by popular needs and rulers' whims, by topography and architectural fashion.

Some grew piecemeal; others were planned at a stroke as a symbol of power or the foundation stone of new development. A small city may have a single square that serves as traffic hub and as a distillation of its character.

Great cities boast squares of every size, style and purpose demonstrating the varied ways in which space can be contained and manipulated. Reduced to basics, a public square can be as simple as a child's drawing:

An outdoor room, with walls to enclose space, doors to admit traffic, the sky as ceiling. The walls can be strait or bowed, high or low, continuous or fragmented.

Space can be defined without walls; trees or railing will do the job, as will a central point of focus like a fountain, column or equestrian statue. The point of entry can be concealed by an arcade, perhaps, or establish a bold axis, a cord upon which the square is strung. The surface may be paved or planted, left open or filled with trees.

Is the stage upon which the drama of communal life unfolds: the streets, squares, and parks of a city give form to the ebb and flow of human exchange.

These dynamic spaces are an essential counterpart to the more settled places and routines of work and home life, providing:

- the channels for movement,
- the nodes of communication,
- the common grounds for play and relaxation.

Public space is open publicly accessible place where people go for group or individual activities. While public spaces can take many forms and may assume various names such as plazas, malls, and playgrounds, they all share common ingredients. Public spaces generally contain public amenities such as walkways, benches and water; physical and visual elements such as paving or lawn, and vegetation that supports activities. Whether planned or found, they are usually open and accessible to the public (Carr, 1992).

Public space should be ; responsive, democratic, meaningful.

Responsive spaces are those that are designed and managed to serve the needs of their users. The primary needs that people seek to satisfy in public space are those for comfort, relaxation, active and passive engagement and discovery. Relaxation provides relief from the stresses of daily life and both active and passive engagement with others promotes individual well-being and community. Public space can also be a setting for physically and mentally rewarding activity, such as exercise, gardening or conversation. It can be a place

for discovery of self or others; a step into the larger world of visual and physical contact with nature and plants can also result in important health and restorative benefits for people.

Democratic spaces; protect the rights of user groups; they are accessible to all groups and provide for freedom of action but also for temporary claim and ownership. A public space can be a place to act more freely than when under constraint of home or workplace. In most settings one can temporarily lay claim to a piece of turf even when one does not own it. Ultimately, public space can be changed by public action; because it is owned by all it can offer a sense of power and control limited only by the rights of others. In public space people can learn to live together.

Meaningful spaces; are those that allow people to make strong connections between the place, their personal lives, and the larger world. They relate to their physical and social context (Carr, 1992).

These connections may be to one's own history or future, to a valued group, to one's culture or relevant history, to biological and psychological realities, or even to other worlds.

A continuously used public space with its many memories can help anchor one's sense of personal continuity in a rapidly changing world. By the build-up of overlapping memories of individual and shared experience, a place becomes sacred to a community.

Among the types of squares and plazas, the first have a central square or plaza, often part of historic development of city centre; they may be formally planned or exist as a meeting place of streets, frequently publicly developed and managed.

A corporate plaza is a plaza developed as part of new office or commercial building(s), often in the downtown area but increasingly a part of a suburban office park development; built and managed by building owners or managers; there are some publicly developed examples but primarily they are privately developed and funded.

A memorial is a public place that memorialises people or events of local and national importance.

2.3. Socio-Geographical Definition

As long ago as 1947, Wright, a noted geographer, made a plea for studies of the world as “perceived” which would complement studies of the supposedly “real” world conventionally undertaken by geographers (Wright, 1947).

Wood has demonstrated that by the early sixties, many geographers accepted that the location and movement of people could be neither predicted nor explained by reference to physical geographical features alone (Wood, 1970).

Canter’s place definition is the result of relationships between actions, conceptions and physical attributes (Canter, 1977). It follows that we have not fully identified the place until we know:

- a. What behaviour is associated with, or it is anticipated will be housed in, a given locus?
- b. What are the physical partners of that setting?
- c. The description or conception which people hold of that behaviour in that physical environment.

We can proceed with the identification of places starting with any of the major constituents. If no physical structure exists, during the design stage then we may begin by identifying the groupings of activities to be housed in the proposed design.

Once identified we may move on the conceptions of the links these activities have to given physical forms, for example, that small group discussions should take place in a quiet, private area, separated from other activities. Out of this may grow proposals for specific physical structures which may then be checked against the activities they will house.

If the physical form already exists, when urban redevelopment is in progress, the first stage may be an account of the major physical attributes of the area to be redeveloped.

The next stage could be to identify the conceptions associated with each of the groupings of physical attributes to emerge, and then to identify the

activities which are tied to each of the groupings emerging from the first two stages.

What is meant by physical attributes? In the abstract, independently of any conceptual framework, there is an infinity of ways of dividing up and measuring physical parameters; light, size, shape, form, texture, or the combination of any or all of these and many others, at any scale, are feasible. So researchers have either selected one which caught their fancy with disappointing results, or gave up because they had too many choices. With the three component model it is possible to look for those aspects of physical attributes which have the greatest likelihood of linking to the other components of the place in question; those which facilitate the identification of place.

Behaviour: the third major category of procedures for identifying places is that based upon information concerning what happens where.

Ittelson and his colleagues have developed the procedure of recording detailed observations of who does what where, notably in schools and hospital buildings (Ittelson, Rivlin, and Proshansky, 1970).

They call their procedure “behavioural mapping” and it may be contrasted with that used by Tagg, (1974) in which statements by respondents, for instance about which room they eat in, are taken as the data source.

Information on the activities to be housed in buildings have been the stocks-in-trade of architects for some time, as is illustrated in the Royal Institute of British Architects plan of work. The major contribution to this time-honoured practice, introduced by behavioural scientists, it is systematic collection and analysis of this material and its placement into some overall theoretical context. It is no accident that these three procedural categories reflect the three components of the model of places.

Sketches mirroring the physical attributes account for the conceptual and behaviour recordings of the activity component.

It is certainly the case that combinations of all three procedures will be necessary to provide a complete picture of any place. It is in the overlapping nature of the procedures and the model that any particular method of data

collection will throw light on parts of more than one of the components of the model. It is also unlikely that any one procedure will, on its own, give a complete picture of any one component.

2.4. Sociological Definition of Public Open Space

Public spaces are channels for communication among members of a society that may be supported, tolerated or abhorred by various political systems. Whereas many major political events have occurred in the back rooms of governments, others took place in public places. Some of them had tragic consequences – the assassinations of leaders, the killings of protesting students at Kent State and in China. Others celebrated monumental events – the ends of wars, the accomplishment of spectacular feats from Lindbergh to the cosmonauts and astronauts. With the assembly of people, a sharing and unity are possible that can give expression to communal feelings and an exercise of rights, sometimes leading to political action (Canter, 1977).

Fisher, has pointed to the development of urban subcultures that form the basis of people's lives. These subcultures, which develop around various combinations of ethnicity, occupation, and economic status, provide "meaningful environments for urban residents". Fisher's "sub-cultural theory" acknowledges the direct impacts of urbanism but does not see it creating "mental collapse, anomie, or interpersonal estrangement". These concerns raise questions about the ability of people to identify enclaves of common interests and the degree to which they can locate places for themselves in contemporary cities, town, and suburban areas (Fisher, 1976).

The physical structure of places can strongly affect their public-private balance and the nature of public life. This is especially apparent in looking at cities. For example, streets are components of the urban communication system – the means of moving objects, people, and information from one sector to another (Carr, 1992).

As arteries of the city they enable contacts, both planned and serendipitous ones, that can draw people together. Because streets, also, are the context for

crime and fear, both the positive and negative functions are written in urban history.

Jane Jacobs (1961) was an early advocate of street life, with diverse uses and activities filling the streets with people, making them exciting places and safe ones. The impact of the automobile, on the other hand, was seen as a reason for a decline of street life. Appleyard's study of streets with differing degrees of traffic revealed an inverse relationship between the intensity of vehicles and the residents' sense of public life (Appleyard, 1981) and (Rudofsky, 1965).

Technology enters as factor defining the public-private balance and the use of public spaces in at least two ways. First, it sets out what can and cannot be accomplished in a particular society. "The available technology provides limits to the nature of construction and transportation, shaping the form of the community by influencing the ability of residents to have access to available resources, including public spaces" (Carr, 1992).

Technology enters public life in other way, in its integration into the society. In this second sense, the availability of microcomputers for work at home provides a useful example. From research on people working at home using computers, Carr, (1992) has speculated on new kinds of communication via the microcomputers and some new dimensions to local community life. There are opportunities for reaching out to others while remaining at home. This began with the development of the telegraph system and was further extended with the introduction of the telephone, raising some intriguing possibilities of an aspatial public arena, a privatised public life. The use of home computers for work is reminiscent of the medieval workshop that was part of the home.

However, missing from this contemporary form of employment is the presence of a wide range of family members, apprentices, employees, and customers who no doubt created a form of public life. "If this trend continues it may require the development of social-symbolic life close to home as well as the settings to support it." (Carr, 1992).

2.5. Types of Public Open Space

Urban open spaces can provide a refreshing escape from the tedium of big city monotony. Their benefits, however, are universally beneficial only if open spaces are accessible to and usable by all people, including handicapped individuals. Open spaces can and should be available for enjoyment by everyone, even if experienced with diminished or lost sight or hearing.

Open space in the urban environment is a rare and precious commodity, a valued amenity existing in any community, that is to be preserved, respected, and celebrated.

The following types of open public space were generated during different periods in order to serve citizen needs. They are classified into ten different categories, that depend upon their purpose, landscape, geometrical form, and architectural aspect.

Human beings' needs for open space was the reason for creating those kind of spaces; in general, public places are as old as history, but green playgrounds and sea-side walkways are a bit more recent. With the progression of urban planning, the green park was generated, as well as playgrounds.

Those places form the city fabric with its surroundings; they are mostly driven by site topography, surrounding buildings and the existing fabric. They have come to serve for relaxation, play, walks, and much other street life.

The different types of open public space, that is known today are the result of historical development of the space, needs of new spaces, and changes in usage. These changes suggest an emerging form of public space, and physical elements appropriate to each type of space.

Among the different type, city square is the favori place for every day use. People pass by, take a rest there, meet and walk there. That was the reason of choosing Taksim square as case study for evaluating the effect of advanced information technology on urban open space.

Up to Carr, (1992) open public space is divided into ten main types, taking in consideration historical development of the space and activities that could be provided there.

I. Public parks

1. Public/Central park: Publicly developed and managed open space as part of zoned open space system of city; often located near city centre; often larger than neighbourhood park.
2. Downtown parks: Green parks with grass and trees located in downtown areas; can be traditional, historic parks or newly developed open spaces.
3. Commons: A larger green area developed in older New England cities and towns; once used as pasture area for common use; now used for leisure activities.
4. Neighbourhood park: Open space developed in residential environments; publicly developed and managed as part of the zoned open space of cities, or as part of new private residential development; may include playgrounds, sport facilities.
5. Mini/Vest-pocket park: Small urban park bounded by buildings; may include fountain or water feature.

II. Square and Plazas

1. Central square Square or plaza: Often part of historic development of city centre, may be formally planned or exist as a meeting place of streets, frequently publicly developed and managed.
2. Corporate plaza: Plaza developed as part of new office or commercial building(s), often in downtown area but increasingly part of suburban office park development; Built and managed by building owners or managers; some publicly developed but primarily privately developed and funded.
3. Memorial: Public place that memorialises people or events of local and national importance.

III. Markets

1. Farmers market: Open space or streets used for farmers markets or flea markets; often temporary or occur only during certain times in existing space such as parks, downtown streets or parking lots.

IV. Streets

1. Pedestrian sidewalks: Past of cities where people move on foot; most commonly along sidewalks and paths, planned or found, that connected one destination with another.

2. Pedestrian mall: Street closed to auto traffic; pedestrian amenities provided such as benches, planting; often located along main street in down town area.
3. Transit mall: Development of improved transit access to downtown areas; replacement of traditional pedestrian malls with bus and "light rail" malls.
4. Traffic restricted street: Streets used as public open spaces; traffic and vehicle restriction can include pedestrian improvements and sidewalk widening, street tree planting.
5. Town trail: Connect parts of cities through integrated urban trails; use of streets and open spaces planned as setting for environmental learning; some are designed and marked trails.

V. Playgrounds

1. Playground: Play area located in neighbourhood; frequently includes traditional play equipment such as slides and swings; sometimes includes amenities for adults such as benches; can also include innovative designs such as adventure playgrounds.
2. Schoolyard: Schoolyard as play area; some developed as place for environmental learning or as community spaces.

VI. Community open spaces

1. Community garden/park:

Neighbourhood spaces designed, developed, or managed by local residents on vacant land; may include viewing gardens, play areas and community gardens; often developed on private land; not officially viewed as part of open space system of cities; often vulnerable to displacement by other uses such as housing and commercial development.

VII. Greenways and parkways

1. Interconnected recreational and

natural area:

Natural areas and recreational spaces connected by pedestrian and bicycle paths.

VIII. Atrium/ indoor market place

1. Atrium:

Interior private space developed as indoor atrium space; an indoor, lockable plaza or pedestrian street; counted by many cities as part of open space system; privately developed and managed as part of new office or commercial development.

2. Market place/ downtown shopping

centre:

Interior, private shopping areas usually freestanding or rehabilitation of older buildings; may include both interior and exterior spaces; sometimes called festival marketplaces; privately developed and managed as part of new office or commercial development.

IX. Found/neighbourhood spaces

1. Found spaces/ everyday open spaces: Publicly accessible open spaces such as street corners, steps to buildings, which people claim and use; also can be vacant or undeveloped space located in neighbourhood including vacant lots and future building sites; often used by children and teenagers and local residents.

X. Waterfronts

1. Waterfronts, harbours beaches, river

fronts, piers, lake fronts:

Open space along waterways in cities; increased public access to water front areas; development of waterfront parks.

3. HISTORICAL DEVELOPMENT OF URBAN OPEN SPACE

3.1. Urban Open Space in Antiquity

It is necessary to review the historic genesis of the urban open space from antiquity, and know what factors created and influenced it. Within this context it is necessary to also know what kind of activities were conducted at that time and how they were physically put into effect.

In the beginning urban open space was used for community meetings, whether religious, commercial or governmental. There was little interest in setting aside separate spaces: one space did triple duty. The pre-historic urban space, which had many uses, as a prototype that still survives in simple communities everywhere.

India

The earliest planned towns appear in ancient Indian civilisation, but nothing resembling a square-like area has been found. The few open spaces must be considered as courts in connection with individual houses and temples. Nor can the courts attached to temples be considered as squares within a town. The tremendous temple courts of later Dravidian dynasties, such as those of Tiruvannamalai, Baillr, Purudkul, and even the great temple court of Madura, were expanded for the performance of the elaborate religious rituals, as were the courts of the temple of Ankor Wat in the Khmer Empire of Cambodia. These courts, however, always remained part of the temple district and neither sociologically nor spatially can be considered as squares (Zucker, 1959).

Mesopotamia

In the Mesopotamian cities of 4000 years ago, the temple square and the market square were separated physically as well as functionally. We can begin to acknowledge how great an act of invention the walling-off a temple square was. The separation tells us, as it told the residents of Babylon, "here something special is going on". As if exhausted by this leap into complication,

the people in this region remained satisfied with a two-part division of urban open space (Zucker, 1959).

The difference in the quality of these spaces is indicated by the fact that, while the temple square was walled off from the city, the market plaza had no such rigid boundary, but rather melted into the urban fabric along the busy commercial streets that penetrated every quarter of the city.

Temples and palaces and the great axes of streets for sacred processions were the dominant factors in Mesopotamian towns which defined their shape. The great open spaces extending in front of temples and palaces were part of these establishments, shapeless in themselves, juridical courts or sites for religious ceremonies, as was, for instance, the great area before the Ishtar gate in Babylon.

As everywhere in the East, it was outside the walls (*extra muros*) that people met and bargained, as is so often mentioned in the Scriptures. It is that which made the notion of public open space so weak and of so little importance.

Egypt

Because of their basic political, sociological, and economic conditions, the towns of Egypt, like those of Mesopotamia and India, were entirely different from the Greek polis. Temples and palaces were the most important elements, but were isolated and without reference to any kind of overall pattern.

As we noted above, the Indian, Mesopotamian, and Egyptian civilisations did not provide the political, governmental, social, and most important psychological conditions which could create the need for gathering places.

In other words, the lack of democracy as it was known among the Greeks, made the previously stated civilisations go away from the creation of a public open space. Whether in the past or in the present, democracy is required to create such kinds of spaces.

Greece

Mesopotamian and Egyptian culture was strongly hierarchical whereas the Greeks flourished in a milieu of dynamic tension. In the Greek city, it was possible to be more richly human and to engage in a far greater variety of human activities. The ideology of the culture promoted this. Also, the pattern of urban arrangements; the diversity of urban space and proximity of such spaces to the working and living quarters of the people made a richer common life possible" (Taylor, 1979).

The acropolis, a fortified area containing the temple precinct, served as the nucleus of early Greek towns. On the acropolis, temples and statues were located according to topographical conditions of the hill.(Figure 3.1)

The acropolis was walled, but never became part of the fortification of the settlement which stretched beneath it. Once the whole town had become walled, the acropolis gradually lost its importance for defence. During the earlier archaic centuries it also served as a gathering place.

But as this civilisation developed, the agora - the secular market and meeting place - assumed increasing prominence. Mumford, (1961) stresses that the most important function of the agora was daily communications and formal and informal assembly. While some form of public market place can be traced back to the Mesopotamian cities of 2000 B.C Mumford, (1961), the major precursors of later day public spaces occurred in the cities of ancient Greece and Rome. For the one-seventh of the population fortunate enough to be citizens during the height of Greek civilisation, public life – centred around the agora - was extremely rich.

By the 6th century B.C, with the growth of Greek cities new public institutions also emerged. Dramatic performances and sports, which in smaller communities had occurred within the context of the market place, now were held in open air gymnasia and the theatres on the outskirts of cities. The relative richness of public life in the cities of mainland Greece was not encompassed within a particularity formal or planned spatial order. These cities, including Athens, developed in a spontaneous organic fashion, lacked

coherent street systems and contained only the beginnings of arcaded public promenades.

Yet in Asia Minor, starting in the sixth century B.C and culminating in the third century B.C, new Greek cities emerged that were based on a systematic plan. The basic form of these cities was a gridiron –with standardized blocks, long wide avenues, and a rectangular agora, surrounded by colonnaded streets.

Ironically, the greater formal structure and architectural grandeur of the late Greek city corresponded with an increase in despotism and a more regimented public life – a pattern extended by the Romans.

Hellenistic Era

This period is meaningful because of political activities went into buildings, justice as well, to leave the place free to commerce. At the beginning, the political activity was held under the open skies.

Around the main agora the government of the town often leased shops and stalls to merchants and craftsmen who in turn brought a relatively high income to the administration. In connection with the levy of these rents, some prices of the goods sold there were controlled. As more and more space was taken over by businesses, the political function of the agora decreased and retreated into specific buildings like the Bouleuterion or individual stoas which were no longer under the open sky. Eventually stoas and halls were erected exclusively for marketing purpose and for exchange, often presenting just a glorified façade for rows of modest shops behind a magnificent portico (Zucker, 1970).

Roman Empire

The Roman forum served both public and commercial purposes, and the sacred temples were surrounded by taverns and simple market stands. This combination of functions gradually changed and the forum became more and more public domain. People no longer gathered on the comitium for political meetings but on the forum proper. (Figure 3.2)

The cities of the Roman empire were centred around the forum, which combined the function of the Greek acropolis and agora. In large cities, the

forum constituted the whole precinct incorporating enclosed, semi-enclosed and open spaces for commerce, religious congregation, political assembly, athletics, and informal meetings.

The forum and the surrounding centre of cities like Rome reflected a rigorous spatial order and grandeur beyond that of the Greeks. It has been estimated that, under Emperor Augustus, thirteen miles of colonnaded streets were built in Rome. While the centre of Rome was designed to aggrandize the emperor, the main population of the city lived in cramped, noisy, airless quarters, undergoing daily indignities and terrors that coarsened and brutalized them.

The basilica was only erected in the second century B.C, and served as administrative building, as court of justice, and as market hall; its aisles sometimes also served as a public promenade. In imperial times its axis was parallel to the main direction of the open space of the forum. The relationship of the basilica to the forum corresponded to that of the Hellenistic temple and its courtyard to the agora (Zucker, 1970).

With respect to the difference between Greek and Roman conceptions of space, the agora was irregular in form, which is not the case of the imperial forum, which is oriented by colonnaded roads and leads to diversity in terms of architectural sequences. Roman had succeeded in creating a well organised and zoned forum, but they failed in keeping the outdoor activities lively, as it was in the Greek agora.

Three new concepts for urban open space were emphasized by the Romans. The first was the concept of an outdoor but fully enclosed space. In the last two centuries before Christ, the Hellenistic Greeks had increasingly regularized their agora by edging them with horizontal office buildings called stoas. The Romans carried this idea to its logical conclusion by deliberately laying out rectangular spaces that were completely surrounded by long rows of columns. Behind the columns were offices, markets, temples, or other buildings, all subordinated to the open space upon which they focused.

Such subordination reflected the Roman sense of hierarchical order. Even the streets intercepted the open space through the colonnades, and so were visually subordinated. The Romans also experimented with shapes other than rectangular.

Some, like the forum Boarium, where meat was sold in Rome, were irregular in shape.

Squares, circles, and ellipses were also tried, such as the oval plaza at Gerasa. The choice of shape was sometimes dictated by geography. For instance, the forum of Constantine at Constantinople was rounded to fit around the summit of the hill on which the emperor had once camped. Often, shape seems to have been an aesthetic decision.

The second new idea was to make something special of the streets themselves. This was accomplished by continuous rows of columns along important streets. The streets were widened, sidewalks were laid between the colonnades and the walls of shops. Intersections and terminations of streets were emphasized with a new kind of furnishing - the triumphal arch. These street corner fountains, many little cafés, and the common mixture of rich houses, poor houses, apartments, and shops on nearly every block contributed to a lively scene of urban life in these newly monumentalised streets.

Thirdly, the Romans developed to a fine art the notion of common recreational open spaces. Owing to their great success in conquering the Mediterranean world, the Romans could afford more leisure life than had ever been possible before. In Rome itself there were 180 holidays a year. To use up all this free time, theatres, stadiums, amphitheatres and baths were built generously throughout the city and the empire. Each of these functioned as public open space.

Some, like the baths and smaller theatres, were enclosed. Most had plazas or gardens connected with them. Emperors and other rich persons vied with one another to build such recreational structures for the people. They also endowed them to cover operating costs, so that attendance could be free or nominal.

The high degree of democracy available in Greek society permitted rich public life, which was managed in the opposite manner under the Roman emperors. It seems that public life with its different outdoor activities were controlled and directed within a military system and justice and administration were enclosed in specific buildings. Phenomenon and political decision are factors in driving public space outdoor activities and consequently their physical elements.

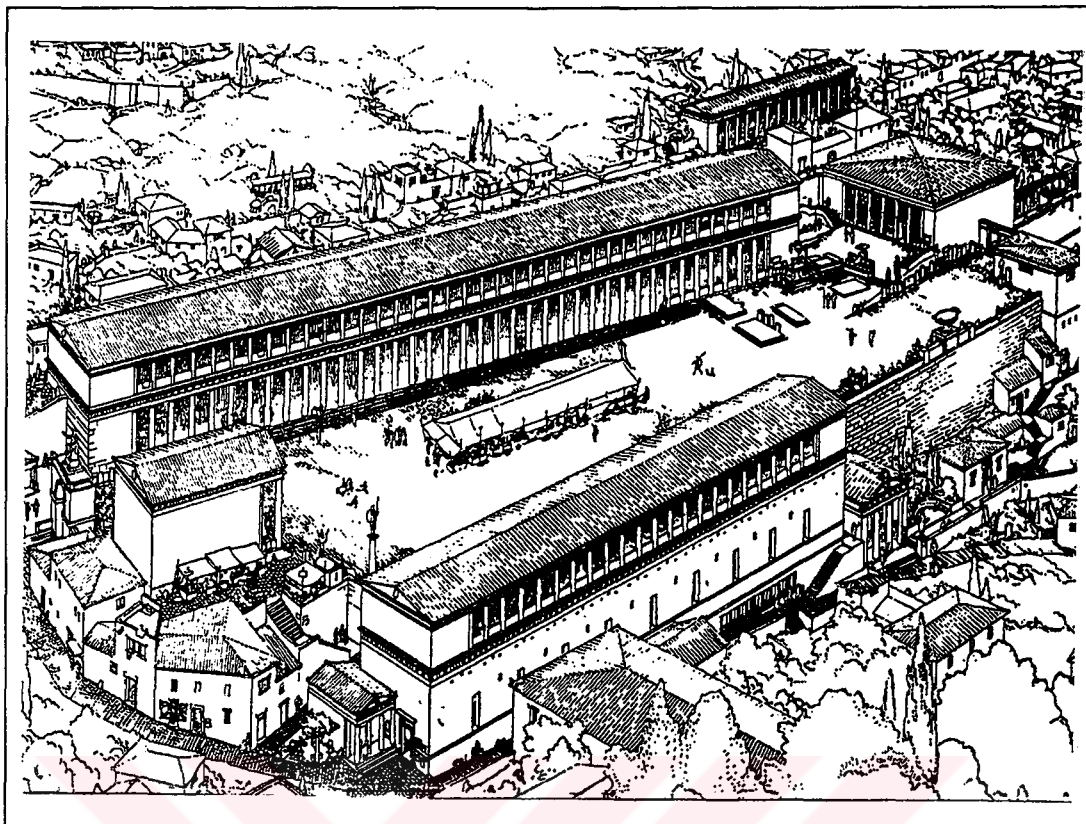


Figure 3.1 General View of Greek Agora (Zucker, 1959)



Figure 3.2 General View of Roman Forum (Zucker, 1959)

3.2. Medieval Urban Open Space

After the collapse of the Roman Empire in the west, social life gradually reconstituted itself. Mediterranean towns retained some Roman features such as the urban open space at the centre where the two main roads crossed.

The earlier medieval towns, the result of centuries of growth, are characterized not only by the irregularity of their streets but also by the extreme narrowness of the streets and squares without any expansion in width. The need for space in the open was hardly felt.

Christian sentiments after the 5th century put an end to theatre and amphitheatres; economic and military necessity put an end to the chariot and horse races of the stadium. But the baths persisted on a reduced neighbourhood scale into the 14th century, when the black death made all social gatherings impossible for a while.

Even so, one recreational open space of the ancients has persisted in recognizable form to our own day, in the form of the Turkish bath. Our sports stadium, race tracks, and theatre auditoriums owe their original forms also to that ancient need to fill up leisure time.

Northern European settlements, on the other hand, were largely rural for several hundred years. Urban life began to revive in the north after 1100. There we can see the tensions between, and mutual adjustments of, religion, market and government playing themselves out in the control and use of the main urban open space, the cathedral square (Zucker, 1959).

At Chartres in France, for example, certain goods were sold at each great doorway of the church, by license from the administrators; wine was even sold in the basement of the church to avoid taxes that would otherwise have been levied on it by the local nobility.

Workmen for specific trades could be hired in various part of the church, and visiting pilgrims could sleep there. The interior of the building was as a much urban open space as the square outside.

In fact, not only did the town depend largely on pilgrimage for its economic well-being, but when the church was finished in 1225, most of the town

residents could fit inside at once - a real correspondence between users and space. This open space does not seem to have been designed as consciously as the Roman or Greek spaces; the order here is functional rather than visual.

The growing prosperity of those holding market stalls, combined with the congestion of the original marketplace as the medieval city grew, caused merchants to develop individual shops and also led to the emergence of covered markets and multiple marketplaces (both open and indoor) in most cities. In addition to market squares, a number of medieval European cities contained civic squares or piazzas adjacent to their town halls. According to Girouard, (1985), by the mid-fifteenth century the idea of a piazza expressing civic dignity and therefore unsuitable for commercial activities had clearly crystallized. One such space, Piazza San Marco in Venice, began its life as a small medieval square "filled with market stalls" and gradually was changed into a grand renaissance civic plaza (Zucker, 1959).

Despite its grandeur San Marco, like most medieval squares, accommodated a wide variety of activities, and special events from bullfights and tournaments to processions and great religious feasts. At all times of crisis the people gathered in the piazza in enormous numbers and victories were celebrated with bonfires on the piazza. This was similar for Piazza Del Campo. (Figure 3.3)

The public life was held around the parvis. "The medieval parvis, the square before the church building, is structurally different from the medieval market square in so far as the parvis is dominated exclusively by one building, being almost part of the structure, since all individual architectural elements of the square refer to the dominant edifice" (Zucker, 1959).

The parvis may be considered functionally as an expansion of the early Christian, Byzantine, and Romanesque narthex, the entrance hall of the church, originally destined for the neophytes who were not yet admitted to the interior. It was on the parvis that the faithful gathered before and after the service; here they listened to occasional outdoor sermons, and here processions passed. Here, in front of the west portals of the church, mystery plays were performed from the twelfth century on. Here people from out-of-town left their horses, and soon stalls of various kind were set up. The appearance of religion

had created a reason for gathering, then other activities of commercial character had been raised on the parvis to serve visitors from inside and outside the city.



Figure 3.3 Medieval Open Space; Siena, Piazza Del Campo (Zucker, 1959)

3.3. Renaissance Urban Open Space

The next step in the history of open space in the cities were the regularisation (again) of plazas during the Renaissance and the dramatization of the city during the Baroque period. For example, although too clever to utilize mere rectangles, the Venetians definitely regularized the plaza at St Mark's (Figure 3.4), they began with the erection of the library in the 16th century to balance the late medieval Doge's palace opposite. Over the next two centuries, the edges of the piazza and the piazzetta were formalized with stoa-like buildings that combined shops below and elegant residences above. Static perfection of this kind, however, didn't long remain the ideal.

In more normal cities, wheeled traffic combined with the idea of powerful national sovereignty to stimulate the development of dramatic and dynamic urban open space. Drawing from the ideas of Sixtus V about streets as agents of urban information in late 16th century Rome, the new urban open space corresponded to new theories and practices of conscious and extensive planning. Florence's Piazza Della Signoria was designed within those new theories (Figure 3.5), "Parts of cities were considered "works of art". These parts were not only the private palaces of the rich but also the open spaces and streets provided for the use of all. The open spaces of the city became again a theatre for newly vivid urban life." (Taylor, 1979)

The great plazas of the renaissance, carefully planned and formally designed, were a departure from the more organic, naturally evolving public space of the middle ages. Starting in Livorno, Italy, in the late sixteenth century, main squares began to be constructed as a unity, based on a fully symmetrical design. Whereas some of these grand central spaces, like St Peter's square in Rome, were emblems of civic and religious pride, others like the Place de la Concorde in Paris, are arguably too large and lacking in connection to the surrounding city. In the first years of the 1600's, two smaller squares of unified design were developed in Paris; Place Dauphine and Place Royal (now Place des Vosges). The latter was tremendously important, being the first exclusively residential square of integrated design.

The tradition of designing residential quarters (primarily for the wealthy) around squares blossomed in central London, where over two dozen such spaces were developed between 1630 and 1827, epitomized by the quiet squares of Bloomsbury. The greater proliferation of these residential squares in London than on the continent is partially due to their frequently semi-public character. In England, “the idea that a square was necessarily a place for public assembly” and noise and activities was less strong than elsewhere in Europe; apparently the ability to restrict public access to and use of these London squares made them more popular among developers of new residential district. (Zucker, 1959)

Renaissance open public space flourished considerably in matters of architectural ornament as well as public life. The regularisation in form and the scale of the renaissance square reveal that a large number of activities were held there, which necessitated large open space.

Trade and maritime transportation had given opportunities to renaissance open space to prosper. The discovery of the new world had brought wealth and richness to open space in Europe in general. Imported goods were sold in the square, and adventure-tellers were a familiar scene at that time. As in the previous historical period, the people’s needs are driving the activities in public space, and that had a consequence on the form and on three-dimensional elements.

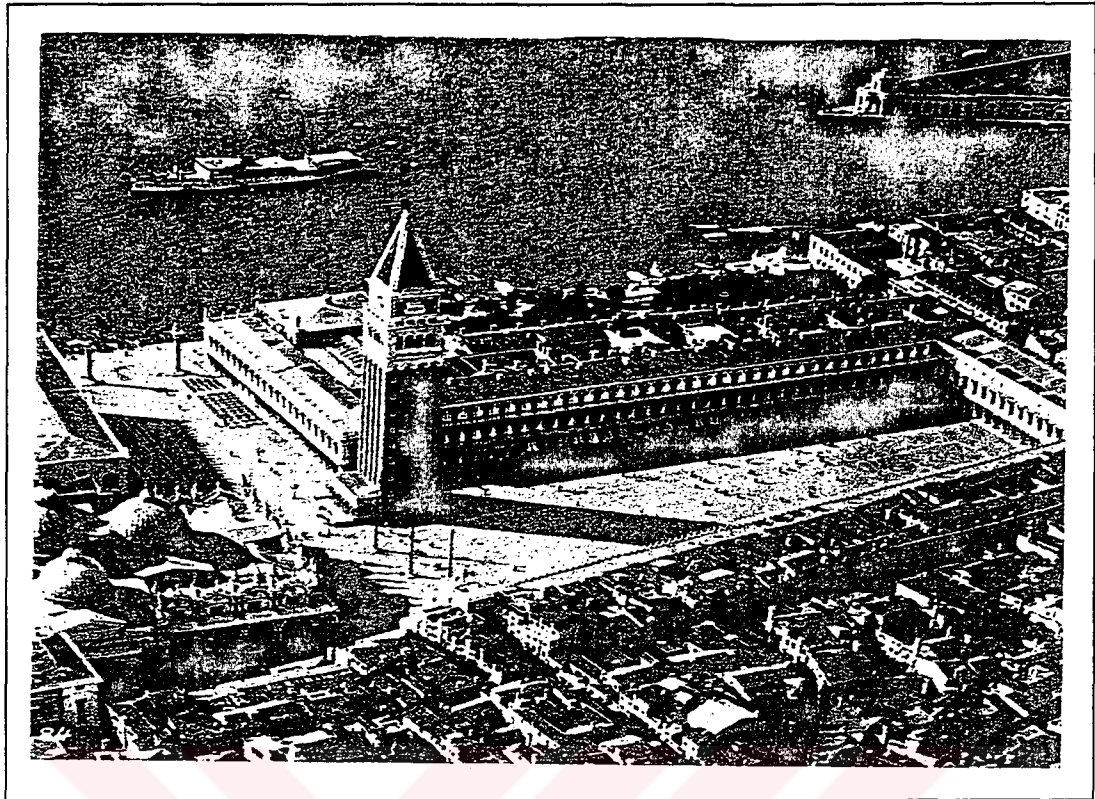


Figure 3.4 Venice, St Mark's Square and the Piazzetta (Zucker, 1959)

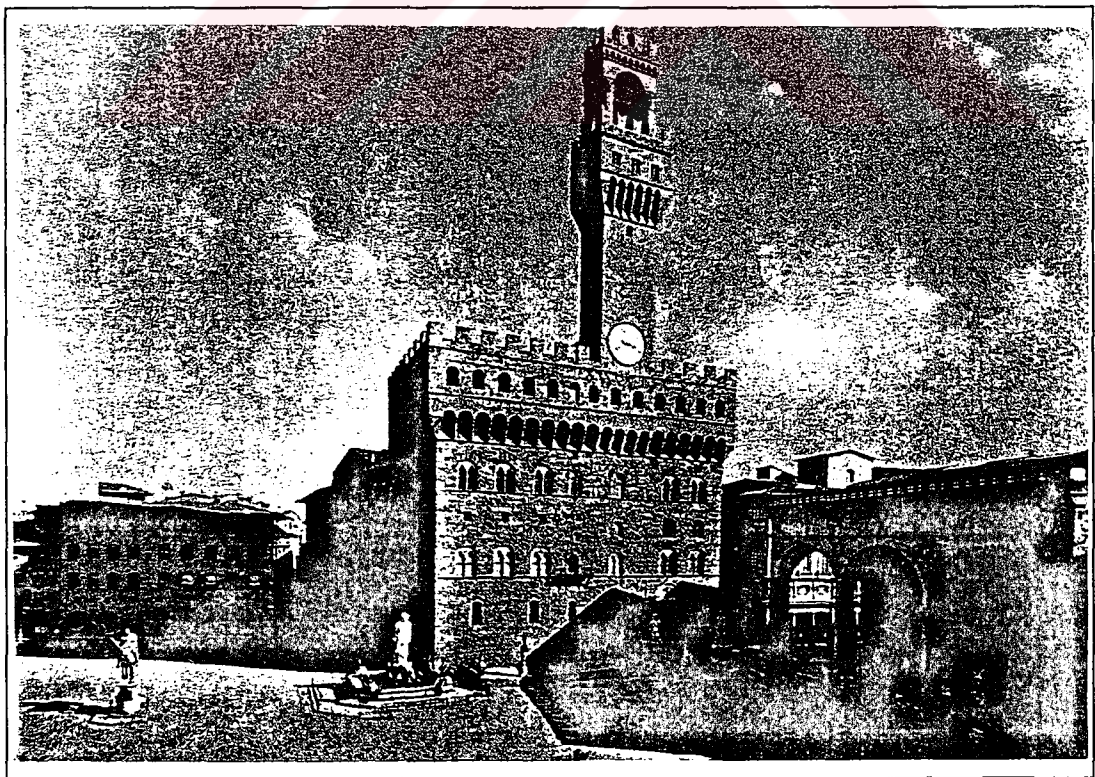


Figure 3.5 Florence, Piazza Della Signoria (Zucker, 1959)

3.4. Urban Open Space from Seventeenth to Nineteenth Century

Open space was liberated and was perceived not in any finite form but, in successive stages of development, in the process of becoming three-dimensional. This movement is directed by individual architectural elements and the multitude of their spatial relationships. Such elements are, for instance, the direction of the incoming streets, the positions of monuments and fountains, differences in level, the fluctuating building lines and the staggered volumes of the surrounding structures. Their aesthetic impact is intensified, if possible, by the illusion of seemingly increased depth, by the visual penetration into the third dimension, created by all the techniques of a refined stage design. This appeal to visual imagination, so natural and widespread during the seventeenth and eighteenth centuries, demanded a high conscious perception. Subjective spatial interpretation, so often suggested in painting and sculpture of the same period, was challenged.

The general emphasis in those times was artistic character; even urban open space was reshaped within classicist academic laws. The classicism was first perceived in painting and sculpture and then was generalized, to be adopted by architects and city planners.

The shape of baroque and classicistic squares is in both instances based on the experience of progression in time. While the aesthetic effect of the baroque squares with their continuously changing aspects presupposes the accumulation of contrasts, building up a polarity of climactic sequences in time, the form of classicistic squares evolves from a gradual summing up of visual impressions, experienced in time, step by step, corresponding to straight linear progression; the onlooker is led to a logically expected stop and final rest (Zucker, 1959).

Well-refined open space in form, had led to limited public activities in non formal open space. Generally those open spaces were leftovers from the preceding periods. The rest of the public space (square) was the court of a palace or royal place (this was the case in the regime of France); the square was surrounded by the royal library, the royal academies, the mint (bank) and some embassies, which should be united to increase the real estate value of the land belonging to the king.

What are known today as royal Places for instance, Place de la Concorde (Figure 3.7) or Place des Vosges, weren't really open spaces, because they were accessible to the public only on specific occasions and celebrations.

The situation is different in Italy, the square generally being related to the church or basilica; an example is St. Peter's Square in Rome (Figure 3.6), where pilgrims gathered to attend the pope's sermon. Religion had been reason behind creating large open space in Italy, in addition to the fact that the place and the occasion helped people to come closer to one another. This feeling of outdoor space was encouraged more in Italy than it was in France.

During the days of pilgrimages, books were sold on the square and diverse goods were sold to people coming from outside Rome.

This was the extent of public life in general in those days, and as it was stated earlier, the open space improved progressively in shape and in function.

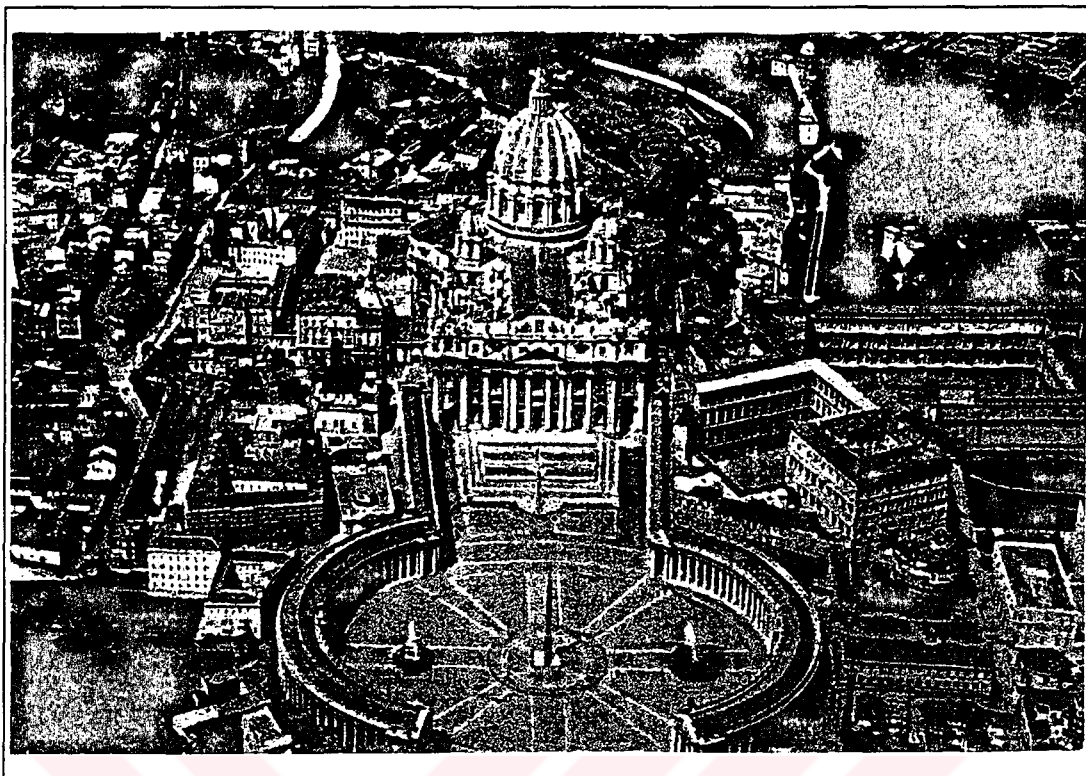


Figure 3.6 Rome, St Peter Church and the Square (Zucker, 1959)

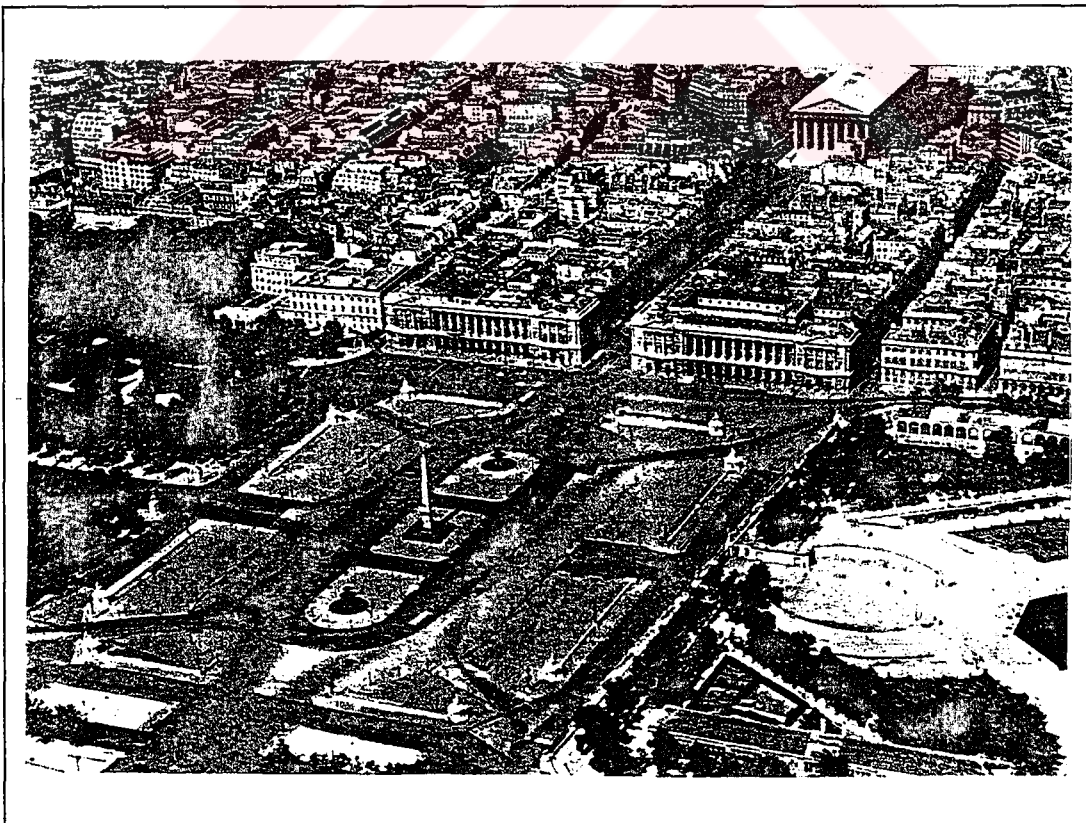


Figure 3.7 Paris, Place de la Concorde (Zucker, 1959)

3.5. New World Urban Open Space

Not surprisingly, these renaissance and baroque ideas were brought to the new world as part of the intellectual baggage of the colonists. Spanish city settlements, from the largest to the smallest, were organized around the plaza prescribed by the laws of the Indies. After the work of the day was done, the community would gather at the plaza. In addition, the town was required to set aside a commons for the grazing of animals, and to hold title to unassigned lots so that late-comers could be provided for.

The old Mediterranean feature of colonnaded streets also persists in these new world towns, notably in Santa Fe, New Mexico.

On the east coast, residential squares like the new ones in London were laid out in Philadelphia and Savannah. An older tradition was mirrored nostalgically in the village green of New England and the north central states. This tradition was composed partly of a vision of the heavenly Jerusalem as described in the Bible. Whatever the sources, these greens preserved some open space at the heart of the settlement.

This gentle and idealistic agrarian urbanism was almost obliterated by the onset of the industrial revolution. In the decades before and after 1800 there was a quantum jump in the area of the cities and the density of population. For a while, urban open space was treated as a frivolity that people could get along without.

As early as the 1830's however, a reform movement that coupled urban parks and rural cemeteries began to counteract the effects of agglomeration. One may note that it was cities like Troy, New York, which called itself the birthplace of industrial revolution in America, that led the reform movement in favour of urban open space.

This movement culminated in the creation of great urban parks all over America in the second half of the 19th century. Central Park in New York, Golden Gate Park in San Francisco, the necklace of parks around Boston, and the Kansas City park system, were designed by Frederick Law Olmstead. In the case of Kansas City, the creation of parks was used to increase property values. Taxes on the increased values paid for the parks. For the first time, the city

dweller was cut off from pedestrian access to the countryside by the sheer size of the city. Olmstead brought to the city dweller some of this lost countryside. He envisioned his parks as the lungs of the city.

In addition, he was able to envision how to accomplish these goals economically. We have much trouble emulating and even maintaining these 19th century parks. Urban open space, even when well designed and well executed, does not express the actual order of the society, such urban open space is an art form expressing potential order and helping to bring it to actuality.

Density, compactness, and traffic define the streets as backdrop for urban life. Relative calm in plazas and parks and in enclosed urban space, such as arenas and theatres, plays against that multiplicity in the streets. Together, these two sorts of urban open space define the city.

3.6. History of Urban Open Space in Turkey

3.6.1. Seljuk and Ottoman Urban Open Space

A square in Seljuk and Ottoman cities is an urban space serving the whole city in terms of civic, ceremonial, religious, social, educational-cultural, commercial, residential and transportation functions. Seljuk and Ottoman squares act as distributing nodes serving the masses moving in and out of the major buildings to and from the neighbouring paths.

They accommodate large monumental structures within the compact bulk of the city, but the form of the square is the product of a variety of functions .

A. Informal squares are the public spaces confined to residential, interstitial areas between cells-neighbourhoods, bazaars, ceremonial buildings and mosque complexes. Informal squares are classified according to the main functions they fulfil as commercial, residential and quay squares; informal squares can never be privately owned and every member of the society has equal claim to public squares.

A.1. Commercial squares are urban places developed in front of or around important commercial buildings, bedestan, hans, and covered bazaars in the old

centre of the city. The main function of the commercial square is trade and the secondary function is religion. The commercial square is the market place of the city. The open market is set up on the square at least once a week, even in bad weather; however, commercial functions prevail on all days of the week with the presence of the commercial buildings in the area.

The commercial area around the bedestan and the hans is busy and full of life all day. Most cities have their own craft specialities and therefore the craftsmanship of each city is usually displayed on the commercial square. Sometimes, the commercial square also accommodates social, educational and cultural functions on site.

A.2. Residential squares are public spaces developed between residential housing blocks in the neighbourhoods or quarters. They are generally the intersection of three or more residential streets. There is usually a local mosque and a well or a fountain at the square as dominant monuments. There is also a café for men on the area with a small local shop for general supplies. The residential squares are the meeting and communication places for the local residents. They are the places where residents come together and socialise during the day (Hafiz Huseyin Al-Ayvansarayii, 2000).

A.3. Quay squares are public spaces formed in front of a port, serving the functions of maritime transport, social gathering and recreation.

B. Formal squares: The squares which developed for civic, ceremonial, educational and cultural purpose are called formal square. Educational squares developed between the fourteenth and eighteenth centuries, the classical period of Ottoman architecture and urbanism, whereas the governmental squares developed at the end of the nineteenth century, the late period of the Ottoman empire (Crane, 1987).

B.1. Educational squares developed between the buildings of the kulliye, building complexes consisting of a mosque, one or more medresse, a hamam, zaviye, imaret, tabhane, türbe and timarhane or dariüşifa, which were built during the fourteenth and eighteenth centuries.

The development of the educational squares started with the tradition of the Ottoman külliye, which represented a religious, educational, cultural and social centre.

B.2. Governmental squares are the latest type of squares in the urban history of the Ottomans; they are formal squares which developed in front of government buildings as a result of modernisation and westernisation in the late Ottoman period at the end of the nineteenth and the beginning of the twentieth century. The government squares fulfil civic and ceremonial functions. Usually the main government house of the city (hükümet konağı) dominates the square. The square is surrounded by other official buildings on almost every side; these squares have very regular forms, like the baroque squares of the West.

3.6.2. From the Seventeenth to the Eighteenth Century

The concept of the social, educational and religious complex change during this period, most apparently in the scale of the mosque and the type and variety of its dependencies. Crane explains these changes in the translation of Cafer, Risale-i- Mimariyye, as the result of external circumstances: political instability, military reverse and economic setbacks, all of which served to limit in both number and size of the foundation of new imperial mosques throughout most of the seventeenth and eighteenth centuries. Although imperial mosque architecture continued to be a prime concern of the Ottoman sultans throughout the eighteenth century, imperial complexes from this time were far more modest than earlier ones (Crane, 1987).

The complexity and scale of these foundations became gradually smaller as they lost their dependencies, and as a result, no new educational squares formed from then on.

3.6.3. Urban Open Space After 1923

Unlike informal commercial, residential and quay squares, the educational squares lost their importance completely because of the change in the educational system and in other social institutions brought about by the establishment of Turkish Republic. Although they still carry a symbolic

significance defined by their original form, structure, planning and decoration, the medresse are no longer used as schools just as the imaret are no longer used as kitchens.(Crane, 1987. Translation of Risale-i-Mimariyye)

At the same time, public baths lost their attraction because of the modernisation of housing facilities; there are modern hospitals all over the country, so darüşifa or timarhane are not in use as hospitals any more, except for that in Suleymaniye in Istanbul.

Some of these educational squares became a complete religious centre for religious fanatics living in the area, e.g. Fatih complex and Fatih Square; others such as Suleymaniye and Sultan Ahmet or Yeşil KÜlliye in Bursa have become tourism centres, with many cafés, shops and other attractions on site.

As we have seen throughout the history of squares, by the end of the Ottoman period and the beginning of the Republican period many types of squares which used to exist in Ottoman times were no longer used during Republican times, such as the educational and religious squares which have mostly been transformed into tourism areas, as well as the timarhane and imaret which completely disappeared.

The meaning of the square as a spatial experience can be grasped only by those who are aware of the phenomenon that the human reaction toward the form and dimensions of shaped and modelled space changes continuously. This change happens not only from century to century, from country to country, but even within one period and one nation; and it means more than a mere alteration of taste. It is not dependent on contemporary abstract doctrines and philosophies, although it is certainly influenced by them. It is elemental. It grows from a specific and characteristic mode of human behaviour and attitude, articulated in specific forms by the creative process either of an anonymous collective, as in the Middle Ages, or of individual artists, as in the Renaissance and during later centuries. In each instance it presents an integrated complex of reason, feeling and will.

4. INFORMATION TECHNOLOGY

4.1. The Concept of Information Technology

Information technology is a set of tools that helps us work with information and perform tasks related to information processing. That set of tools includes such computer-related items as a printer, a keyboard and CD-ROM, and multimedia applications that let us hear, see, and read about various topics, home budgeting software that helps us maintain check books, and the internet, which allows us to find information all over the world and communicate with people everywhere.

The use of information technology, or IT, increases productivity at an unbelievable rate: by using an automatic teller machine (ATM) card, one can make transactions around the world anytime, day or night; it doesn't matter what currency you need or which country you are in.

Wireless message communication, and internet facilities ease our daily life in a similar manner; when we need information, we aren't obliged to move or commute from one place to another. This wasn't possible without the invention of the computer. In its first stage, computer commercialisation goes back to the 1970's; in 1978 Apple sold the first Apple II microcomputer and in 1982 IBM sold the first IBM PC. Since that time IT has progressed by leaps and bounds. The CD-ROM system first became commercially viable in about 1992 (Haag, and Keen, 1996).

Technological advances in microchips continue to make personal computers more capable, affordable, and compact, as predicted in part by Moore's law. In 1965, Gordon Moore, a founder of Intel Corporation, predicted that the processing power of microchips would continue to double every eighteen months. So far, this has approximately held true. Many people use computers at home and portable computers for both work and household activities. The popularity of personal computers is due in large part to the internet. The internet provides connection to the outside world - accessibility. The advances that made personal computing attractive in business - appropriate applications,

software, efficient and intuitive user interfaces, and local area networks - were not sufficient alone to make personal computing attractive for non-work applications in households.

The vast market for the hardware and software technology by which home computers can be connected to the internet ensures that technological developments keep pace with demand. In the late 1990's, dial-up modem speeds increased and costs decreased until the limitations of twisted-wire telephone connections were reached. This has been followed by television cable modems and DSL (digital subscriber lines). The number of broadband internet connections to homes in the US is forecast to increase by 250% from 1999 to 2000; in 1999 there were approximately 1,500,000 cable modems in operation, and the number is forecast to reach 45 million by 2007 (Committee on The Internet in The Evolving Information Infrastructure, 2001). The future is also likely to include set-top boxes, which enable television sets to become interfaces to the internet. These devices, which are essentially specialised, computer lead with TCP/IP and web HTTP clients, might be attractive to new segments of the population who have not become familiar with traditional computers through work or educational experiences.

The next technologies in the sequence appear to be very small portable computers with wireless communication and satellite-based internet distribution services. The ultimate advantages of satellite internet connections, which will probably be combined with television reception, are faster access time, lower cost, distance insensitivity, and by-pass of the terrestrial network bottlenecks and problems. Information technology is in the interest of the whole society and at the top of community agendas.

4.2. Origin of the Information Networks

The origin of the internet can be traced to developments in packet switching technology in the 1960's. The first packet switched network, ARPANET, funded by the Advanced Research Agency of the US Department of Defence, is considered the direct ancestor of the internet. The internet began in early 1969 under the name ARPANET. The ARPA part of ARPANET stood for the Advance

Research Projects Agency (later called the Defence Advanced Research Projects Agency, or DARPA), which was part of the US Department of Defence.

The first ARPANET configuration involved four computers and was designed to demonstrate the feasibility of building networks using computers dispersed over a wide area; the sites of the four computers forming the original ARPANET were the University of Utah, the University of California at Santa Barbara, the University of California at Los Angeles, and Stanford Research Institute.

By 1972, when the ARPANET was first publicly demonstrated, 50 universities and research facilities (all involved in military technology projects) had connections. One of the goals of ARPANET was research in distributed computer systems for military purposes. The government and the military sought ways to make networks tolerant to failures; ARPANET was designed to allow messages travelling from one computer to another to be handled in a flexible and robust way.

The evolution of ARPANET and its successors into the internet as we know it today is traced by Golob (2000), (Gibbs, and Smith, 1994).

Important early steps in this development include the inventions of email, the transmission control program (later TCP/IP), and the Ethernet protocol for local area networks (LAN's). In 1991, the world wide web (WWW) was released by CERN, the European laboratory for practical physics. The WWW pioneered the use of HTML (hypertext mark up language), HTTP (hypertext transfer protocol), web servers, and web browsers. By 1992 the number of network hosts reached 1 million. GUI (graphical user interface) web browsers come into being in 1993 and 1994 with the release of Mosaic (which became the foundation for Netscape). In 1995 dial-up internet connections began to be provided in the US. In January 1997 the number of internet hosts was 15.5 million in the OECD (Organisation for Economic Co-operation and Development).

Finland leads internet growth by an extraordinary degree having achieved an internet host penetration ratio of 56 hosts per 1000 inhabitants by January 1997. The number increase to reach 87,5 host per 1000 inhabitants by January 1998, to leap to 99,9 host per 1000 inhabitants by July 1998 (Table 4.1).

Table 4.1 Internet Hosts in OECD Countries, (Communication Outlook 1999)

Country	Number of hosts under domain		Hosts per 1000 inhabitants	
	Jan 1998	July 1998	Jan 1998	July 1998
Australia	665,403	750,327	36.5	41.1
Austria	109,154	132,202	13.4	16.2
Belgium	87,938	153,760	8.6	15.1
Canada	839,141	1,027,571	28.0	34.3
Denmark	159,358	190,293	30.4	36.3
Finland	450,044	513,527	87.5	99.9
France	333,306	431,045	5.7	7.4
Germany	994,926	1,154,340	12.1	14.0
Greece	26,917	40,061	2.6	3.8
Italy	243,250	320,725	4.2	5.6
Japan	1,168,956	1,352,200	9.3	10.8
Spain	168,913	243,436	4.3	6.1
Sweden	319,065	380,634	36.1	43.0
Turkey	24,786	27,861	0.4	0.4
United Kingdom	987,733	1,190,663	17.0	20.5
United States	6,618,382	7,738,298	24.4	28.5
Total OECD	28,593,902	35,473,629	26.2	32.5
EU	4,343,988	5,361,444	11.6	14.4
Non-OECD	1,076,098	1,265,371	0.2	0.3
World	29,670,000	36,739,000	5.1	6.3

Internet users' aims for the world in 1993 seem to be as follows: 48% for research, 29% for trade 10% for defence, 7% for public affairs and 6% for education (Communication Outlook 1999).

4.3. Information Technology in Turkey

On the 12th of April 1993 the international network connection to the internet was realized between the Middle East Technical University in Ankara and the National Science Foundation in Washington, D.C., over a 64 k-bite transmission line. This achievement was the result of a project, TR Net, which was mutually conducted by Middle East Technical University and Technical Research Council of Turkey. The librarian quickly discovered the various benefits provided by the internet in retrieving, cataloguing and ordering. Especially at a time in which Turkish economic instability had caused certain difficulties of finance, and hence imposed restrictions upon the purchase of books and periodicals, online retrieval services and CD ROM's, the new

possibilities rendered by internet use, gained high popularity among the library administrators. The existence of user-friendly programs like Gopher may also have had an influence upon such popularity.

In 1994, internet users in Turkey could roughly be categorised as follows: real persons, 51%; government institutions, 15%; commercial establishments, 13%; universities by another 13%; and other institutions by 8%. In 1997, approximately 10,000 commercial companies were connected to the internet. By the end of 1997, almost 30,000 computers were connected, in total 250,000 internet users was estimated (www.bilkent.edu.tr).

4.4. Profile of Internet Users in Turkey

According to internet service provider sources the number of internet users in Istanbul approaches 1,200,000 persons on weekdays and decreases to 700,000 persons on the weekends because of the lack of companies', schools' and universities' internet connections.

The internet absorbs a larger community than public squares did for many reasons:

1. Offers information
2. Offers services
3. Provides a venue for discussion groups
4. Shopping
5. Access to library resources
6. Electronic mailing systems
7. Resorts and entertainment

Turkish internet sites are learning to tap into the consumer desire for web content and services. Online banking is taking off, with some 20% of Turkish internet users banking via their PC's.

Garanti Bank's online service easily rivals its European counterparts, allowing online bill presentation and payment of any credit card or utility bills from a single page. Yet despite these strides in usage, a report by Salomon Smith Barney shows Turkey lagging behind Poland, Hungary and Greece and just a nose ahead of Russia in the emerging market race for internet penetration.

Research in Istanbul forecasts that an increase in PC ownership, from 5% of today's (2002) population to 12,5% in 2003 (Table 4.2), will be the primary driver of internet penetration, increasing the number of internet users from 2% of the population today, or just under two million users to 7.5% by 2003 (Table 4.3).

Most internet businesses in Turkey are ISP, with 60 of them dominating the online landscape. The top five - Superonline, Ixir, Doğan Online, Türknet and Vestelnet - control roughly three-quarters of the dialup access market.

Superonline leads the way with more the 700,000 users, one third more than second place Ixir. But as researcher Mark Bently points out, accurately assessing the market share of ISP's is difficult due to the lack of independent sector oversight as well as the inconsistent and suspect methods of calculation used by the ISP.

Table 4.2 PC Ownership in Istanbul (www.bilkent.edu.tr)

	Year	Year
	2002	2003
PC ownership	5%	12.5%

Table 4.3 The Estimated Number of Internet Users in Istanbul (www.bilkent.edu.tr)

	Year	Year
	2002	2003
Istanbul internet users	2%	7.5%

eMarketer reported that according to IDATE, there were 2.6 million internet users in Turkey in 2002, representing approximately 5.4% of the total population. One fifth of Turkey's population lives in Istanbul, and the number of internet users in the whole country is estimated to be not more than 3 million; 60% of these users are located in Istanbul (<http://www.prweb.com>).

IDATE believes that this figure should reach 6.3 million by 2006, about 11% of the population. And according to an international study "Global eCommerce Report 2002" by TNS interactive, 20% of the population in Turkey are internet users, up from 16% in 2001. TNS also revealed the percentage of specific age groups in Turkey who are internet users in 2002:

25% of people under 20

22% of people aged from 20 to 29

20% of people aged from 30 to 39

18% of people aged from 40 to 59

15% aged 60 and above

The survey involved 42,328 people in 37 countries. (<http://www.etcnewmedia.com>)

Cyberatlas reported in October 2001 that according to the IBS research, there were 3.7 million internet users in Turkey.

Turkish ISPs claim that subscriptions grew from around 84,737 at the end of 1998 (280% increase in 1999), 322,000 at the end of 1999 to 2.3 million at the end of 2000 (www.cyberatlas.com).

Concerning internet access, according to an international study, "Global e Commerce Report 2002" by TNS interactive, in 2002 in Turkey:

5% of the population access the internet from home,

3% go online at work,

2% go online at school or university,

13% go online from other locations (cyber café, mobile phone).

According to the same source, only 18% of Turkish males are internet users compared to a surprising 23% of females. And 3% of the online population in Turkey are online shoppers, up from 1% in 2000.

According to research done by IBS, results from interviews in October 2000 showed that only 4.1% of the users have made a purchase online, and the Turkish e-commerce market was worth around 13 million dollars in 2000.

According to e-Market (October 2000), home computers were affordable to only about 14% of the population of Turkey. Not surprisingly, e-commerce levels were quite low; in mid-2000, only 3.37% of internet users had made a purchase on line.

According to TNS Telecoms, around 59% of mobile phone users in Turkey are interested in 3G mobile telephone technology (allowing to send and receive

multimedia messages and e-mail and providing high-speed internet access), (<http://www.nua.ie/surveys/index.cgi>).

According to the Turkish Telekom Committee, there were 20 million GSM subscribers in Turkey at the end of June 2002 (<http://www.nua.ie/surveys/index.cgi>).

4.5. Impact of the Internet in Turkey

Wireless message communication and internet facilities ease our daily life in such manner that when asking for information or services, it is no longer necessary to move or commute from one space to another. Within the use of the internet, the notion of location as physical space doesn't have any weight. In our case, we are interested in the public open space activities issue within the framework of internet use as a means of communication.

Firms, companies, establishments, schools and universities, hotels and certainly banks are 24-hour internet connected. It is necessary to look into the type of activities done via the internet in these locations.

In firms and companies the internet is classified as e-commerce: firms offer their services to the public through web pages as, for instance, MIGROS. Through navigation on www.migros.com.tr, it is possible to ask for grocery shopping and your request will be delivered within two hours, at maximum (depending on your location). This kind of mass services affect, on the first level, small markets and district markets, and consequently that affects the use of public space because it is the transit area between the individual and the market.

In the case of a official newspaper such as SABAH, a large number of services are provided through its site www.sabah.com.tr; outside of daily news and information, different classified offers are available ranging from services, jobs, real estate services, automobile purchase, and so on. Ten years ago these kinds of services were assured by a bureau that played the role of coordinator between who is offering the service and who is asking for it, but now the contact is achieved directly by the use of the internet.

Schools and universities were the first establishments affected by internet use. For instance, Istanbul Technical University library services are available on www.library.itu.edu.tr; before coming to the library the user can learn about

what is available on. Enrolment in the university is also one of the services available on www.fbe.itu.edu.tr; it would be an easy and instant task to enrol from wherever you are in the world. Once again, the role of public space is taken over by the internet facilities.

Hotels also opt for the internet for reservation and payment. A client can book a hotel room without the help of a coordinating agent.

Banking is the sector most affected by the internet. In the following table the progress in online filial(is shown as well as ATM and POS , the number is for total Turkey.

Table 4.4 Impact of Information Technology on Banking Sector (www.bddk.org.tr)

	1980	1990	1994	1999	2000
Number of banks	43	66	67	81	79/67
Number of branches	5,954	6,560	6,087	7,691	7,837
Number of online branches	-	-	-	6,938	7,523
Number of ATM	-	3,209	4,023	9,939	11,991
Number of POS	-	-	16,135	188,957	299,950
Number of personals	125,312	154,089	139,046	173,988	170,401
Number of credit cards (1000)	-	-	1,564	10,045	13,408
Number of bank cards (1000)	-	-	10,469	24,107	29,560
Shopping done by credit card (million USD)	-	-	1,273	12,410	16,413

In the table 4.4, we can check out that the bank and finance sector is going virtual, through the use of online branches, ATM machines dispersed all over the city and POS (post of sale machines for credit cards) which is movable and available in the most supermarkets. First of all, the amount of shopping done by credit card from 1994 to 2000 led to the disappearance of money as a touchable material, and consequently that affects small commerce or, let us say, street trade and the week end market.

Certainly that has a relation with individual income and the social level in which one is living, and without any doubt the individual awareness of information technology advantages. The continuous information technology use in the banking sector creates a decentralisation of activity; it is no longer necessary that the central bank be in the downtown area as it was years ago.

The internet networking has let to the banking sector, in terms of building and location, to be installed far from the city centre cause most of services are online available or assured by branch and ATM machines.

The other sector affected by information technology is PTT services: the PTT office was always one of the important buildings in the square. With the advent of the internet in 1993 and especially the availability of email, the necessity of sending letters was highly restricted for individuals; of course, the case is different for state establishments that do not accept email as official documents.

Even the payment of bills, which can be done automatically via salary deduction or by internet, has largely affect the activity in PTT offices.

Table 4.5 Number of Letter Boxes in Turkey (PTT Statistics 2000, Ankara)

Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Nb	69383	69706	69411	39897	39897	38897	40269	40269	40269	40269	40269

In the table 4.5, the 50% decrease in letter box numbers between 1992 and 1993 would be simply explained by the first appearance of the internet. The number continued to decrease until 1995, when internet use was widespread in Turkey. In the following years the number remains steady for almost 5 years, reflecting the public's decision concerning letter boxes.

Internet use first affected inside PTT office activities, and afterward the number of the offices themselves. It is apparent that the effectiveness of internet use started from the base to reach the top, first affecting box mail and bill payment, then the office itself. In the next table in which the number of PTT offices decreased from 1,786 to 1,107 between 1994 and 1995 in Istanbul, during the same period the number decreased from 34,692 to 31,222 for all of Turkey. In Istanbul the decrease was dramatic in comparison to the whole country, because Istanbul represents 60% of all internet users of the country (Table 4.6).

Table 4.6 Number of PTT Offices (PTT Statistics 2001, Ankara)

Year	Istanbul PTT offices	Turkey PTT offices
1991	2,177	41,916
1992	2,282	41,623
1993	1,987	40,124
1994	1,786	34,692
1995	1,107	31,222
1996	1,107	24,860
1997	1,107	19,063
1998	1,107	16,984
1999	1,107	13,631
2000	1,107	5,605

The role once played by PTT offices today is filled by a bouquet of internet sites. The PTT office only yesterday was an important element in the square in terms of its physical space and activity; this is no longer the case. It may not disappear completely, but gradually it will be replaced by other physical elements (machines).

4.6. Various Studies on the Impact of the Internet

The subject is a bit new, but researchers, designers, planners and even politicians are aware of the phenomenon and its issues.

Some good projects have been realized by putting information technology in the service of politics and citizens. The case of the Amsterdam digital city brought an opportunity for the aid that information technology can give. The book titled *Cyberdemocracy: Technology, Cities and Civic Networks*, first published in 1998 by Routledge, edited by Roza Tsagarousianou, Damian Tambini and Cathy Brayan is a perfect case study about virtually going places, where the digital city of Amsterdam can be seen as the capital of the new virtual Netherlands. It was the first such community when it started in January 1994 and has since remained the largest and most popular; it was also an example and adviser to other cities when they began their experiment and a godfather to some of the digital cities abroad when it advised in the organisational set-up of the ones in Berlin and Antwerp. Moreover, Amsterdam's digital city seems to attract so many computer and software whiz kids that it is always one step ahead of the others.

Technically, the digital city is a computer connected to a world-wide network, a site on the internet comparable to the free nets in the US.

The concept is simple: the virtual city is based on the features of an ordinary one; for the information providers there are different theme-based squares, serving as meeting places for people interested in particular themes. There is, for example, an environmental square, a news square, a health square, a book square, each with eight buildings occupied by thematic information providers. The users can, like real citizens, build 'houses' between the octagonal 'squares', home pages containing personal or other information. In the public spaces of the squares and bars discussions take place on a wide range of topics. The metaphor has, in short, become both really virtual and virtually real.

The digital city presents itself as a pilot project for the electronic highway, in which the outlines of the future digital society are becoming visible. It began as a grassroots initiative, an interactive answer to a growing gap between politics and the public.

By this means researchers aim to return to an Athenian style of direct democracy, only this time electronic. In its relatively short existence it is, however, developing into much more than an electronic medium that provides easy access to government-held information at the local and the national level, and that of social organisations and of citizens groups. It seeks to educate and prepare for the computer-based information society, contribute to the speed of Amsterdam's economic development and at the same time create new channels for discussion and the shaping of opinion.

Another amazing work on information technology impact was the concern of William J. Mitchell, in his book *e-Topia, "Urban Life, Jim - But Not As We Know It"*, published by the MIT Press in 2000. In his book he makes a link between the discovery of digital system networks and the role they will play in the future in comparison with the times of Romans roads and aqueducts, the boom time of eighteenth century shipping and waterways, the heyday of nineteenth century railroad robber barons and in the expansion years of the twentieth century's electricity grids and interstates on the other hand, so the digital telecommunication system will be to the cities of the twenty-first century. He

states that digital telecommunications networks will not create entirely new urban patterns from the ground up; they will begin by morphing existing ones. Generally in the past, new urban networks have started by connecting existing activity nodes that had been made possible and sustained by earlier networks. Then, like parasites taking over their hosts, they transformed the functioning of the systems on which they were superimposed, redistributed activities within these systems, and eventually extended them in unprecedented ways.

Starting by giving support to its predicated idea from the near past of urban development of some American cities, he considers the arrival of the railroad into the existing settlement of Chicago and how that transformed it into a pivotal national centre as the west opened up. Another example is the modern Los Angeles metropolitan region: this modernization was the result of an extensive rail system which initially linked together a system of small towns scattered through the valleys. Then the freeway network reconnected them and allowed the spaces in between to develop.

Mitchell believes that it will be similar for the twenty-first century: new high-speed, digital telecommunication infrastructure will refashion the urban patterns. Entering the focal point of his topic, he gives a general definition of digital telecommunication and its components, and how it is used at home and at work in the public and private areas by showing life in digital-embedded buildings. In fact, the author here gives information and a different approach to the phenomenon by viewing how, for instance, a housewife can work without displacing, by means of a wired network, and also the possibility of being in different places without moving, as well as looking at businesses which, from the point of view of delivering information products, for example, no longer see the need to print a journal when the use of the net saves money and products. He adds that the power of place will still prevail. As traditional imperative weakens, settings that offer particular cultural, scenic and climatic attraction will gravitate, and physical settings and virtual venues will function interdependently and will mostly complement each other within transformed patterns of urban life rather than substitute for existing ones.

Carr Stephen at an earlier time, 1992, in his book titled *Public Space*, edited by Cambridge University Press, was aware of the role that information technology will play in public life. He states, "Technology enters public life in another way, in its integration into the society. In this second sense, the availability of the microcomputer for work at home provides a useful example. There are opportunities for reaching out to others while remaining at home. This began with the development of the telegraph system and was further extended with the introduction of the telephone, raising some intriguing possibilities of an a-spatial public arena, a privatised public life. The use of home computers for work is reminiscent of the medieval workshop that was part of the home".

In part of his book, he focus on the necessity of creation of communal public space on the scale of residential districts, in order to permit people working at home via their computers to seek out contacts to replace the camaraderie of an office. As we notice the situation is dramatic in the state, city planners are working to create more open space even in the residential area, because the opportunity of working at home created a drain on public life.

The degree of effectiveness of information technology differs from one country to other and from one place to the next. The result of isolation and the mortality of public life was felt as early as 1992, as Carr reported.

Through internet navigation some studies on public space attempt to make a link between the transformation of public space and external factors, among which globalisation and communication are included. In the *Journal of the American Planning Association* issued in 2001, Banerjee studies the future of public space; beyond invented streets and reinvented places, he worries that public space, indeed the realm, is shrinking. This essay examines the underlying cause of such discontent, in the context of historic and recent transformations in social values and public ethos. Seemingly, three major trends, privatisation, globalisation and the communication revolution, will continue to shape the future demand and supply of public space. Planners must anticipate the effects of such trends, but also focus on the concept of public life, which encompasses both private and public realms. The article concludes by reviewing the role that planners may play in advancing the cause of public space and the opportunities and initiatives for the future.(web2.infotraccalergroup.com)

Barton Kip, University of Nevada, Las Vegas, 1999, in “Urban Public Space on the Las Vegas Strip (Nevada)”, presents an analysis of randomly selected urban public spaces on the Las Vegas strip. This study uses criterion gleaned from studies of traditional as well as contemporary urban public spaces throughout the world but predominately major cities in the United States such as New York, Los Angeles and San Francisco. These criteria serve as a preliminary basis of comparison (web2.infotrac.galergroup.com).

First hand observation is used to collect the data which is used for this comparison. Further observation is used to determine the characteristics present in these spaces that may not be present in other urban public spaces. While urban public space throughout the world and especially in United States, seems to be declining, urban public space on the Las Vegas strip are thriving.

It is assumed that study would bring some light on the phenomenon, and that lessons learned from studying urban public spaces on the Las Vegas strip may be useful in bettering our physical and social environment in other urban public spaces and may also help bring people back to urban centres through the world.

5. HISTORY OF THE TAKSIM SQUARE

5.1. Origins of Taksim Square

Pera had its beginnings at the end of the sixteenth century, when the representatives of the European powers, Venice, England, Poland, Hungary, Sweden, Holland, Germany and Russia, began building palatial residences along the road that came to be called the Grande Rue de Pera. Surrounding their embassies with extensive gardens, each of these legations became the centre of a separate nation, with its own residences, post office and other institutions.(Map 5.1)

Merchants of the European powers built their houses along this thoroughfare, as did Greek and Armenians and Italians of Genoese extraction from Galata. These Christian minorities erected churches and schools along the Grande Rue and elsewhere in Pera, some of them under the aegis of the European embassies.

Jews also began moving from their old quarter in Balat, and they erected their rabbinate near the southern end of the Grande Rue de Pera.

Late in the nineteenth century, some Turks also moved to Pera, building a number of mosques and other structures, though up until the early republican era Moslems were a minority in Pera. (Gülersoy, 1986)

The persons who were described in Ottoman documents of the fifteenth and sixteenth centuries as “Beg oğlu” or Bey oğlu were in fact the sons of Andrea Gritti who was known as “Bey”. Andrea Gritti had every right to such a title since, following his stay in Istanbul first in the position of a wealthy merchant and then as the ambassador (Baillo) from the Republic of Venice, he served as the “Doge”, that is the head of state, of Venice.

and he was imprisoned in the Rumelihisar fortress. As a result of the intermediation of close friends, especially Hersekzade Ahmet Pasha, who was serving as Grand Vizier for the first time, he was released in 1501.

In 1502 he returned to Istanbul with the title of Baillo to pursue peace negotiations. As a result of the peace treaty signed in 1503 the Republic of Venice and its representatives were granted a special status and privileges in the empire. It was at this time that Hersekzade became Grand Vizier for the second time. The four-hour long detailed report that he read to the senate in which he described all his activities was to become a major work in the diplomatic literature of the time. In recognition of the mature politician (and soldier) Andrea had become he would be referred to the remainder of his life as "la Serenissima". He achieved great fame as the commander of the armies defending Padua against a siege in 1509 by the armies of the Cambrai (Cambria) Union established in opposition to Venice. He also possessed the skills to remain victorious in the political battles which raged for years. His sons, Giorgio and Alvise, 1523 . Alvise continued to be engaged in international commerce and amassed a great fortune. It was Alvise who sold the Ottoman treasury precious stones from the Livriers, a famous Venetian family of jewellers. He expanded and renovated in a more sumptuous fashion his father's old mansion in the Pera vineyards. (1870 Beyoğlu 2000, 2001)

It was Alvise Gritti who in 1523 was given the title "Makbul" (the esteemed) and became the confidant and adviser on international affairs to the Grand Vizier Ibrahim Pasha. Alvise was a graduate of the universities of Venice and Padua and was fluent in several European languages. In 1529 Alvise participated in the siege of Buda as a member of the imperial campaign led by Suleyman the Magnificent. Following the conquest of Buda, the Sultan requested that he remain there. His responsibilities actually involved monitoring the activities of the Hungarian King Janos Szapalai, now an Ottoman vassal, and reporting back to Istanbul. In 1531 he was present as the commander of a military unit of three thousand persons which successfully defended the city against a siege by the Germans. It was during that very same year that he announced his conversion to Islam in a very grandiose fashion.

In 1533 it was once again Alvise Gritti who represented Ibrahim Pasha, considered the most powerful man in the Ottoman state, at talks with Austrian envoys who had come to Istanbul pleading for peace.

The amassment of such power only served to increase Alvise's passion to realise his dream of being the ruler of a county to serve as Voyvoda of Transylvania and then ascend to the Hungarian throne and this of course led to the pursuit of greater and greater intrigue on his part. The result was that he succeeded in making some very powerful enemies. In 1534 he was captured by rebels and beheaded. The news of his son's death was a great blow to father Gritti. Though he did what he could in 1537 to try and prevent a new war with the Ottomans, he was not able to convince the senate of his cause. He passed away not long after that. (1870 Beyoğlu 2000, 2001)

According to Ottoman sources the title "Beyoğlu" was also used for the other sons of Andrea. In 1536 Giorgio Gritti was sent as an envoy to the Ottomans to request assistance in dealing with shortages of food and famine in Venice. Lorenzo Gritti, the head monk of the Ca dei Dio monastery in Venice, continued the family tradition of diplomacy and came to Istanbul in an attempt to bring to an end the war which had begun in 1537.

No information is available about the site of the famous magnificent "Beyoglu Palace". There are those who argue that it was in Taksim, and neighbouring the large tract of land belonging to the Grand Vizier Ayaz Pasha. The traveller Stephen Gerlach who lived in Istanbul between 1573-1578 writes that he saw the ruins of a palace above Tophane near Defterdar Hill and that he proposed that an observatory be built there. (Pervititch, 2001)

The history of Taksim as a square is rather short; it was still an empty plot opening onto fields when the first building, a water distribution facility in the classical Ottoman style, was constructed here.

The waterways built by Mahmud I in the 1732-1733 period reached this building and the water was then distributed to Beyoglu-Galata, Tophane-Findikli and Kasimpasa. (Pervititch, 2001)

The second building to be constructed was the artillery barracks at the corner of the road toward Harbiye.

The region was thus transformed into a quarter called Talimhane, a military training place.



Map 5.1 Istanbul and its Environs 1887 (1870 Beyoğlu 2000, 2001)

5.2. Late Ottoman Empire Period (1850-1923)

The present Taksim Park was a place for military training; there were garages facing Cumhuriyet Caddesi, meant to hold all sort of weapons and trucks. (Map 5.2)

On Ramadhan days three cannon shots were fired to announce sunset time. This vast field held many important exhibitions during the Ottoman Empire. For instance, in 1918 at the end of the first World War, Austrian Emperor Karl supervised military conditions and attended a memorable march for his honor. (Fig. 5.1)

The area around today's Taksim Square fountain and monument was very animated during the last days of the Ottoman Empire, the crowds originating from the Grande rue de Pera. This place was used also as a market for motor-bikes and bicycles on Sundays.

Some images of daily life at that time were transmitted by a French orientalist, Theophile Gautier, who had visited Istanbul in 1852 and wrote about his experiences.

He had visited the Beyoğlu quarter and said, "At the end of la Rue de Pera we arrived at a shaded fountain, close to that fountain horses renters offer their services in three languages: Ottoman, Italian and French; on the other side barouches waiting to be filled then could take the Pera or the Şişli direction. Iced water sellers, blackberry, cucumber, cake and candy drew the attention of large clienteles (Fig. 5.2). Groups of women were sitting by the edge of the road and looking at the crowd of Turks, Greeks, Armenians, Persians, Bulgarians and Europeans walking up and down the Grande Rue de Pera" (original text in the French language, Gautier, 1990).

Cafés were located near the artillery barracks, where songs and drum were played. On the artillery esplanade horse show parades started, and spectators were excitedly delighted.

Late at night Karagöz theatre was played close to the fountain; the audience present sat on stools, and the performances could last until daybreak.

A luxury imported barouches shop was opened at that time, which stayed in business until the 1920's. In general, every high technology was available at that time, permitting citizens to get information rapidly and freely.

Verbal behaviour also performed this function, with information reported from one person to another; gathering places served many different functions at the same time. For instance, cafés were mostly used to discuss politics and new happenings in the city, rather than just as a place to drink coffee.

At the square a café existed in the location of the current post office, which Theophile Gautier tells us was mostly frequented by Greeks and Armenians. Thus every cafés had its proper clientele and specific atmosphere about it; citizens came there to give and take information, apart from its original function.

This place was also a source of information: the café owner had to know all its clientele and their addresses. Generally every neighbourhood had at least one café, in which district problems were discussed and then decisions taken. Tramlines were introduced to Istanbul in 1869, one of them running from Eminönü in the old city and across the Galata bridge to Karaköy and then along the shore of the Bosphorus, while another ran along the Grande Rue de Pera. Then in 1876 a French company inaugurated the underground funicular railway known as Tunnel, taking passengers from Karaköy on the Golden Horn to the heights of Pera, thus providing a link between the two trolley lines.

There was opposition to the funicular at first, with critics referring to it contemptuously as the mouse hole. But it soon became very popular, sparing residents of Pera the long and arduous climb up the steep street known as Yüksek Kaldırım. The upper entrance of the Tunnel was the southern terminus of the tramline along the Grande Rue de Pera, which in the early republican era was re-named Istiklal street. This service began as a horse-drawn tram when the Tunnel opened in 1876, and became an electric trolley in 1913.

The tramline ran northward along the avenue, stopping en route at Galatasary Square, and ending at Taksim Square, where the cars turned around. The tramline had given another dimension to Taksim Square among the whole city, and this might be the reason for filling the empty artillery field with administrative functions such as the Ottoman Bank and the offices of the French

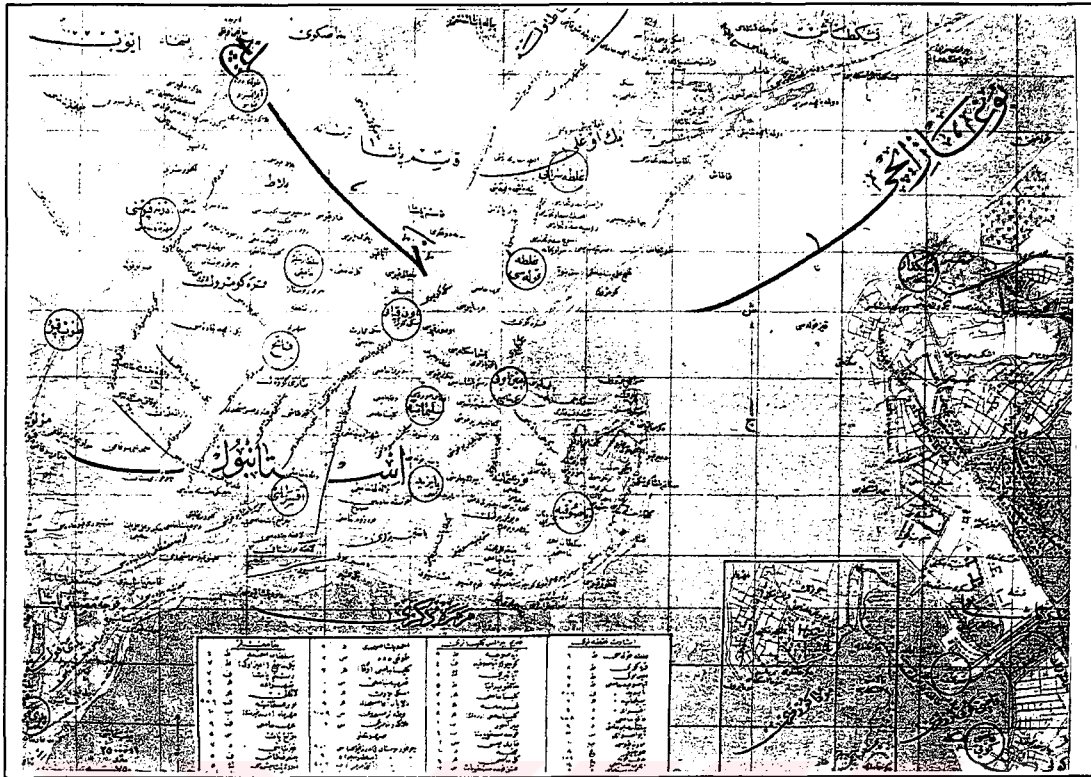
electric company. The establishment of the tramway was a new event that gave a reason for Taksim Square to fill with buildings and social activities. (Gülersoy, 1986)

Electricity was first used in Istanbul on the 14th of February 1914, and filled the Taksim nights with light and animation. The use of electricity brought electrical machinery as well, but it was not immediately evident in the early years.

Statement Diagnosis

The Ottoman period was characterised by exposure to the open air: almost all activities and functions were held out of doors at the square. No specific location or structure existed for a particular activity; manuscript writers, for example, (Fig 5.3), adopted the square as a locale for work, and they seemed not to be annoyed by the passing crowds. Generally they worked near the state administrative locations; all the manuscript writer needed was two chairs, one for himself and the other for his client, a table and the writing equipment appropriate at that time. Shoemakers, too, took their habitual places among all the other inhabitants of the square.

A variety of products were sold at the square, ranging from meals and clothing to fruits and vegetables. This can only be explained by the fact that no information technology was available. This resulted in a reasonable arrangement of space. The lack of technology information led to all activities being concentrated in the same space.



Map 5.2 Istanbul during the Ottoman Period 1910 (1870 Beyoğlu 2000, 2001)



Figure 5.1 Visit of Austrian Emperor Karl, 1918, at the Artillery Esplanade (Gülersoy, 1986)



Figure 5.2 A Levantine Cake and Candy Seller Near Maksem (National Geographic, 2000)



Figure 5.3 Typist during the Ottoman Period 1915 (National Geographic, 2000)

5.3. Era of the New Republic (1923-1940)

The passage from the Ottoman era to the Republican one was remarkable in the matter of giving and getting information at the square: posters were hung on the water depot wall. Citizens came to learn about the government and the news of the war. Radio was an alternative source for those who possessed them.

The Modernist movement start to have its effect on the manner in which the city was designed, and Taksim Square wasn't spared those changes.(Fig 5.4)

In 1926 a workshop commission was formed to decide on the financial and technical supplier for the victory monument. Finally, the Italian sculptor Professor Pierto Canonica was selected to realise the monument. The contract was signed between Canonica and Muhittin Bey, specifying the duration of 18 months maximum and a cost of 16,500 pounds (Gülersoy, 1986).

The monument is 11 meters in height, completely made of Italian marble; a mixture of Trentino red marble and Suza green. It weights 184 tons, the face in the Harbiye direction symbolises the 30 August victory, while the face directed toward Galatasaray represents Republican Turkey. (Fig 5.5)

A few years later the waterfall wall was built in the Republican 1930's style; just behind it the Taksim water depot is located, a construction dating from Ottoman empire days, rectangular in shape, 17 meters wide and 90 meters long.

The waterfall wall came to replace the posters wall, which was at the last days of Ottomans. Since the waterfall wall was built, all the area close to it has been kept free from any function, either commercial or cultural.

Thus the Karagöz theatre no longer existed during the Republican period; it might have moved far from the square but no data about its location is available.

One of the most impressive images of the Republican era was the spread of the new Turkish alphabet immediately after the speech of Ataturk. (Fig 5.6)

In the late 1920's the vacant area across from the barracks that was used for drills gradually filled with apartment houses.

The barracks were vacated in the 1920's and 1930's. Its courtyard was used for some time as a soccer field, but the structure was entirely demolished during the development operation that began in 1939 and lasted for a few years during the term of Lütü Kırdar as mayor.

In the 1920's the Ayaspaşa graveyard was razed, allowing the extension of the present day apartment blocks toward the Gümüşsuyu Military Hospital.

On one side of the square a residence had been built in the 19th century for the foreign manager of the city power administration. The three-storey building was demolished after World War II, and later replaced by the present-day Atatürk Cultural Centre (Pervititch, 2001).

The 19th century had witnessed the construction of several other significant buildings on the eastern side of the square. The first of these was the beautiful baroque mansion that was allocated to the French general manager of the Ottoman Bank at the site where the Marmara Hotel stands today.

Aligned with this, toward Siraselviler Avenue was a series of stonework houses with shutters, the largest of which belonged to Noradunkuyan, an eminent figure in the Ottoman diplomatic corps.

Where the Taksim site of the state theatre stands today, there was a Greek school. The cinema house that opened here in the early 1920's under the name of Majik has survived to our day, despite the changes in its name and function.

In the 1930's the Kristal nightclub, a building raised on concrete columns, was erected on the western side of the square in front of the apartment blocks of Talimhane.

In the early Republican era, Taksim Square was seen as a symbol of the new Turkish state. The national ceremonies held at the Monument of the Republic, the custom of laying wreaths at the monument, the parades before the platforms that were placed around the İnönü esplanade, which was designed in 1940 in place of the old barracks.(National Geographic, 2000)

Modernism had affected even the design of cafés; tables and chairs were arranged in the open air, a la francaise. Street goods sellers were no longer

authorised to work at the square. All those new criteria had made of Taksim a disciplined square, with every thing in order.

All those radical changes are the impact of international information systems; information spread all over the world, even in countries with different cultural backgrounds, and touched their life style. That was the case of modern Turkey with its new regime: Taksim Square was the show-place for the global ideas that heralded the new system.

Statement Diagnosis

The passage from the period of the empire to the republican one was clearly felt, that being not the changes in the regime, but that could be explained through the following:

Mechanical evolution was the fame of the time and the use of electricity changed people's way of life. Typists (Fig 5.7) replaced manuscript writers; typewriters became indispensable for doing this kind of work and moreover this work was performed in indoor locations.

Because of electricity many activities passed to localisation, but that wasn't the case of shoe-shine boy. The sale of foods, produce and clothing was practiced inside rather than outside.

The most meaningful example of the use of electricity was cinemas, which totally eliminated Karagöz theatre as well as the legendary story tellers who used to be very popular during the Ottoman empire period.

In other words, electricity use caused many activities to pass from outdoors to indoors, and the materialisation of activities within constructed forms and in specific locations.



Figure 5.4 Taksim Square View at the Maksem, Republican Period
(Gülersoy, 1986)

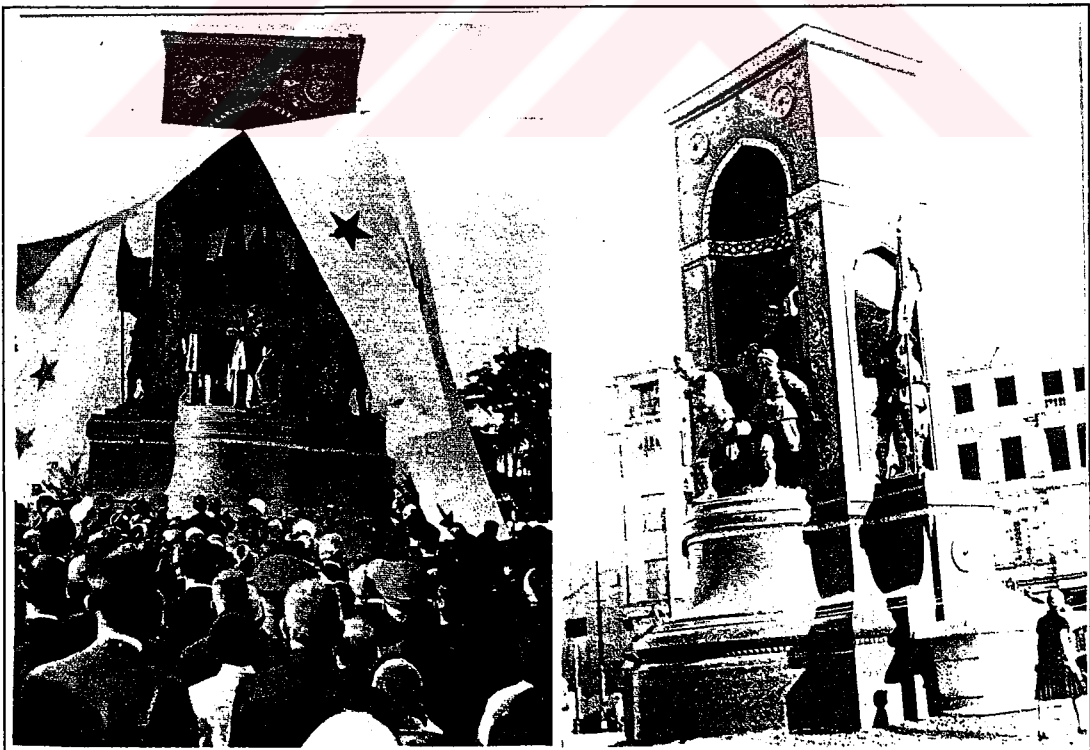


Figure 5.5 8 August 1928, Celebration Ceremony of the Republic Monument
(Gülersoy, 1986)

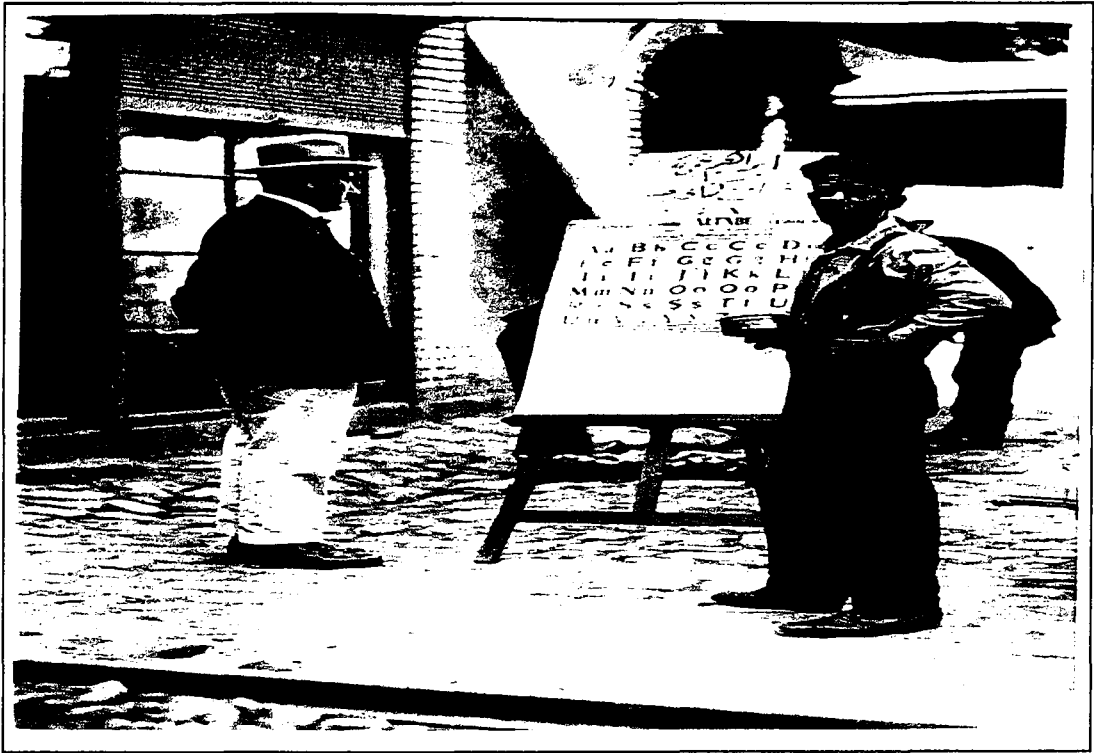


Figure 5.6 New Turkish Alphabet Board (National Geographic, 2000)

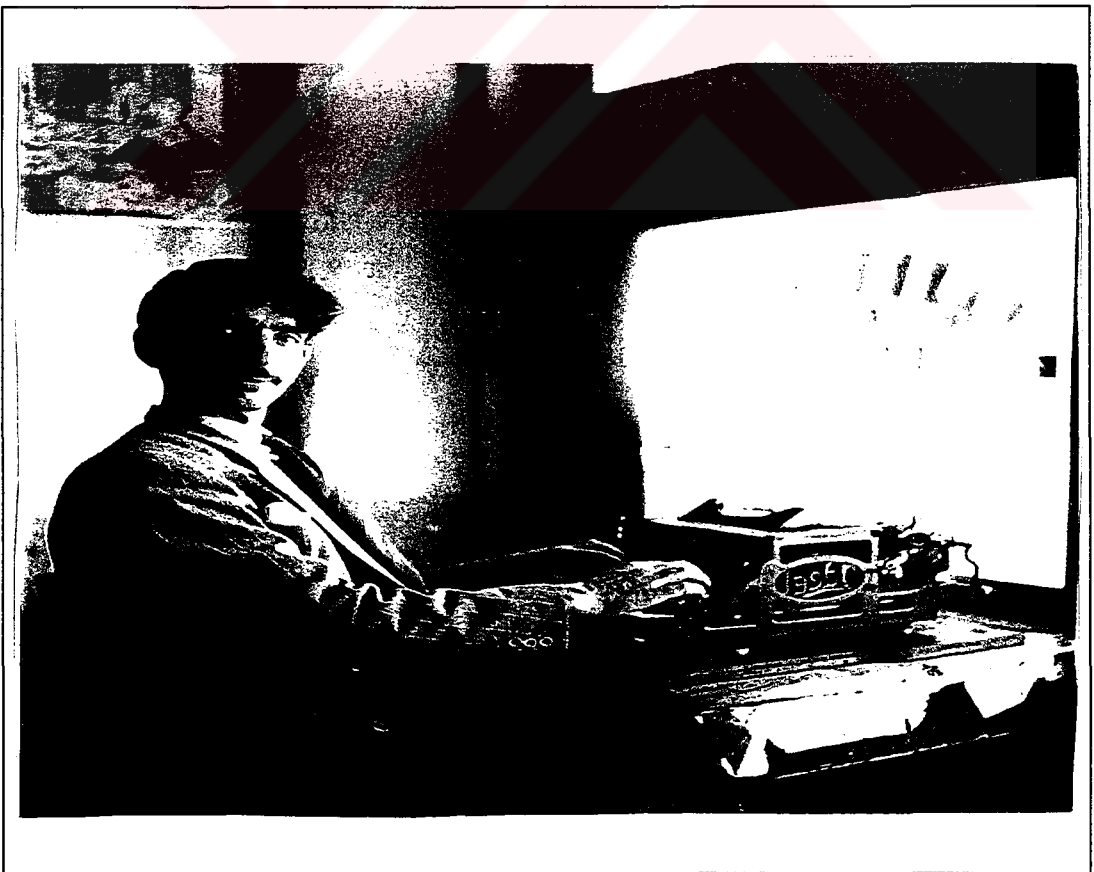


Figure 5.7 Typist 1944 (National Geographic, 2000)

5.4. Features of the Square from 1940 to 1960

At the end of the 1930's the artillery barracks was entirely demolished during the development operation that began in 1939 and lasted for a few years during the term of Lütü Kırdar as mayor.

The parades were held before the platforms that were placed around the İnönü esplanade, which was built in 1940 in place of the barracks. The coloured bulbs around the monument forming strips of light at night have attracted the inhabitants of the city to the square for 25 to 30 years.

Thus military activity ceded its place to green space and entertainment, but the principle remained the same: parades and shows were held in the same place but in the style of new republic.(Fig 5.8 and 5.9)

Information at that time was mostly transmitted by journals and newspapers; it helped in giving details about weekend cinema or theatre programs. But this didn't affect the poster wall. Remarkable posters and advertisements attracted the crowds of people when they passed by.

Functions around the square changed; one of two residences of two Lebanese brothers, Necib and Selim Melhane, renowned viziers of the Abdulhamid II period 1876-1909, on the left of the sloping Kazancı Road, was first converted into the Beyoğlu Cultural Centre in the 1930's, then demolished in the 1950's and replaced by the present-day Dilsen Hotel. The mansion on the right toward Cihangir, originally was the residence of the Nemlizade Family, but it was later demolished, too, and the Keban Hotel was constructed on its site (Map 5.3).

Toward the end of the 50's the square started to become the refuge of tourists, where they could discover the modern part of Istanbul. With the advent of tourists, new activities arose on place, such as modern cafés and photographers at the Republic monument.

During interviews conducted with experts, among them Prof. Dr. Afife Batur, we are told that the most important building at the square in the 1950's was the Kristal Casino, where weddings were held. A European style cafe was located on the street level of the Kristal building, and people gathered there to watch the activity

in the square and discuss daily events. She confirms that the Kristal building was one of the important buildings forming the three dimensional character of the square.

Prof. Dr. Ayten Çetiner, another of the professors who had good information about the square and its evaluation, remembers that on religious as well as national holidays, a big crowd of people come to watch the changing colours of the water show created by the water administration. The same event was recounted by Prof. Dr. Fülün Bölen .

Taksim Square and the promenade of Istiklal was the favoured area for political meetings and protests from the 1950's on. M. Namık Doğu affirmed that on the 4th December 1944 a protest against Russia and its communist system was held by a group of intellectual and students with the government's permission.

In 1957 a protest against Greece was held in the square up to the sidewalks of Istiklal. Prof. Dr. Afife Batur also confirms that in the 1950's a different atmosphere reigned in the square, that of political demonstration.

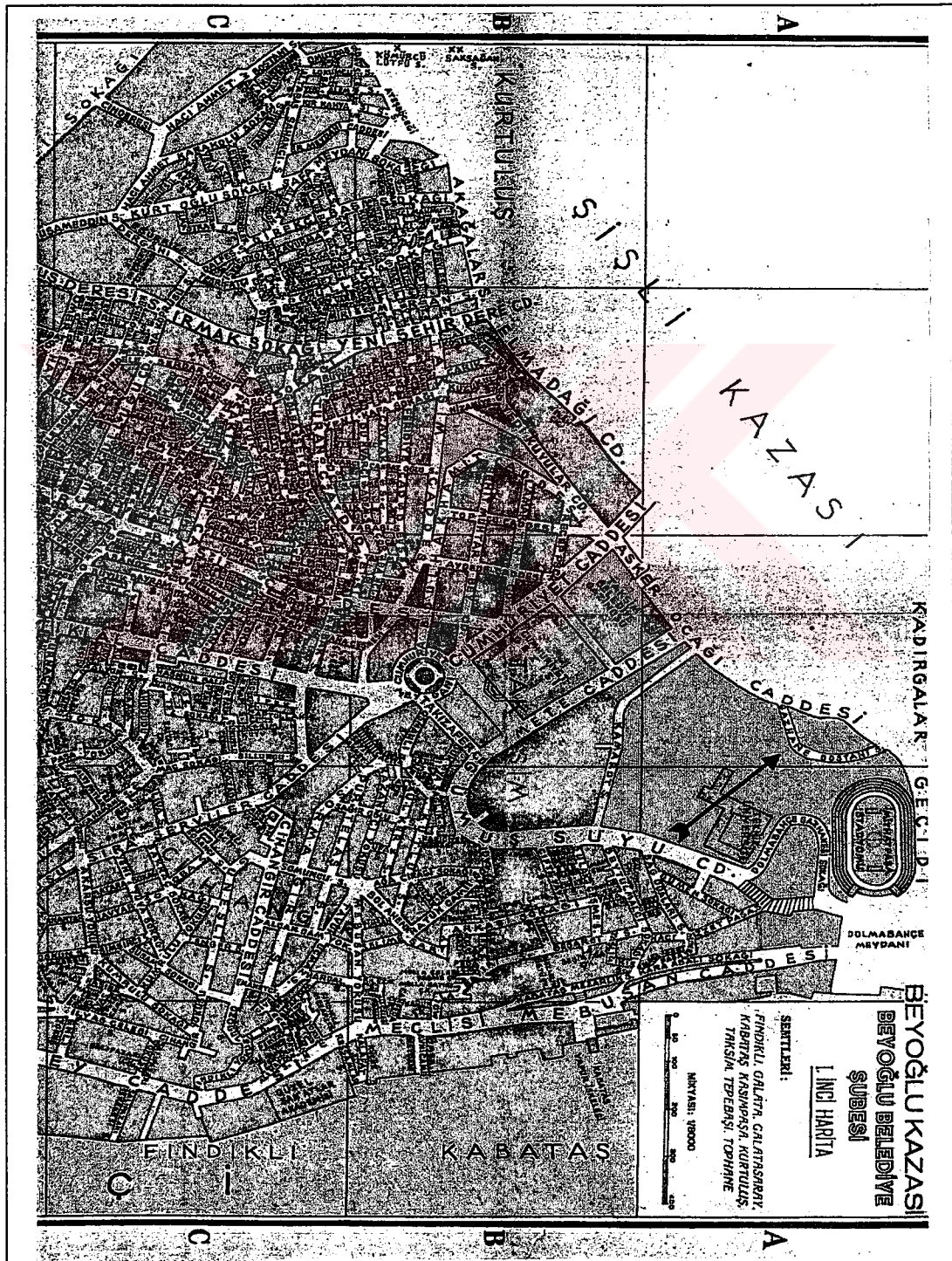
The Kristal Casino of the 30's was demolished during the development operation of Prime Minister Adnan Menderes which took place between 1956-1960. The entertainment clubs moved to the back streets of Istiklal.

Prof. Dr. İlknür Kolay remembers that in the 1960's there was a market at the square in the direction of Cihangir, where imported goods were sold , and that on Istiklal Avenue there was Japanese toy shop, in front of Galatasaray. She adds that the Taksim Square used to be visited by the whole family, as a promenade.

Statement Diagnosis

The transformation that occurred to the square's form and buildings had affected activities held there. The destruction of the Kristal Casino and the decision to open the Tarlabaşı Boulevard to motor traffic had transformed the square's image and function. Most of interviewed professors confirm that the three dimensional victory element, was realised according to the surrounding buildings existing at that time. Once those buildings were demolished or replaced by higher ones, the monument lost its connection to its surroundings. Concerning

the square itself, the demolition of the Kristal Casino and the opening of a boulevard had turned the square into an open place; architecturally non-determined space. The lack of stability in the square's form and elements was under political decision. Ceremonies were held in the square as usual, but the presence wasn't too important, as it remains today. Methods of information weren't effective in attracting a large public presence.



Map 5.3 Taksim Square 1948 (Nirven, 1948)

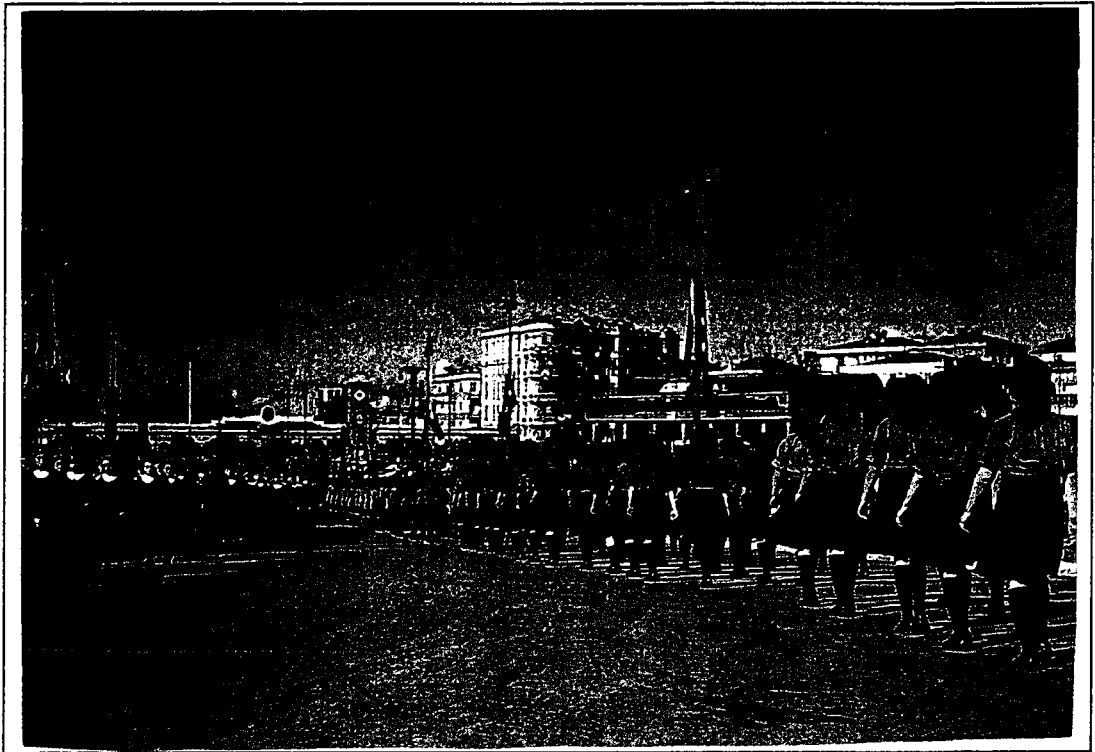


Figure 5.8 Taksim Square National Ceremony 1945 (National Geographic, 2000)



Figure 5.9 Taksim Square Republic Monument on National Holiday
(National Geographic, 2000)

5.5. Taksim Square from 1970 to 1980

The absence of the Kristal Casino was remarkable, they tried to mask it by large scale advertisement but this wasn't effective.(Map 5.4)

The 70's were the years of man's rights, and most of colonised countries gained their independence. This movement had reached all parts of the world; globalisation started to become a part of the daily life of different nations all over the world.

These groups had the same demands: peace, freedom, human rights and preserving nature; even though they were far from each other geographically they but they were connected in ideology. That was the case with the 1977 Taksim square events (Fig 5.10), where workers organised a meeting on the 1st of May to bring attention to the workers' problems, but unfortunately it ended with bloody opposition.

Here also we notice the role of the square as a venue for the different changes occurring in the society, and we see how it could be used at those moments.

During the mid-1970's the Marmara Hotel was built; that was totally an economic objective. When it first opened for service in 1975, it was managed by an American hotel group, and named "Intercontinental". That didn't last for long; when the problem of Turkish Cyprus arose, an embargo was implemented against Turkey. Under these conditions the American firm was obliged to leave Turkish territory, leaving the hotel vacant. A few years later, the hotel reprised its function under Turkish administration, and was successfully run.

At the site of the Marmara Hotel, there was a remarkable stone building: the Osmanlı Bank, a mixture of Vienna and Beyoğlu style. Immediately after it, in the direction of Siraselviler, stood the mansion of the General Director of Osmanlı Bank. The second building in this series was an English peer's home, and next to it a two storey building famous in the 1930's and the 1960's: "Ankara Pazari" owned by a Greek family called Kirku. That two storey building was similar to today's markets: all sorts of goods were sold there, mostly imported, and people often went there just to see the newly arrived products, without buying anything (Gülersoy, 1986). All the above-mentioned buildings were demolished in order to be replaced by today's Marmara Hotel.

After passing the road going down the hill toward Cihangir, a series of buildings juxtaposed each other, first the Pamuk Pharmacy, after that the Mengenler Firm, characterised by its well-ornamented stonework façade, and one of the four historical buildings in the square, then a shop for foreigner newspapers and magazines. The remaining buildings didn't receive any transformation, and they still remain in their original places. But the reality is that the Taksim Square is no longer only reserved for national ceremonies.

Statement Diagnosis

Qualitative progress in mass media brought group activity to the square, such as the previously quoted examples of political meetings and protests. The real transformations was achieved in the 1970's , starting with the Atatürk Cultural Centre in 1972 and followed by the Marmara Hotel in 1975. With those new modern buildings, there was a desire to change the image of the square as well as its function. Architecturally, it wasn't so successful as a project, because they were designed separately as isolated buildings without thinking about the rest.

5.6. Taksim Square from 1980 to 1990

The blocks behind the Kristal Casino were torn down in 1987 when mayor Bedrettin Dalan enlarged the Tarlabası Boulevard. Their sites were added to the square and the road. An increase in vehicle flow was the reason for the demolitions and enlargements. The building of the Marmara Hotel added to the square support for the tourist industry (Map 5.5)

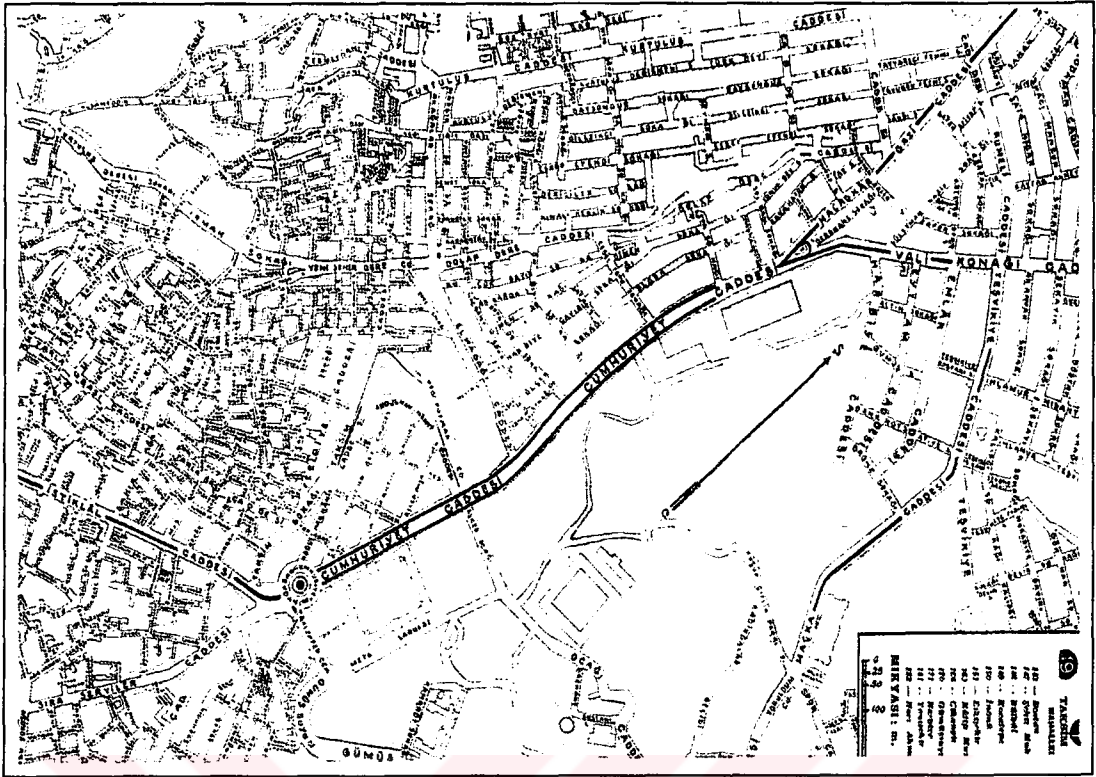
Even though the 80's were characterised by the diffusion of new television channels, it didn't have any effect on the square. The most important building to come to the square was the Ataturk Cultural Centre, and with it came a new notion of the square. The cultural centre was the favourite of citizens in the 1980's; they come to attend classical opera performances and mostly classical music concerts. The crowd before and after scene was remarkable; the edifice was scaled at the city level and moreover had given an architectural limitation to the square with its linear façade, even though it didn't work with the whole panoramic view of the square.

That was one of the architectural problems of the 1980's: proportions between buildings were no longer respected, as though each building was designed as an isolated project without considering the space as a whole. (Fig.5.11) The 1980's were characterised by the conversion of Istiklal avenue into a pedestrian walkway in 1989, and that decision helped in encouraging street activities.

By separating pedestrian and vehicular traffic, the street life start to be regained. The free space left by vehicular traffic was used for street activities.

Statement Diagnosis

During this period the quantity of media mass is important, and automatically affected the square. Different events were inaugurated at the square. Concerts and fairs were held in the square. The last operations, including street enlargement, Atatürk Cultural Center (AKM) and the Marmara Hotel, were introduced to the square in order to serve a large public at the same moment.



Map 5.4 Taksim Square 1970 (1870 Beyoğlu 2000, 2001)

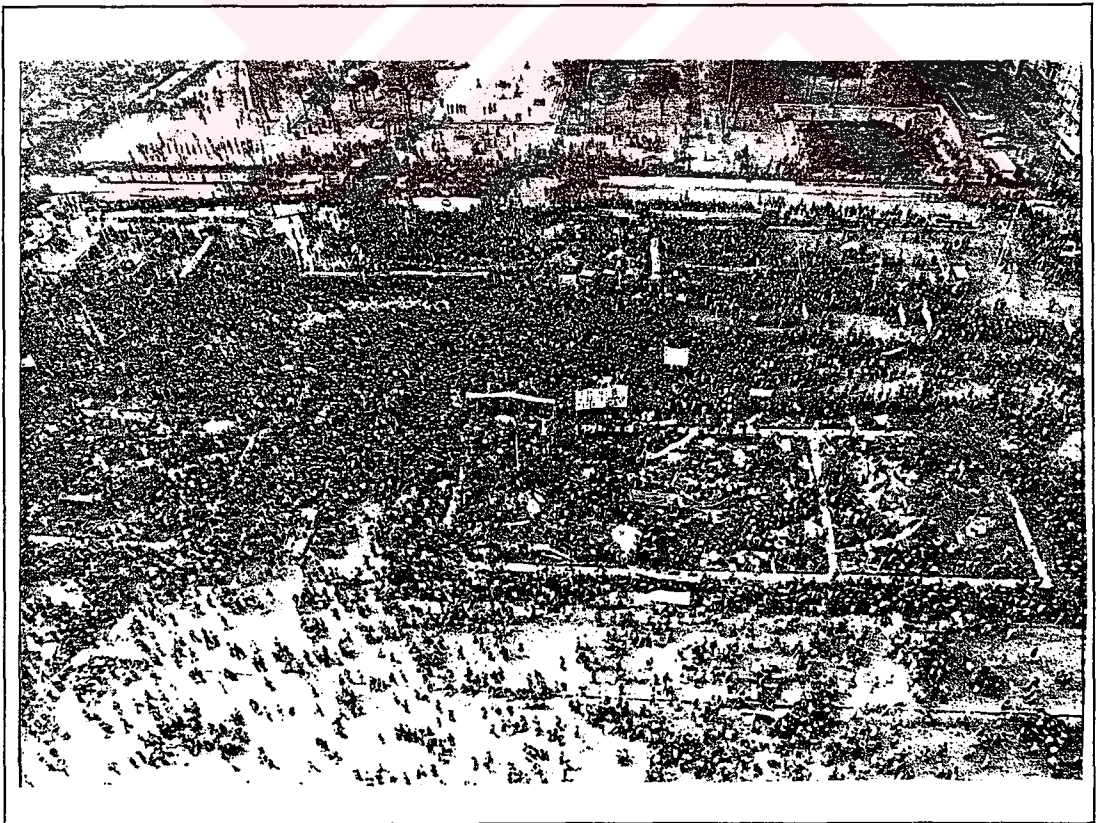
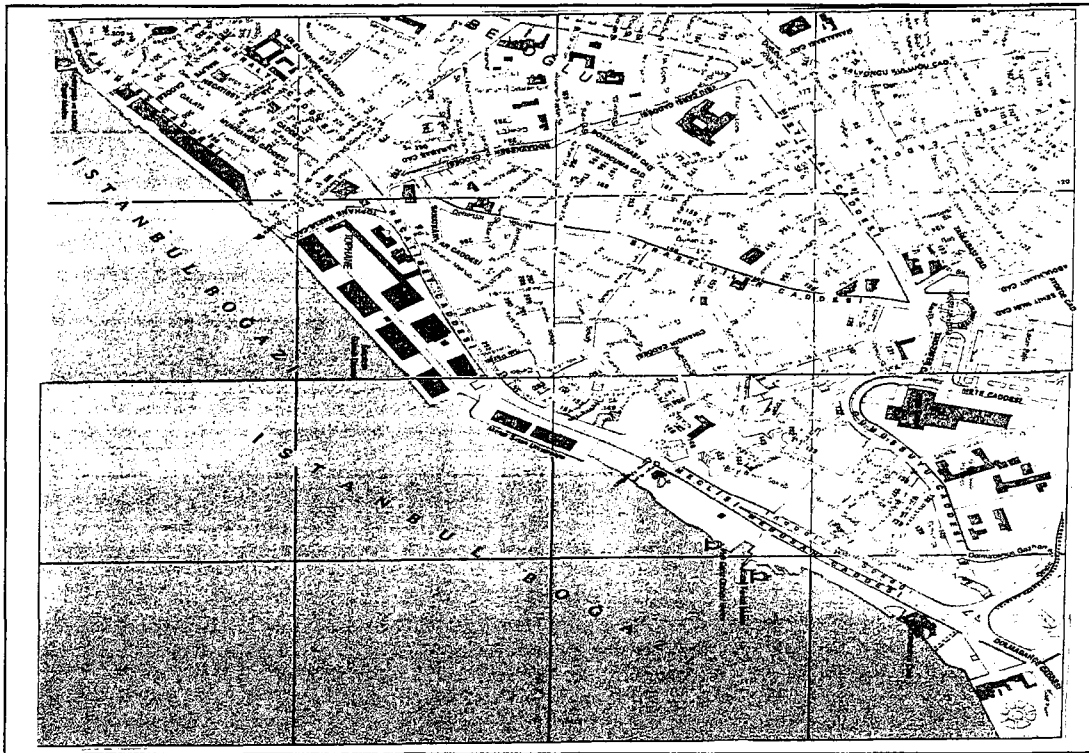


Figure 5.10 Taksim Square 1977 Meeting Event (Gülersoy, 1986)



Map 5.5 Taksim Square 1989 (City Guide, 1989)



Figure 5.11 Taksim Square General View 1980 (Gülersoy, 1986)

6. TAKSIM SQUARE AND INFORMATION TECHNOLOGY

6.1. Taksim Square under the Effect of Information Technology (1990 - 2003)

The 1990's brought information technology devices to the square. Internet use reached its climax in 1990, affecting the different activities located in the square ranging from education, cultural, and tourism to commerce and finance. The bank machine has been a familiar element in the square since 1994.

As a first step, let us state the actual situation in the square, in order to extract the different activities located there. The most important building with its iron and glass façade is the AKM (Atatürk Cultural Center) building, then in the direction of Ayazpasa, is the İş Bank with its ATM machine. In the direction of the monument, first on the corner is Vakıf Bank with two ATM machines, then the Marmara Hotel, in place since 1972. On the street level of the hotel is a café, then the Garanti Bank with its ATM machine at the corner of the building. (Figure 6.1)

The first building after the road going down the hill, is the Goldas boutique, a luxury gold shop opened at the square in 2001, after the building was restored. The second building has a narrow glass façade, with the Café Anatolia located downstairs and an internet café upstairs.

The third building in the direction of Sıraselviler is the new Taksim Hill Hotel, in another restored building, in operation since the end of 2000. Downstairs is a well-decorated café, called the Taksim Moda Café, which attracts those passing by. The fourth building is the Square Hotel, the downstairs occupied by the Taksim Square Café and the fashionable Sarar boutique. This building is completely new, the old one having been demolished.

The fifth building is almost old; the downstairs is occupied by a photographer and the İtir Pharmacy, and upstairs there are offices. The sixth building is the Istanbul Savoy Hotel. Then comes the historical Istanbul State Theatre (Istanbul Devlet Tiyatrosu); in the downstairs of this building can be found a newspaper and

magazine vendor, a currency exchange office, then the İmar Bank office. Upstairs is a café bar called Panorama.

The eighth building in this direction is the Dilsen Hotel, one of the first hotels erected on the square in the 1950's. On the opposite side of the road, toward İstiklal Avenue, is a series of small restaurants, juxtaposed to each other. On the side of Cumhuriyet Avenue toward Tarlabası Avenue a series of important banks is found. First is İş Bank with two ATM machines, then Garanti Bank with one ATM machine, then two buildings without any activity.

The next building across the road is Yapı Kredi Bank with two ATM machines, then Tekfen Bank with one ATM machine. The next building is the Mercedes showroom. From the Square's centre toward Cumhuriyet Avenue one finds the İstanbul Metro office, where the akbil token can be filled, then the PTT office building which has stood there since 1970, followed by a brasserie, the Mc Donald's restaurant, then another brasserie.

The akbil and İETT ticket sales point is one of the facilities provided by information technology; it has become a daily scene in the square to see people asking for tickets or getting their akbil refilled. (Figure 6.2). Today we count :

1 Akbil (smart card) sales point

2 İETT (İstanbul Electric Tram and Tunnel) ticket sale points

1 sales point for Akbil and İETT tickets

32 phone booths near the bus terminal, in front of the PTT office

16 phone booths at the beginning of İstiklal Avenue

A remarkable new physical element in the square that attracts the curiosity of citizens is the Canal D live camera, where people come to sing songs or imitate famous persons or even confess a secret to the whole public(Figure 6.3).

The square transportation is assured by public bus services and the underground rail (Metro), which has been in service since the 16 September 2000, linking Taksim to 4. Levent (Figure 6.4). Activities in the square are various, but can be classified into four important categories: cultural, hotel, finance-banking and commerce. The most important cultural building in the square, is the Atatürk Cultural Centre (AKM). Activities held in this building are monthly, weekly and

even daily posted on net pages. One of the most popular web pages interested in the AKM activities is the Biletix web page (www.biletix.com).

Cultural activities are classified in four categories: sports, concerts, art and cinema; by clicking on one of the above categories a monthly schedule appears on the screen, then you can ask for the ticket. Another way to learn about cultural activities at AKM is through ; www.bigglook.com, which is similar to the previous one, giving detailed information about the time and place of the requested cultural activity.

Information and advertisements easily reach the user when it is posted on the net. The citizen comes to AKM only to attend the show, because even the show ticket is already booked through the internet. The kind of services provided by the internet can help in reaching large numbers of Istanbul citizens living far away from the AKM.

The other sector making use of internet facilities is the hotel sector, and more specifically the Marmara Hotel; through its internet address www.themarmaraistanbul.com, it is possible to learn about the accommodations in the hotel and that is performed by three dimensional animation. Booking service is available as well.

The banking sector was the first sector which brought information technology to the square by providing ATMs. All the banks located at the square have ATM machines to serve the public coming or passing by the square as well as providing different services ranging such as credit cards, asking for account information, and paying bills through online branches. By visiting the following sites, Türkiye İş Bankası; www.isbank.com.tr, or the site of Garanti Bank; www.garanti.com.tr , or Vakıf Bank, www.vakifbank.com.tr, online services are offered , ranging from simple information to money transfer. The whole square is going virtual and the activities held there as well, internet use can help by advertising coming events, and facilitate the daily life of the citizen by sparing him the need to move .



Figure 6.1 Garanti Bank ATM Machine on Street Level of the Marmara Hotel

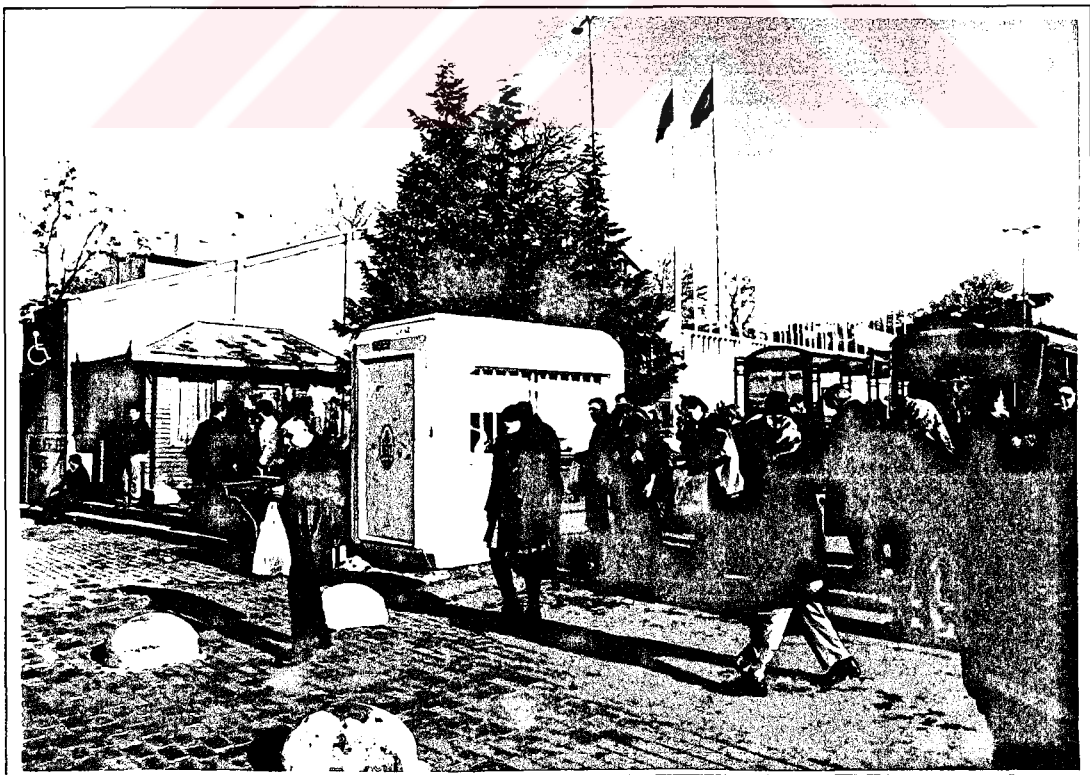


Figure 6.2 Citizens in Line for Akbil Token Refill

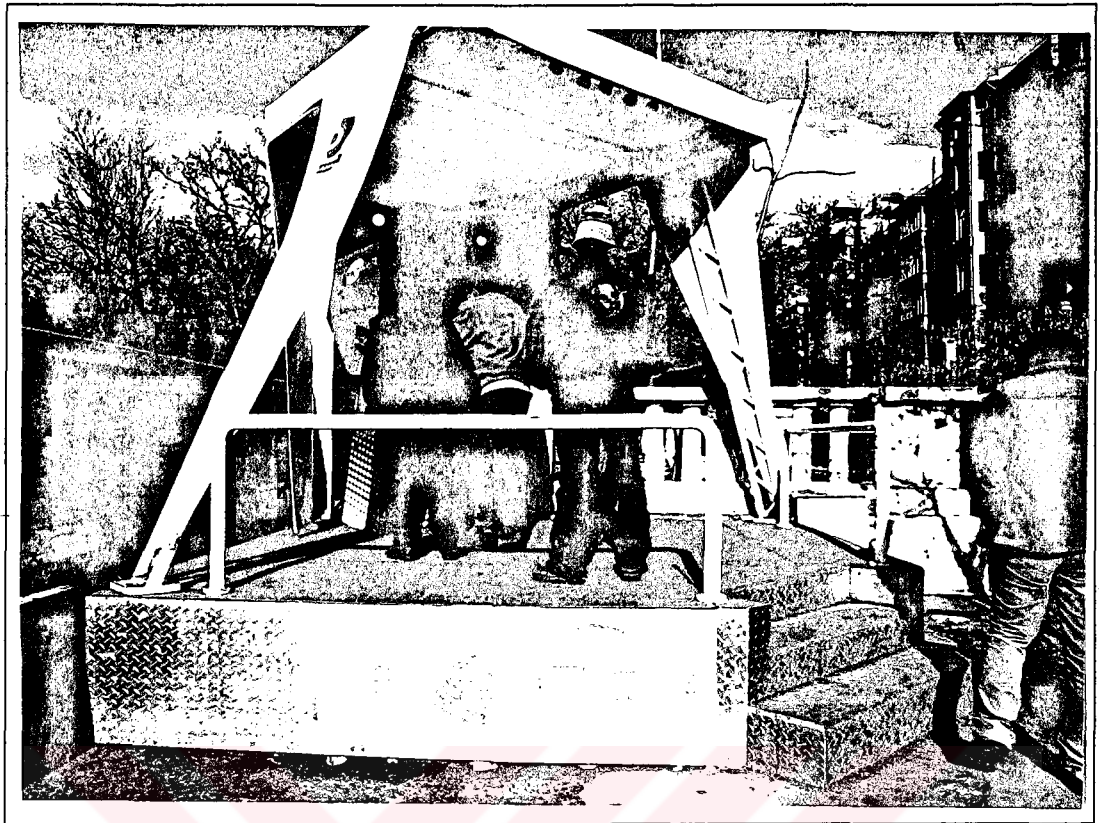


Figure 6.3 Canal D Live Camera

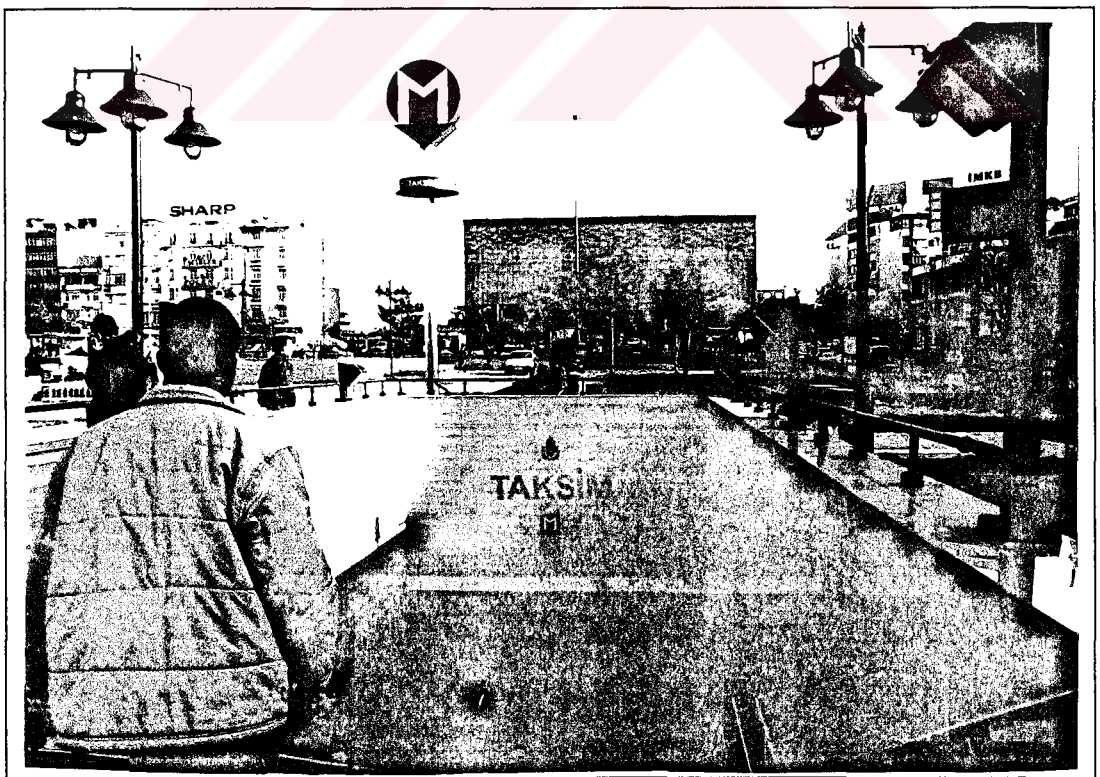


Figure 6.4 Taksim Square Metro Entrance

6.2. Methodology Used in Evaluating the Case of Taksim Square

Experimental observation must first of all to extract all the different existent activities in the outdoor area, this within a logistical schema:

1. Looking for architectural elements or physical elements providing services for citizens,
2. Sorting out related activities.
3. Discovering the effects that resulted from information technology use.

From the first view in the square physical elements are found spread out in different points in the square, machines providing facilities to citizens and controlled by information systems connected to world-wide networks.

Bank machines: ATM are microcosms of banking services providers; these machines replace multitude activities performed by groups of staff at one time; the fact obtained after observation is that banking activity is moving from inside buildings onto the street. And the latest trend is that street sellers come to install themselves as close as possible to the ATM machines. (Figure 6.5)

These machines are creating an atmosphere in their proximity; once banking service used to be an indoor activity, but today has become an outdoor activity. So bank machines are driving the banking sector out to public space .

The other physical element that attracts the attention of passers by is the Canal D live camera, a 24-hour live camera transmitting what is happening in the square.

Here is a good example of citizens making decisions; in fact this live camera was introduced by Canal D for their “Sira Bende” television program in which citizens compete by singing a song or doing imitations. But people used this machine to transmit an appeal, and even for recommendations, or just the need to talk and, most of the time, have fun. This device brought a limited service that was transformed by the citizen into a way in which he expresses his feelings and his needs. (Figure 6.3)



Figure 6.5 Street Seller Close to ATM Machine

6.3. First Survey and Results

In the second step, a questionnaire process was needed to learn more about Taksim Square users. The questionnaire was held in the period between 20 March and 5 April 2003, and addressed to 133 persons; 5 points were selected at which the questionnaire would be performed. Those points corresponded to the main axes serving the square, pedestrian axes, bus terminal and metro entrance. The selection of the five points is explained as follows:

Point A corresponds to pedestrian flow coming from Cumhuriyet Avenue and is located in front of the PTT office in the square.

Point B corresponds to the flow coming out of the metro in the centre of the square.

Point C corresponds to the flow coming from the bus terminal and is located at the Canal D live camera.

Point D corresponds to the flow coming from Gümüşsuyu and is located at the Marmara Hotel.

Point E corresponds to the flow coming from Istiklal Avenue and is located at the beginning of the avenue.(Interviewees could check more than one answer, that why percentages are not reel number).

The questionnaire was performed at different times of the day, peak hour at the morning, work starting time at 9 o'clock, at the afternoon break time from work, and toward the evening, from 6 to 9 when workers went back home.

In order to get a homogenous result, the persons interviewed were selected every 5 minutes. That was the sole issue to get a homogenous result, because in the square users are diverse and varied, and sampling method needed to lead correct results.

Questions were conducted in hierarchical logic, starting with obtaining general information about the users concerning age category, social situation, educational level and profession; this kind of first information led to an understanding of what are the users of the square and kind of street activities could be generated and under which conditions.

First, gender ratio (Figure 6.6) : the square is dominated by masculine use during the different times of the day. 64 % of the users are male, 36 % are female. That automatically will have a direct impact on the use of the space, for instance rarely is a woman found sitting on a bench at the Square.

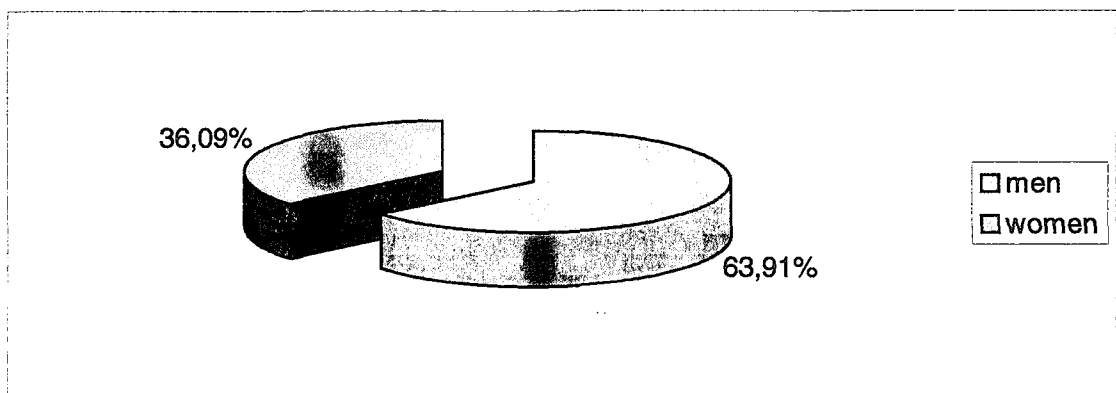


Figure 6.6 Gender Ratio of Taksim Square Users

Second, age category was checked (Figure 6.7) : the majority of the square users are young. 58 % of the users are aged between 20-29, only 7 % are aged between 50-65. That gives a reason for the use of the square and the Istiklal Avenue, which remains the province of young people.

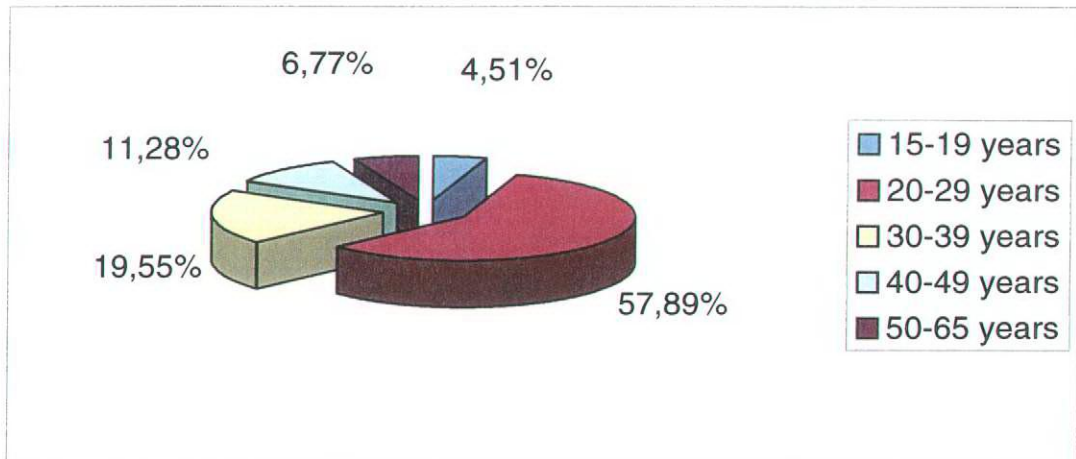


Figure 6.7 Age Category of Taksim Square Users

Third, social situation (Figure 6.8) : the majority of interviewed person are single (65 %), rest of them are married (35 %) which is fully compatible with the previous result, where the majority of users are aged between 20 and 29 years.

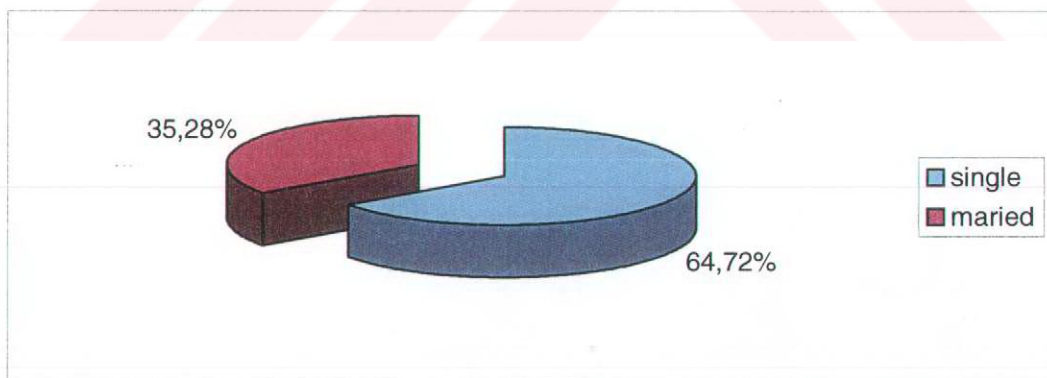


Figure 6.8 Social Situations of Taksim Square Users

Then educational level (Figure 6.9) was checked, and unexpected results were obtained: only 8 % were educated only at the primary school level, and the rest had a high school or university level education. That gave a good impression about the square users.

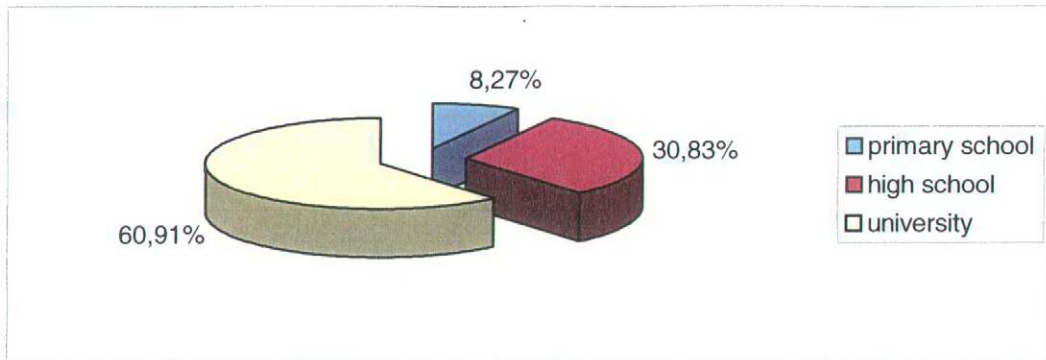


Figure 6.9 Educational Levels of Taksim Square Users

Next, the type of profession was selected. The private sector is predominant, and an important rate of unemployed persons was noted among the square users, which indicated that there are some persons who come to the square without any objective; work or school purpose and they didn't reveal us their reason for being in the square. Because working persons didn't stand in the square for a long time; they are only passing by, the real users in this situation are unemployed persons who are free from any kind of obligation during the entire day (Figure 6.10).

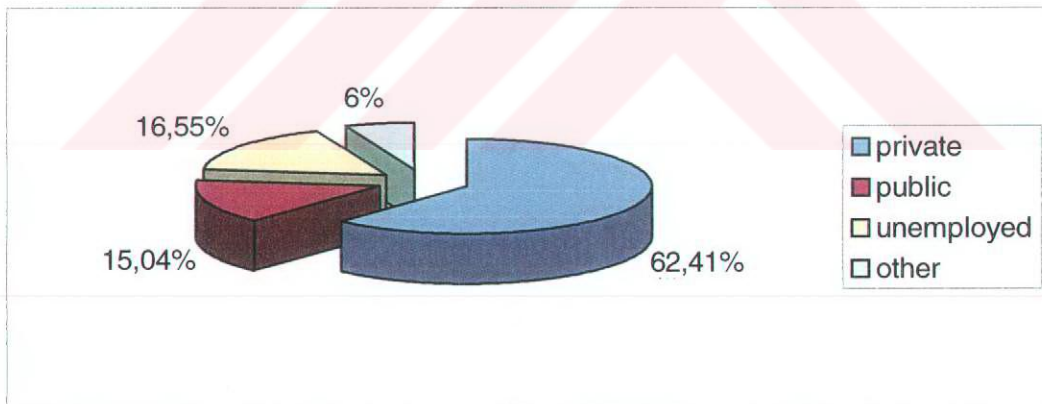


Figure 6.10 Profession Sectors of Taksim Square Users

The next stage is giving, in detail, professional specialisation, which can serve in learning related activities through the users. Students are 21 % of all users, others are from different professions; commerce (18 %), engineering (13 %), finance (10 %), health (9 %), management (8 %), education (4 %), web designer (1 %). 14 % of the users could not define their jobs (Figure 6.11).

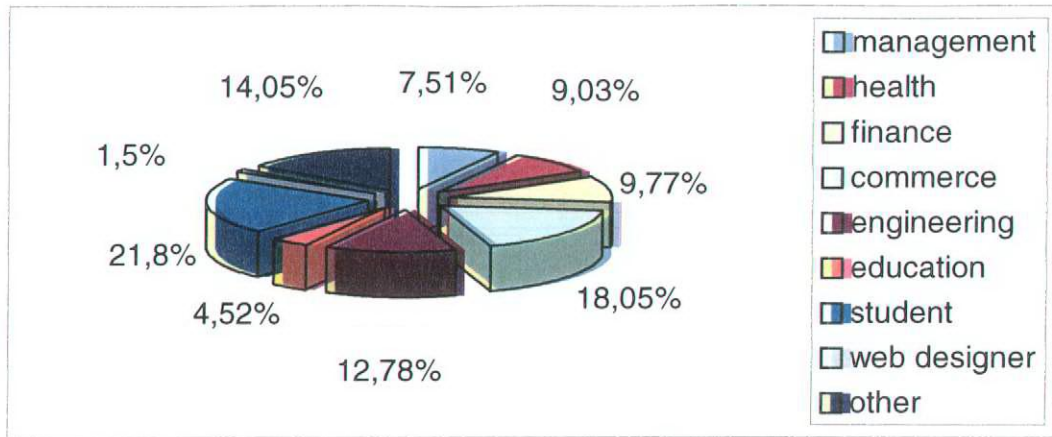


Figure 6.11 Profession Speciality of Taksim Square Users

In the following table (Table 6.1), a link between location of place of work and the reason for being in the square is raised. The highest rate is for Taksim Square itself; in second place comes Beşiktaş, and third, Mecidiyeköy as the destination of Taksim Square users. An interesting result is that of Kadıköy representing 6.21% of the total users, which means that Taksim Square is not only important for the European part of Istanbul, but also is serving the Asian part, for instance, Kadıköy, Göztepe and Maltepe.

Taksim Square is playing the role of junction between the two parts of the city. Since the introduction of the Metro facility in 2000, more and more users are passing through Taksim Square to take the Metro toward Mecidiyeköy, Levent, Maslak and even Gayrettepe; respectively the percentage for those directions is as follows: 6.6%, 5.68%, and 3.53%, 1.6%.

Table 6.1 Taksim Square Users, Work Location

Taksim	22.4%	Galatasaray	2.44%	Maltepe	1.2%
Beşiktaş	10.2%	Eminönü	2.8%	Esentepe	0.8%
Mecidiyekoy	6.6%	Sarıyer	2.2%	Etiler	0.8%
Kadıköy	6.21%	Cihangir	2.13%	Sıraselviler	0.8%
Levent	5.68%	Beyazıt	2.04%	Ist Tek Univ	0.66%
Gümüşsuyu	5.11%	Şişli	2.04%	Şişhane	0.66%
Maslak	3.53%	Bakırköy	1.82%	Osmanbey	0.66%
Göztepe	3.37%	Gayrettepe	1.6%	Beylikdüzü	0.66%
Yıldız	3.33%	Zincirlikuyu	1.42%	Cerrahpaşa	0.66%
Avcılar	3.2%	Istinye	1.24%	Aksaray	0.62%
No work	2.44%	Bayrampaşa	1.2%	Karaköy	0.62%

The next table (Table 6.2) presents Taksim Square users' home locations; the results show that an important percentage is coming from the Asiatic part of the city: Kadıköy, Göztepe, Üsküdar, Bostancı, Maltepe, Altunizade and Anadoluhisarı. The square is for the use of all, whether living on the European side or the Asiatic one, the distance doesn't present an obstacle.

Table 6.2 Taksim Square Users, Home Location

Beşiktaş	11.42%	Üsküdar	2.33%	Fındıkzade	0.66%
Şişli	7.77%	Ataköy	2.22%	Talatpaşa	0.66%
Kadıköy	7.15%	Taksim	2%	Okmeydanı	0.66%
Mecidiyeköy	6.04%	Maltepe	1.75%	Vefa	0.66%
Sarıyer	4.93%	Ortaköy	1.71%	Etiler	0.6%
Avcılar	4.33%	Osmanbey	1.66%	Anadoluhisarı	0.6%
Bakırköy	3.71%	Gümüşsuyu	1.22%	Göztepe	0.6%
Cihangir	3.57%	Kurtuluş	1.22%	Tarabya	0.6%
Fatih	3.55%	Maslak	1.22%	Erenköy	0.6%
Göztepe	3.37%	Aksaray	1.11%	Yedikule	0.6%
Kocamustafapaşa	3.31%	Çapa	1.11%	Balat	0.6%
Levent	3.04%	Altunizade	1%	Galatasaray	0.6%
Gayrettepe	2.55%	Yenibosna	1%	Kadınca	0.55%
Bostancı	2.42%	Elmadag	0.66%	Hisarüstü	0.55%
Bahçelievler	2.37%	Eminönü	0.66%	Istinye	0.55%

The next stage of the questionnaire is asking for the reason of being at the square; the aim of this question is to extract the different activities held in the square. Results show that the square is no longer a residential area, but almost equally shared between work (28 %) and entertainment (27 %); shopping (16 %) and cultural activities (14 %) attract the interest of large numbers of people coming to the square, not to mention the perimeter of schools and universities that has been one of the characteristics of the square beginning (Figure 6.12).

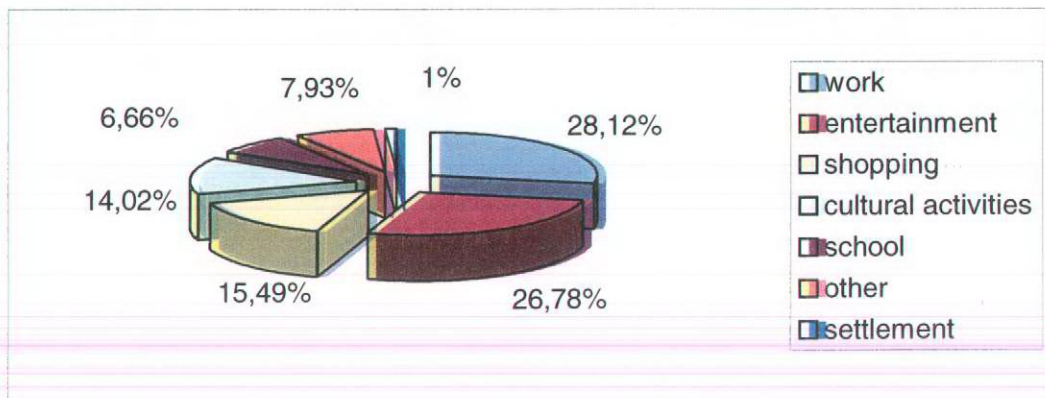


Figure 6.12 Reason for Being at Taksim Square

The next question was about the different tasks achieved by means of the internet; instead of coming to the square, whatever the task might be, that can be done through keyboard PC. The surprising result was that the highest recorded rate was for cultural activities. People confirm that they could see new films, even those being shown in cinemas; entertainment came in second with 14.6%, which is a considerably important percentage that will negatively affect the entertainment place. Concerning e-commerce or shopping via the internet, the recorded rate is largely higher than the total rate of Turkey which is 3%, which gives a future perspective about the shopping facilities.

Among the interviewed persons 36.52% of them said that they didn't use the internet for any reason; they still prefer direct contact and they also add that the internet, especially shopping, is not reliable (Figure 6.13).

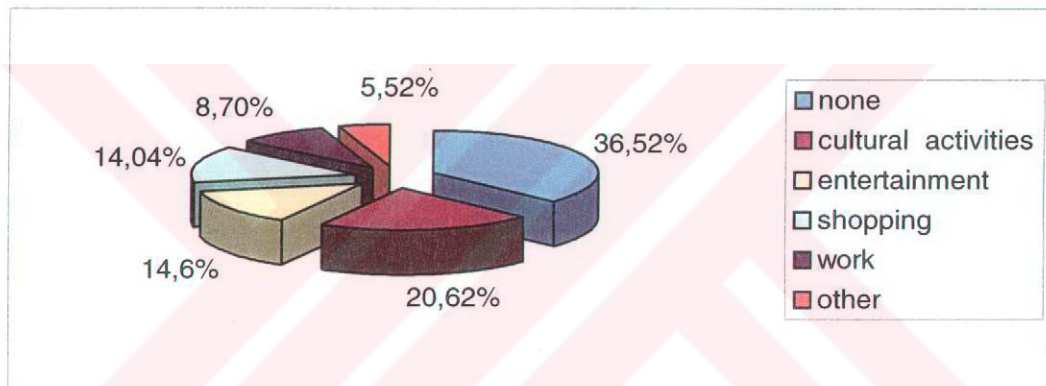


Figure 6.13 Activities Accomplished Via the Internet

Another information facility that is frequently used is the mobile phone (Figure 6.14); that device could negatively affect outdoor phone booths. Even though phone booths seem to continue to remain in existence with big crowds gathered around them, only because those phone booths are a familiar physical element in the square where people meet each other and even take a rest watching those passing by, in the near future their existence is not warranted.

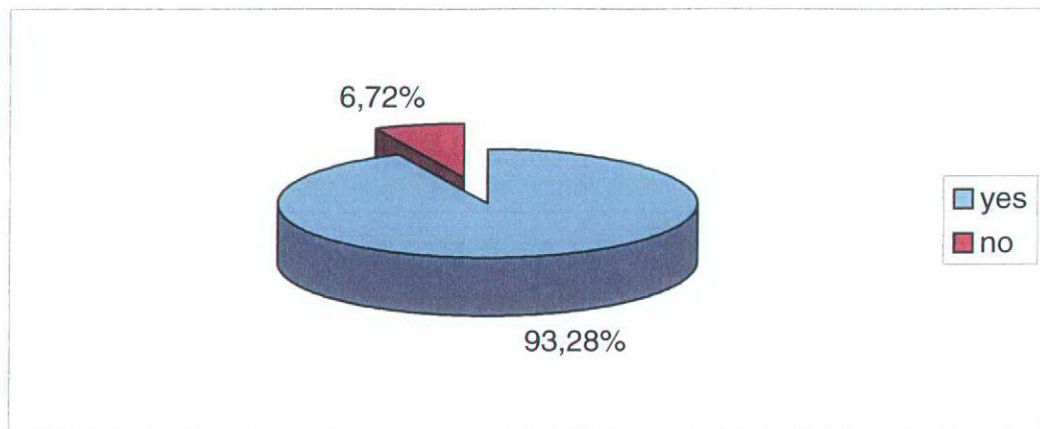


Figure 6.14 Mobile Phone Ownership

Internet is mostly reached from home PC's, in second rank from work offices and thirdly from internet cafés (Figure 6.15). The high rate of internet use through home PC's creates a home working community that doesn't need to move and has no need for the outdoor atmosphere. A similar situation existed in the United States in the late 1980s. Researchers and sociologists work on revitalizing outdoor space especially at the level of the district. (Carr, 1992)

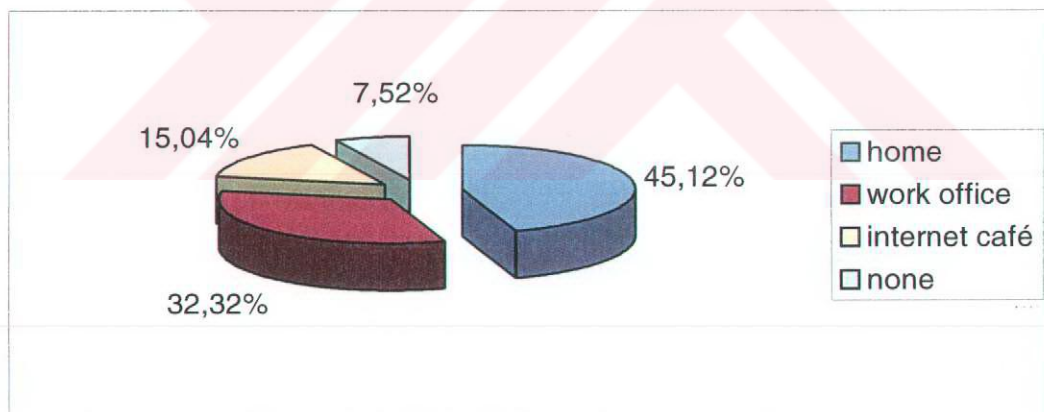


Figure 6.15 Location of Internet Use

The frequency of coming to the square was asked as well. Certainly it didn't concern those who are coming for work purposes; here the question is concerning the square itself and the activities held there. Less than half of interviewed persons confirm that they come almost every day. The square is still attracting young people at least on weekends, even alongside the highest usage of information technology. But in some manner information technology facilitates contact with distant persons, in another manner information technology plays the

role of advertising agency by letting people learn about the different coming events in the square (Figure 6.16). For instance, when navigating the site of www.biggllook.com one finds monthly and even daily events are listed with time and place of showing, including art, theatre, cinema, opera and sporting events; with this large diverse bouquet the user finds a multitude of choices. In other words and in a direct way, information technology helps in making the square more attractive by way of advertising.

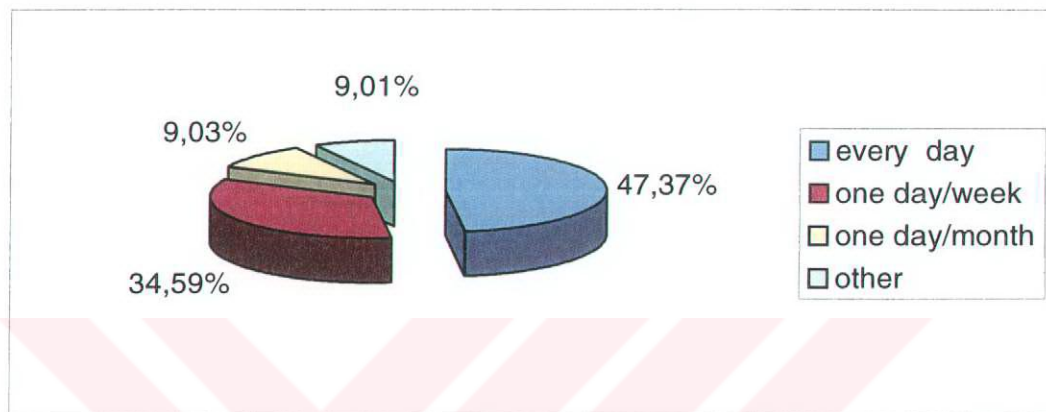


Figure 6.16 Frequency of Coming to Taksim Square

When asking the people at the square about what it is that Taksim Square represents for them, the answers were as follows: 37.6% of interviewed persons confirm that it is an entertainment area, forgetting totally the victory monument standing at the centre of the square; 30.08% think that it is just a shopping area, while 27.82% find that it is a transportation terminal and transit point; and only 4.5% confirm that is the symbol of the new governmental system in Turkey (Figure 6.17).

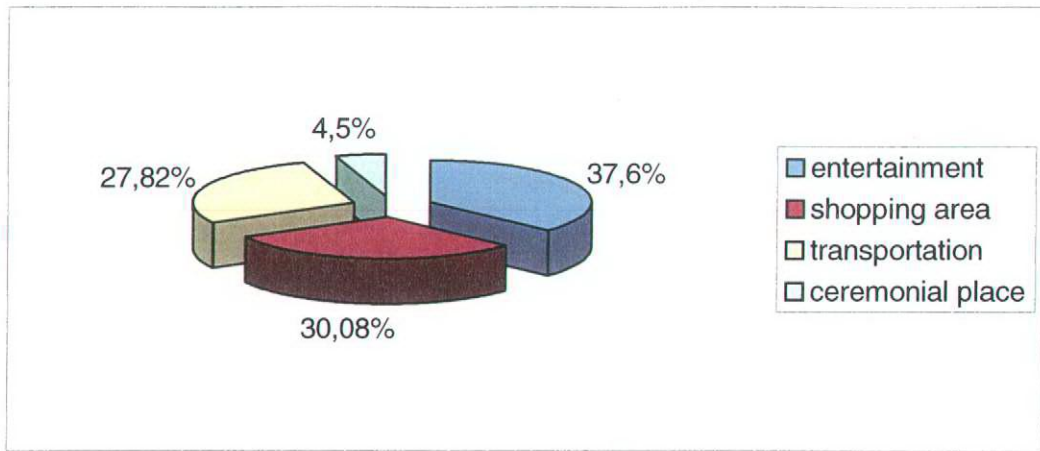


Figure 6.17 Symbolism of Taksim Square for Interviewed Person

The last question was about the other frequently visited place in Istanbul; the largest rate was recorded for Mecidiyeköy, which couldn't be considered as a square either in shape or in function. Taksim stands as the sole place that has the characteristics of a determined square, and it may be for this reason that it still attracts more and more people from the different parts of the city (Figure 6.18).

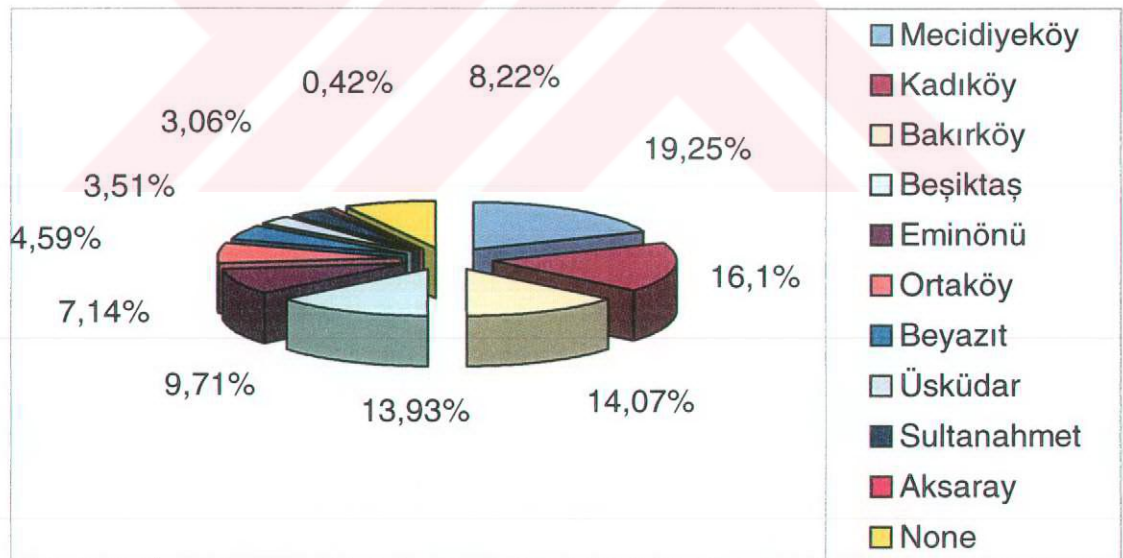


Figure 6.18 Rate of other Visited Public Open Space in Istanbul

From this first-stage questionnaire, an important head line is checked:

1. Home-located internet users constituted 45.12% of interviewed persons, which directly affects the use of outdoor space in a negative way. Staying at home, through a PC keyboard work will be done, friends are found, conversation is also possible, so what about outdoor contact? Who will use the outdoor space? Only those who don't have internet facilities at home?

2. Interviewed persons confirm that they are more and more directed toward virtual space; even in activities that need direct contact virtual space use is challenging. From results obtained from the questionnaire, 20.62% of internet users are connected for cultural activities; it is a bit dramatic alternative for cultural activities in general.

Entertainment occupies 14.6% of the internet users interest: entertainment which used to be related to direct contact and spontaneously feeling is no longer like that but is achieved by internet devices. Users can play games and even participate in competitions; television games are also available on the internet, for instance "Who would like to win millions?" This diversity of entertainment on the internet always attracts the interest of teenagers and people who are just curious.

Shopping also occupies an important rate of internet use:14.04%. Strongly affecting the mass market, in general e-commerce is directed to a large number of citizen. A manufactured good which will be sold via the internet in millions of numbers throughout the world. Shopping is an important outdoor activity: around it other activities could be found. By introducing the internet into daily life, the essence of street life is vanishing.

3. The previously stated reasons affect as well the frequency of coming to the square: only 47.37% come every day for compulsory purposes.

6.4. Second Survey

Having tested the impact of internet use on Taksim Square, the results obtained lead to the second stage questionnaire. This second stage questionnaire aimed to complete the vision of the first one held at the square. In the first questionnaire the relation is looked at from the square toward its surroundings, while in the case of second questionnaires which have been held in the near by buildings, the relation is tested from the buildings toward the square. The second questionnaire, performed at Gümüßsuyu in the building which is the Faculty of Mechanical Engineering located, and in Taşkışla, which the Faculty of Architecture is located. First of all general information is collected about internet users, then the kind of effectiveness that could be generated from internet use is observed.

The questionnaire was held on the 13th of June 2003 and on the 16th of June 2003, in Faculty of Architecture and on the 7th and 8th of July 2003, in Mechanical Engineering Faculty of Istanbul Technical University, taking into consideration the different proportion of the building users; from among 212 academic staff, 100 administration staff and 1,200 students, 70 persons were interviewed. The performed questionnaire involved the persons who are permanent internet users. Among the 70 persons, staff, student and faculty members proportions are strictly respected.

The questionnaire can be divided into two parts from the point of view of obtained information, the first part reserved for general information about the interviewed person, the second part consisting of the subject's internet use and its purpose.

6.4.1. Results of the Survey at the Faculty of Architecture, ITU

Gender proportion was checked female gender is dominant with 60% (Figure 6.19).

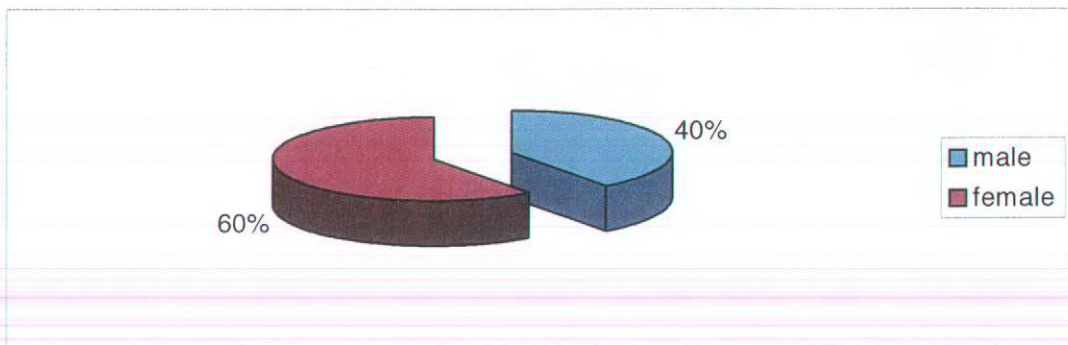


Figure 6.19 Architectural Faculty Interviewees' Gender Percentages

The next question concerns the age category; in general the interviewed persons are young, 67.14% of them between 20 and 29 years old, and that certainly will have a relation to their high interest to internet use (Figure 6.20).

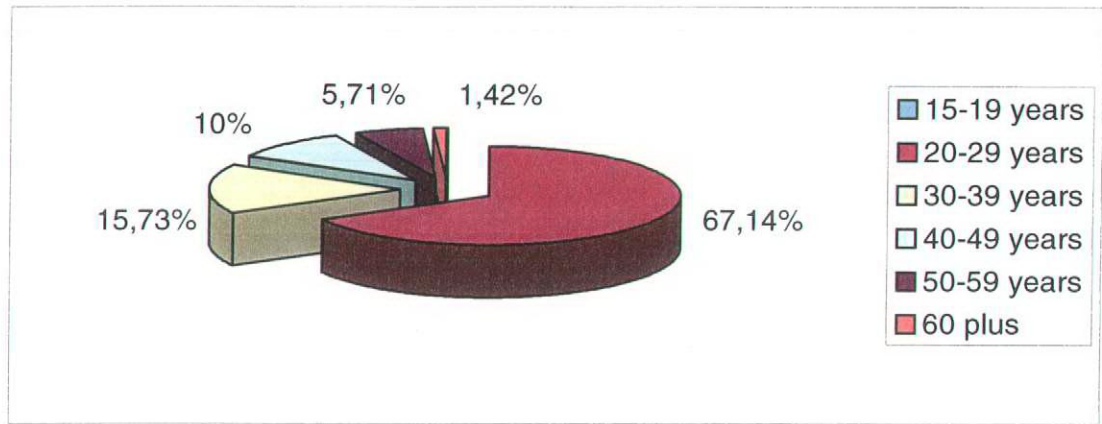


Figure 6.20 Architectural Faculty Interviewees' Age Categories

The next question, was about family situation; most of the interviewed persons were single, only 17.15% of them were married (Figure 6.21).

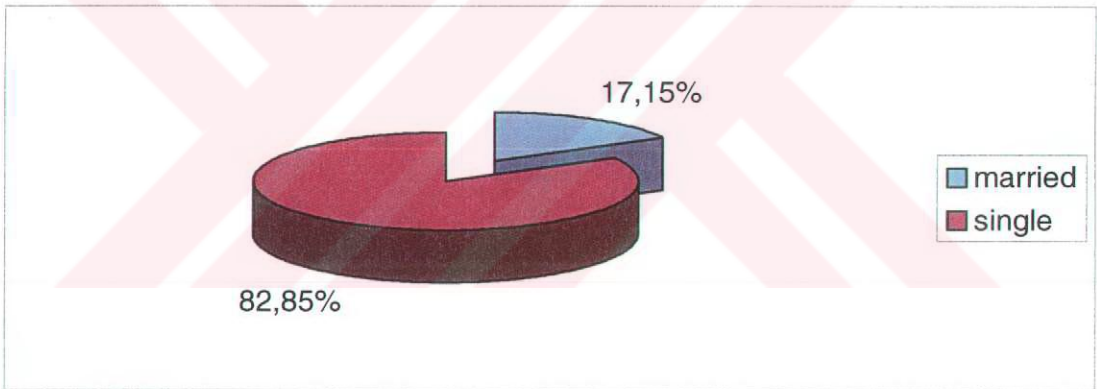


Figure 6.21 Architectural Faculty Interviewees' Family Situation Rates

The next figure shows the proportion of professions among the interviewed persons; in the first rank come students with 54.3%, then graduate students with a percentage of 7.15; research assistants with 12.85% occupy the third rank, library staff represent a percentage of 7.15, then computer experts with 4.3% (Figure 6.22).

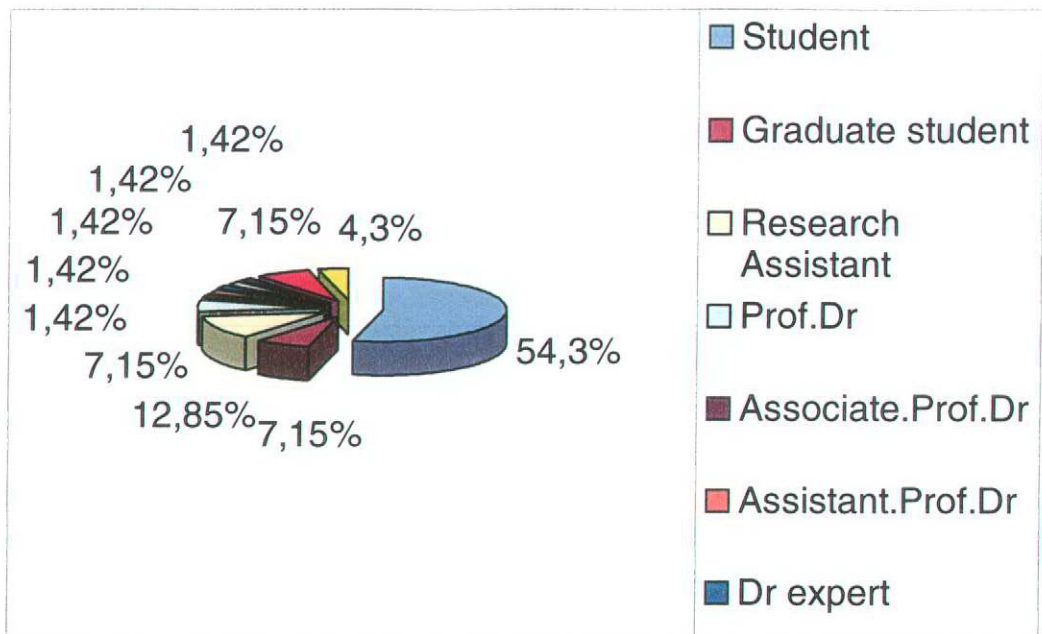


Figure 6.22 Architectural Faculty Interviewees' Profession Category

Information about frequency of internet use, whether it is at the office or at home, as well as the purpose of connection, is provided. The next figure demonstrates weekly internet connection at school; 71.42% of interviewed persons get connected every day (Figure 6.23). The facility of everyday connection could be helpful to solve some tasks that need speed and internet navigation (for instance, library research).

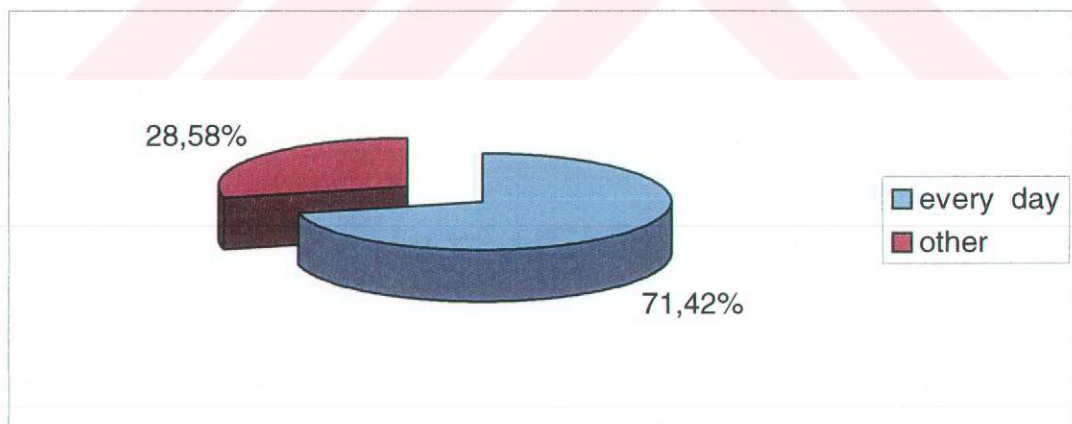


Figure 6.23 Architectural Faculty Interviewees' Weekly Internet Connection

The next figure (Figure 6.24) demonstrates the daily use of the internet in the Faculty of Architecture.

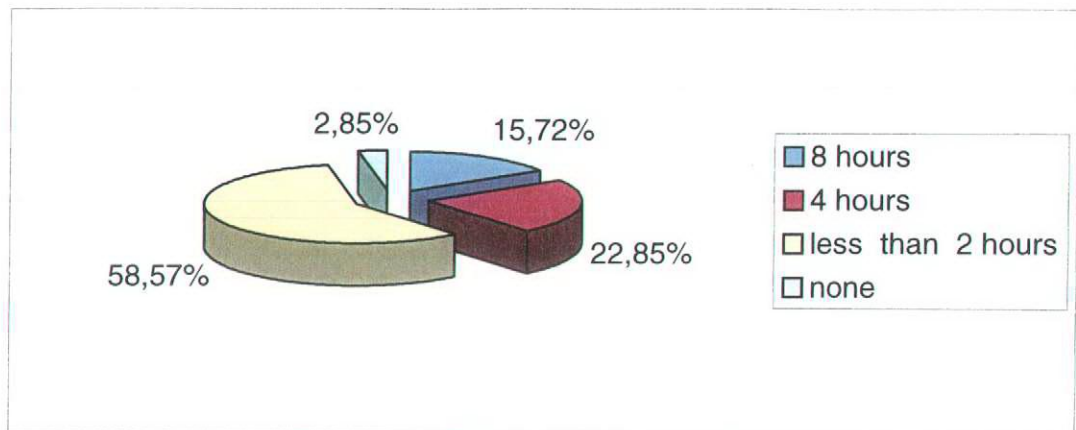


Figure 6.24 Architectural Faculty Interviewees' Daily Internet Use

The figure 6.25 demonstrates the different purposes of using internet in the Faculty of Architecture; the highest percentage is for getting information, 28.8%, then e-mail with a percentage of 28,28%; in third rank comes work-related aim, representing 21.98%; leisure; 9.42%, banking service occupies an important rate, 6.8%; shopping represents 2.1%, which is almost close to Turkey's total rate.

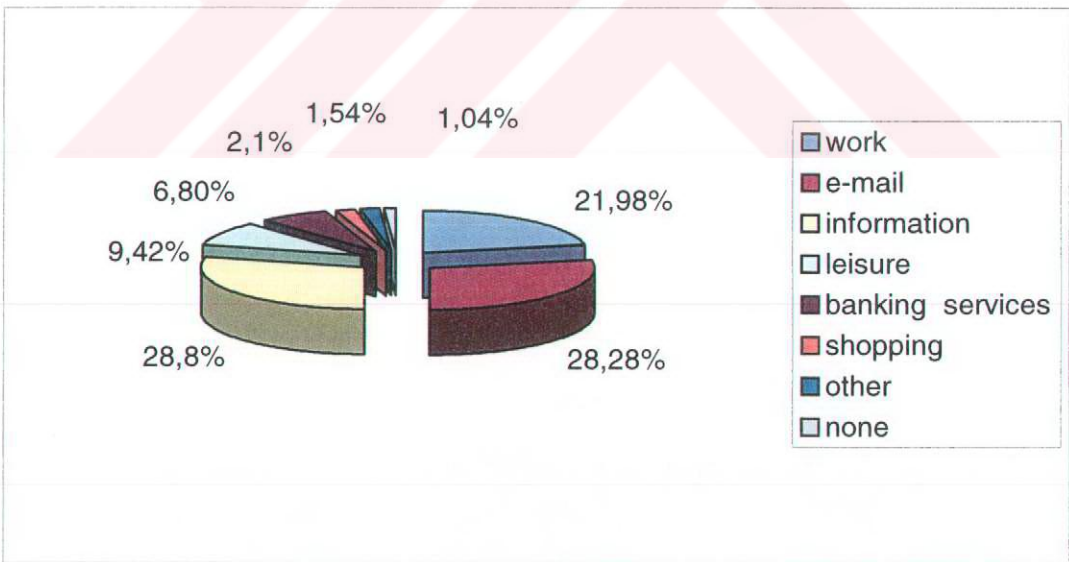


Figure 6.25 Architectural Faculty Interviewees' Purpose of Internet Use

The table 6.3 shows the perimeter of home location; that table will serve the following question about the frequency of coming to the square by making a link between distance and coming to the square; those who are living in the perimeter of Taksim are; Taksim, Şişli, Beşiktaş, Kurtuluş, and Teşvikiye, which represents 32.83% and those who are coming to the square every day represent 33.33%. (Figure 6.30)

Table 6.3 Home Location of Architectural Faculty Interviewees

Taksim	11.42%	Kurtuluş	2.85%	Florya	1.42%
Şişli	10%	Bostancı	2.85%	Esenler	1.42%
Beşiktaş	7.14%	Üsküdar	2.85%	Etiler	1.42%
Kadıköy	5.71%	Sarıyer	2.85%	Arnavutköy	1.42%
Fatih	5.71%	Maslak	2.85%	Beyoğlu	1.42%
Bakırköy	4.28%	Yeşilköy	2.85%	Küçükalyalı	1.42%
Bahçelievler	4.28%	Dolapdere	1.42%	Fındıkzade	1.42%
Çapa	2.85%	4.Levent	1.42%	Merter	1.42%
Avcılar	2.85%	Teşvikiye	1.42%	İkitelli	1.42%
Ataköy	2.85%	Erenköy	1.42%	Göztepe	1.42%
Ortaköy	2.85%	Altunizade	1.42%	Beykoz	1.42%

The figure 6.26 is about the possibility of connection at home; the rate is rather high in comparison with the general rate for Turkey.

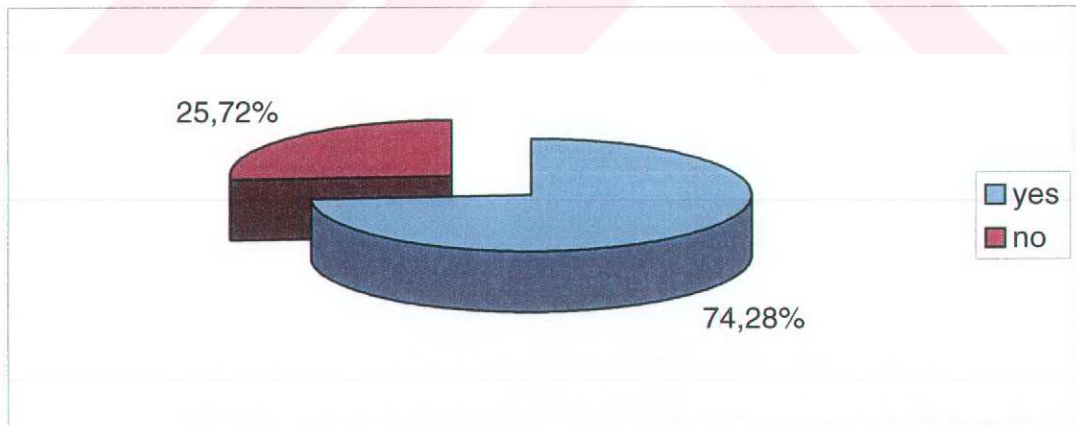


Figure 6.26 Architectural Faculty Interviewees' Home Internet Connection

The figure 6.27 demonstrates daily connection at home; in general the range is 2 hours or less, is almost the normal rate.

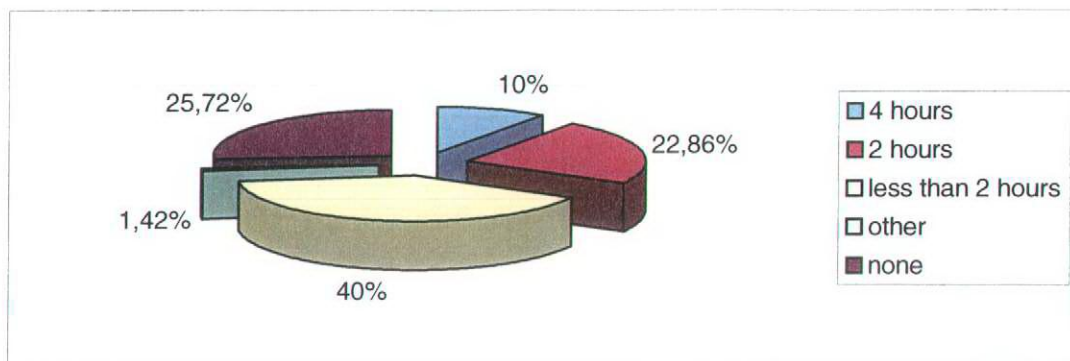


Figure 6.27 Architectural Faculty Interviewees' Daily Home Internet Connection

The figure 6.28 shows the different purposes of internet use at home.

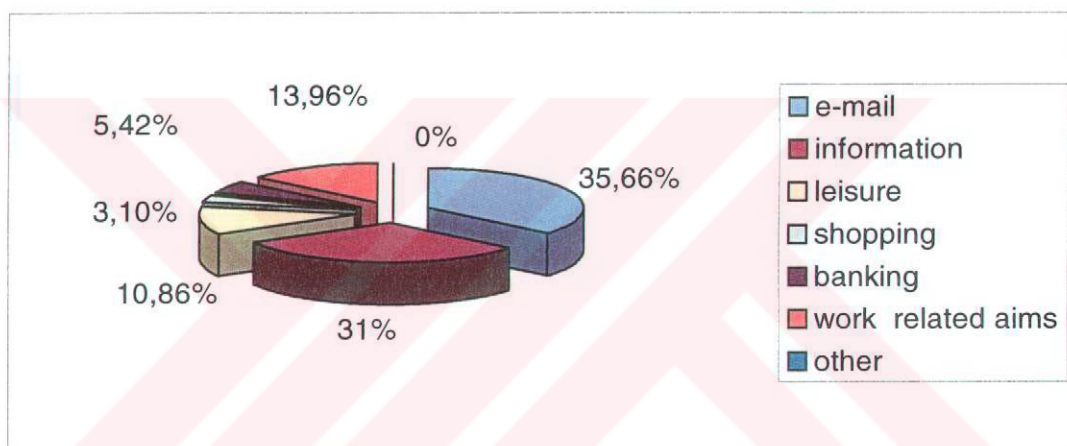


Figure 6.28 Architectural Faculty Interviewees' Purpose of Home Internet Use

The next figure demonstrates the possibility of being at Taksim square; almost all people confirm that they could visit the square at least once a week. But that doesn't mean participating in Taksim Square activities; in the coming question about the aim of being at the square, the real facts will be checked (Figure 6.29).

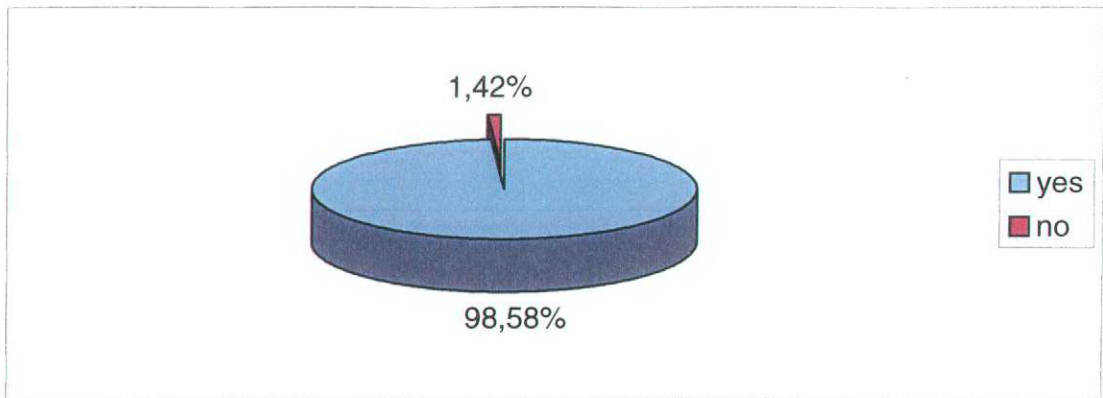


Figure 6.29 Architectural Faculty Interviewees' Possibility of Being at Taksim Square

The next figure gives in detail the frequency of visiting Taksim Square: the highest percentage is for 2 days a week, 36.23%, and 33.33% come to the square every day, while 13.05% only once a month (Figure 6.30).

If 2 days a week is considered as a reference, then the square is still frequently visited, but that doesn't mean being at the square is for the square itself. Most of the interviewed persons are obliged to pass by in order to go work or return home.

Table 6.3 demonstrates that, if we consider that people living in the perimeter of Taksim and Beyoglu don't need transportation to go back home as the rest did, and that represents 87.16%. For 87.16% of interviewed persons it is compulsory to pass by Taksim Square in order to get to work.

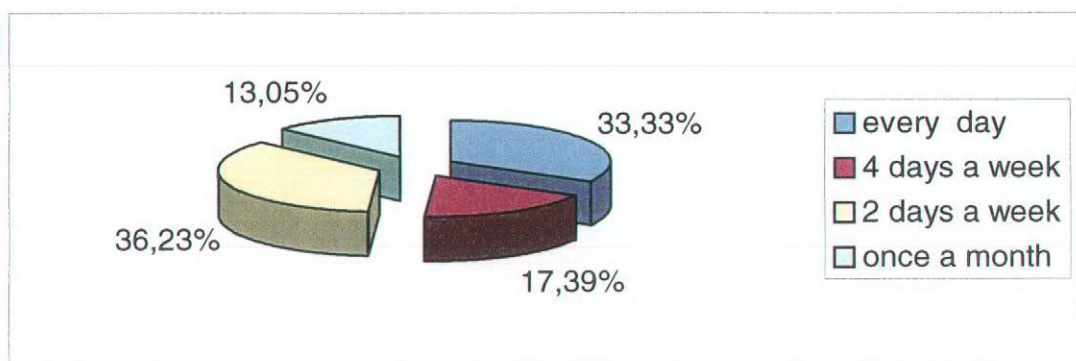


Figure 6.30 Architectural Faculty Interviewees' Frequency of Visiting Taksim Square

The figure 6.31 shows the purpose of being at Taksim Square: 33.71% of interviewed persons confirm that they would be there for entertainment purposes, in second rank comes cultural activities representing 29.71%, then comes bank services with 12.58% .

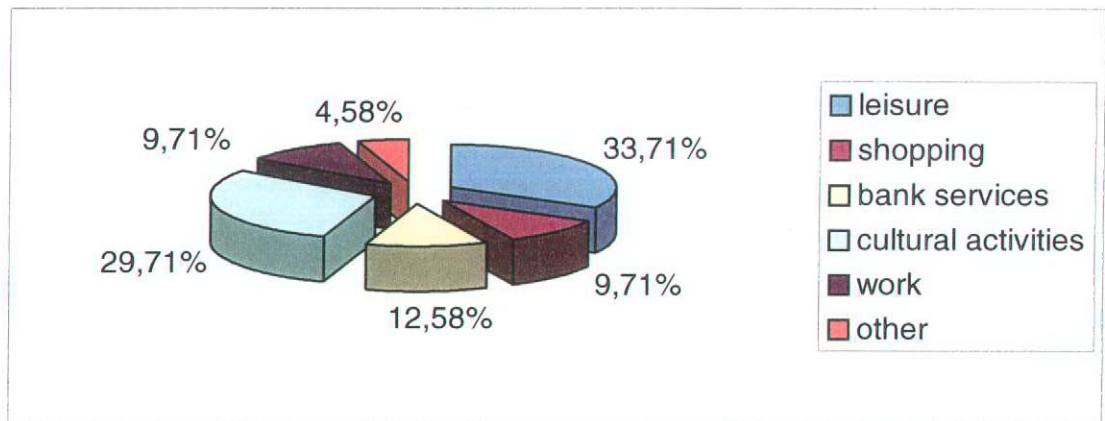


Figure 6.31 Architectural Faculty Interviewees’ Purpose of Being at Taksim Square

The last figure demonstrates the different activities that could be solved via the internet and prevent users moving from the Faculty of Architecture to Taksim Square. According to interviewees, cultural activities could be replaced by the internet 19.04%, then bank services with 13.12%, shopping representing 10.71%, and even leisure could be substituted with a percentage of 9.52% (Figure 6.32).

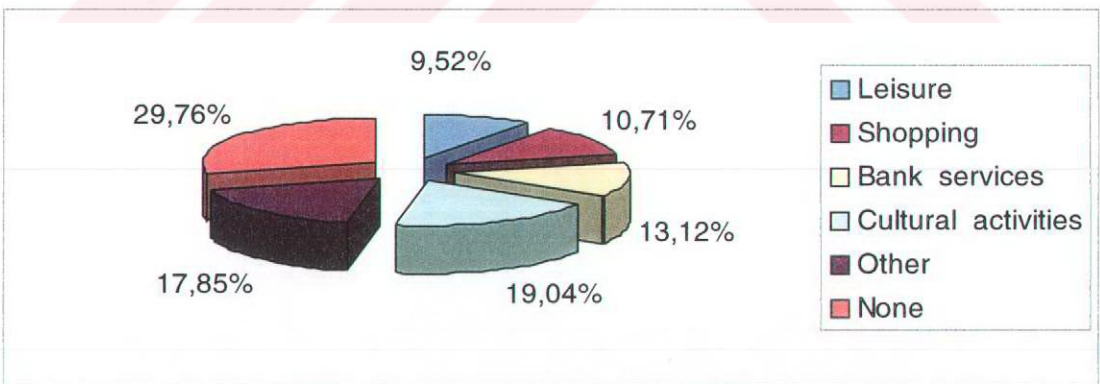


Figure 6.32 Architectural Faculty Interviewees’ Taksim Square Activities Substituted by Internet Mean

From this second stage questionnaire three direct results could be deduced:

Virtually attended cultural activities in the square, a decrease in banking services performed in physical space with progress in online banking services, the relationship between the architectural building and the outside surroundings achieved by internet means, all of which affect automatically and negatively the possibility of going outside the building, and as a consequence less use of public open space.



6.4.2 Results of the Survey at the Faculty of Mechanical Engineering, ITU

The following figure demonstrates the proportion of male to female gender at the Mechanical Engineering Faculty (Figure 6.33).

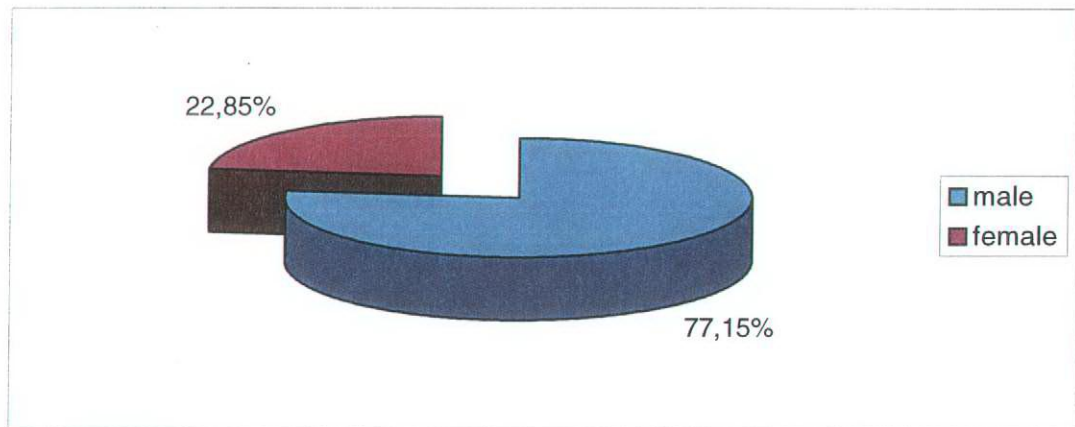


Figure 6.33 Mechanical Engineering Faculty Interviewees' Gender Percentages

Age category was checked in the next figure; the majority are young, 57.14% of interviewed persons are between the ages of 20 and 29 years. Age could be another factor acting on the internet use rate and dependency on the internet. The category aged between 30 to 39 years old represents 27.14%, this category is comprised of graduate students, research assistants and professors, while the next category, which represents 14.3%, consists of associate professors and professors (Figure 6.34).

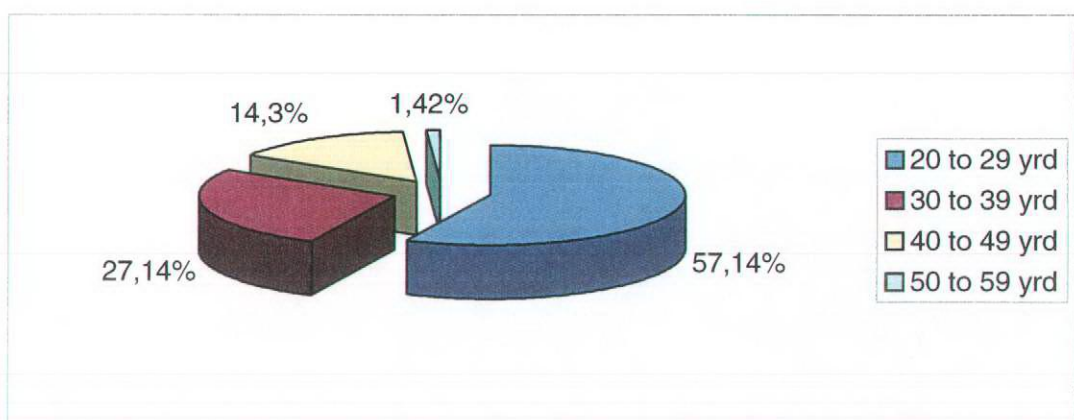


Figure 6.34 Mechanical Engineering Faculty Interviewees' Age Categories

Marital status is asked as well in order to search factors acting on internet use and its consequences; in the results obtained show that most of the interviewed persons are single and only 27.15% of them are married (Figure 6.35).

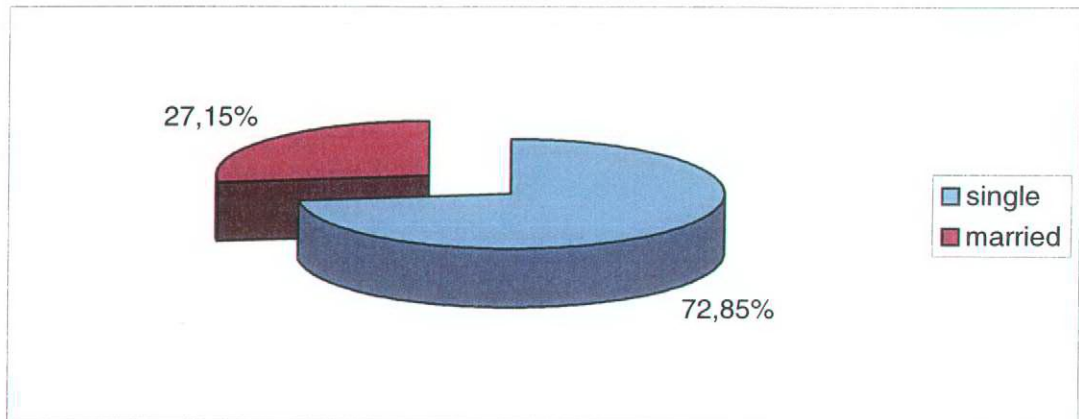


Figure 6.35 Mechanical Engineering Faculty Interviewees' Family Situation Rates

Figure 6.36 shows the different professional groups exercised by the interviewed persons; students present 40%, graduate students represent 5.71%, research assistants represent 28.6%, associate professors represent 10%, while professors represent 8.54%, administration staff 4.3% and librarians 2.85%.

Within those different categories, students are the ones using the internet the least, on average less than two hours per day, certainly because of the non-availability of sufficient computers for all the students, and they are ones going most to Taksim Square, every day on average.

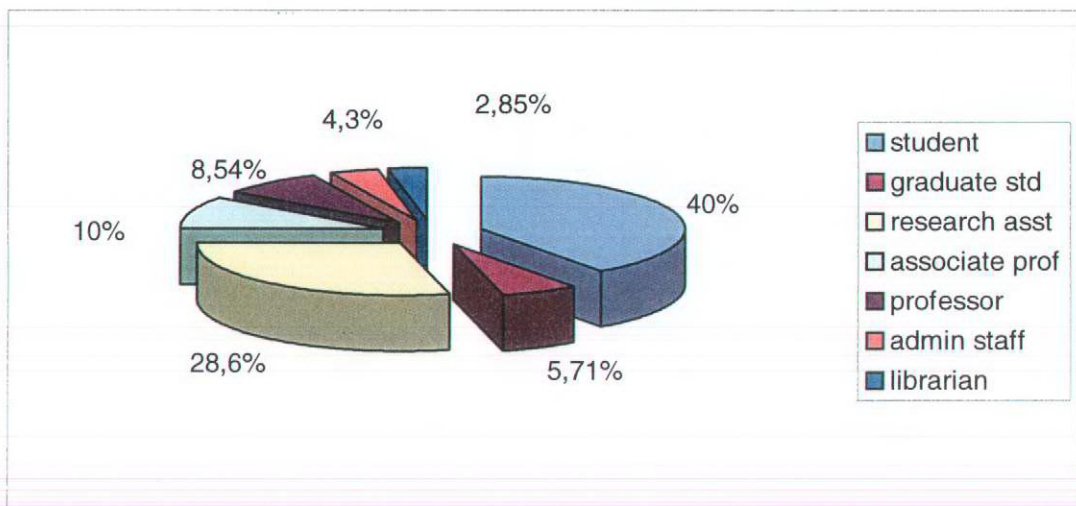


Figure 6.36 Mechanical Engineering Faculty Interviewees' Profession Category

Figure 6.37 demonstrates the weekly internet connection rate at the Mechanical Engineering Faculty; it seems that connection possibility is afforded for everyone.

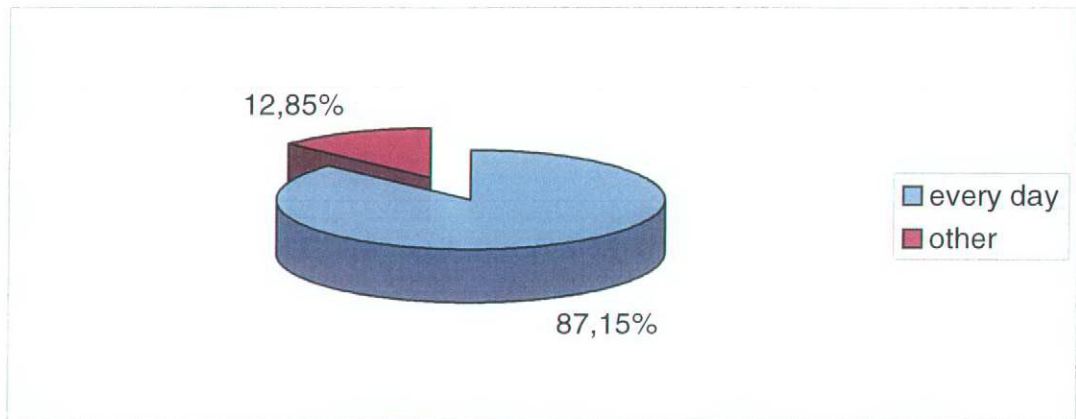


Figure 6.37 Mechanical Engineering Faculty Interviewees' Weekly Internet Connection

Figure 6.38 is about daily internet connection, the high rate is for less than two hours, 51.52%, in general students who haven't the opportunity of full internet use are included in this category.

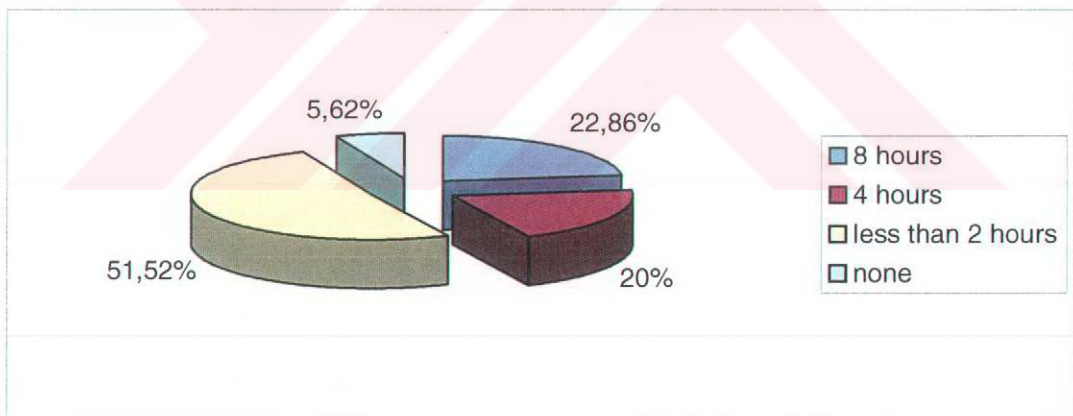


Figure 6.38 Mechanical Engineering Faculty Interviewees' Daily Internet Use

Figure 6.39 displays the different aims of internet use; most users get connected in order to check their e-mail.

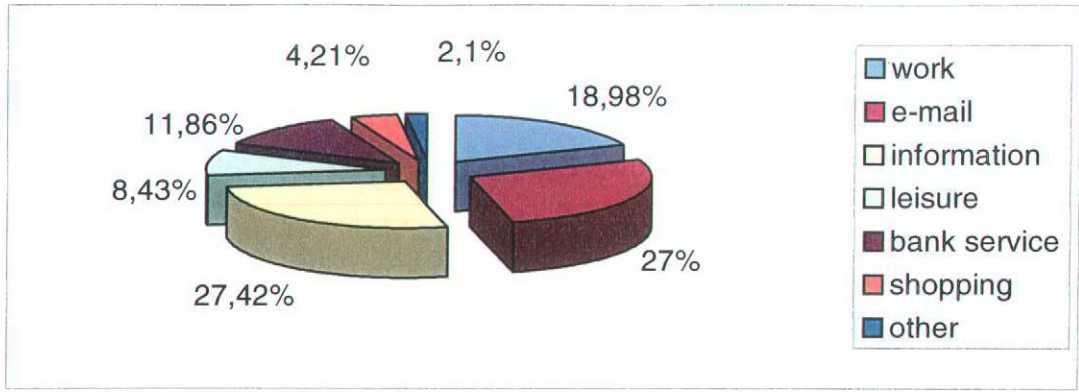


Figure 6.39 Mechanical Engineering Faculty Interviewees' Purpose of Internet Use

The distance separating home location and Taksim square could be a obstacle to coming frequently to the square. For this reason in the following table home location is determined, then the proximity to the square is checked out ; close areas taken in consideration are Taksim, Şişli and Nişantaşı, then it is determined how often people living within that perimeter come to the square. Among the interviewed persons there are 9 of them living close to Taksim square; among those 9 persons, 4 of them go to the square 5 days a week (daily work), 3 of them 4 days a week and 2 of them only 2 days a week. The result is astonishing, because even though those persons are close to Taksim Square they don't go there very often, they pass by only when they are going to the Mechanical Engineering Faculty (Table 6.4).

Table 6.4 Home Location of Mechanical Engineering Faculty Interviewees

Maslak	10%	Ataköy	2.85%	Küçükyalı	1.42%
Beşiktaş	7.14%	Avcılar	2.85%	Erenköy	1.42%
Şişli	7.14%	Levent	2.85%	Seyrantepe	1.42%
Taksim	5.71%	Aksaray	1.42%	Bahçelievler	1.42%
Bakırköy	5.71%	Pangaltı	1.42%	Feneryolu	1.42%
4.Levent	5.71%	Kağıthane	1.42%	Beykoz	1.42%
Mecidiyeköy	4.28%	G.O.Paşa	1.42%	Ortaköy	1.42%
Üsküdar	4.28%	Sultanahmet	1.42%	Merter	1.42%
K.M.Paşa	2.85%	İkitelli	1.42%	Göztepe	1.42%
Fatih	2.85%	Fındıkzade	1.42%	Maltepe	1.42%
Nişantaşı	2.85%	Kartal	1.42%	Ümraniye	1.42%
Sarıyer	2.85%	Kozyatağı	1.42%	Topkapı	1.42%

Figure 6.40 demonstrates the possibility of internet connection at home; 55.72% of interviewed persons have connections at home.

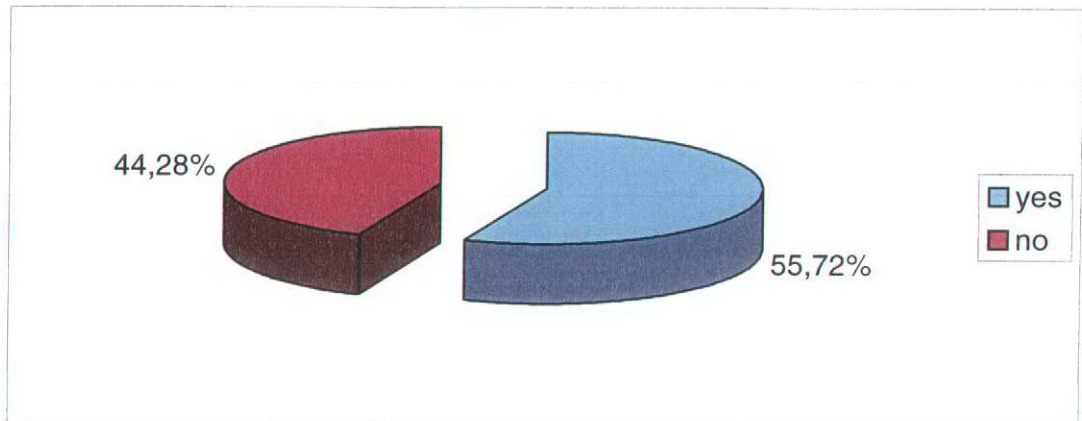


Figure 6.40 Mechanical Engineering Faculty Interviewees' Home Internet Connection

The next figure demonstrates daily internet use at home: among the interviewed persons 37.15% use the internet for less than 2 hours per day on average; 14.28% use the internet for 2 hours, and only 2.85% use the internet for 4 hours. By making a calculation, if a person after leaving work gets home at 20:00, then he could use the internet for maximum 4 hours. The results obtained reveal that internet use at home is considerably high (Figure 6.41).

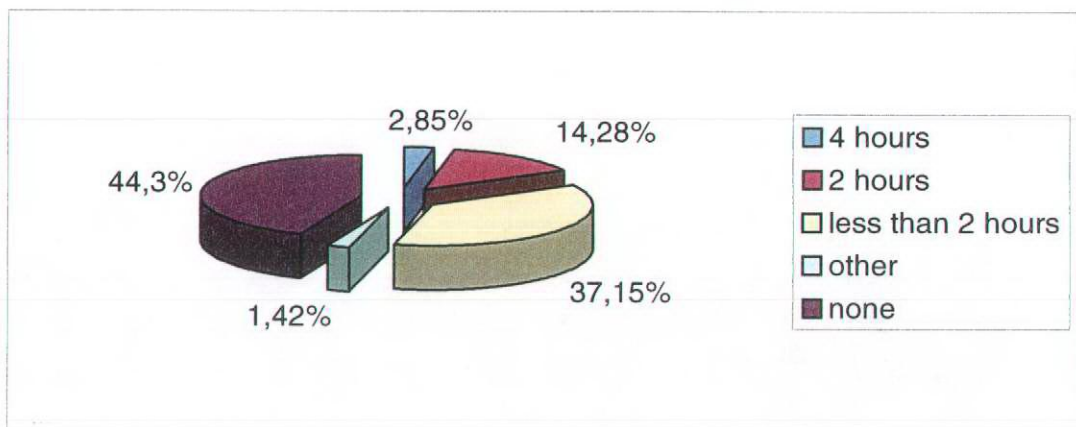


Figure 6.41 Mechanical Engineering Faculty Interviewees' Daily Home Internet Connection

The aim of home internet use is mostly for checking e-mail, 31.85%; then for information, 28.35%, in the third rank leisure is found representing 13.27% of home internet user interest, then with 10.62% bank services is found; work related aims occupy 7.96% of home internet users, while e-shopping rate is close to the general rate of Turkey which is on average 3% (Figure 6.42).

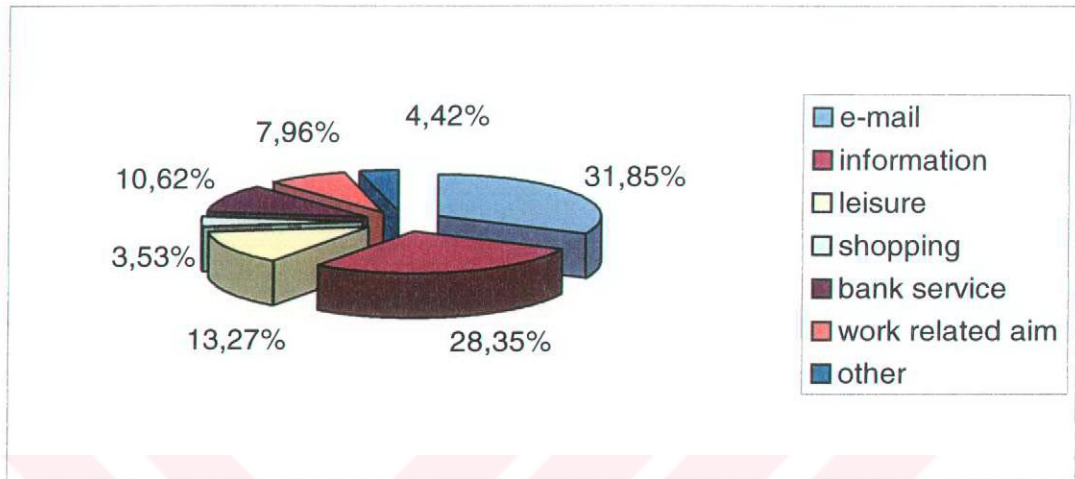


Figure 6.42 Mechanical Engineering Faculty Interviewees' Purpose of Home Internet Use

When comparing the aims of work internet use versus home internet use, the differences found indicate that e-mail, information and leisure are highly navigated at home more than at work, while shopping, bank services and work-related aims occupy the interest of interviewed persons at work more than at home.

The next stage of questions is about the use of Taksim square and the consequences of internet use. Figure 6.43 shows that all interviewed persons go to Taksim Square, and that is obvious because they must pass by in order to get to the Mechanical Engineering Faculty.

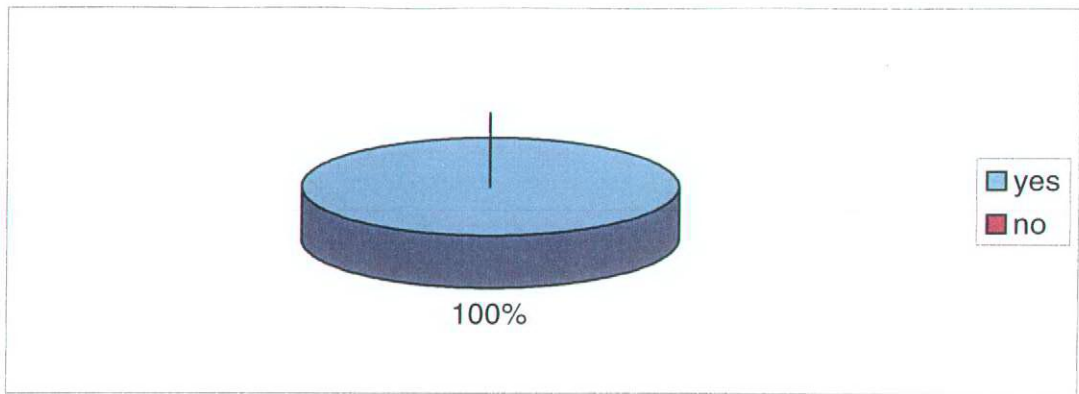


Figure 6.43 Mechanical Engineering Faculty Interviewees' Possibility of Being at Taksim Square

The next figure demonstrates the rate of being at the square; 31.42% of interviewed persons go to the square every day on average. 27.16% 2 days a week; 21.42% 4 days a week; 20% rarely go to the square (Figure 6.44).

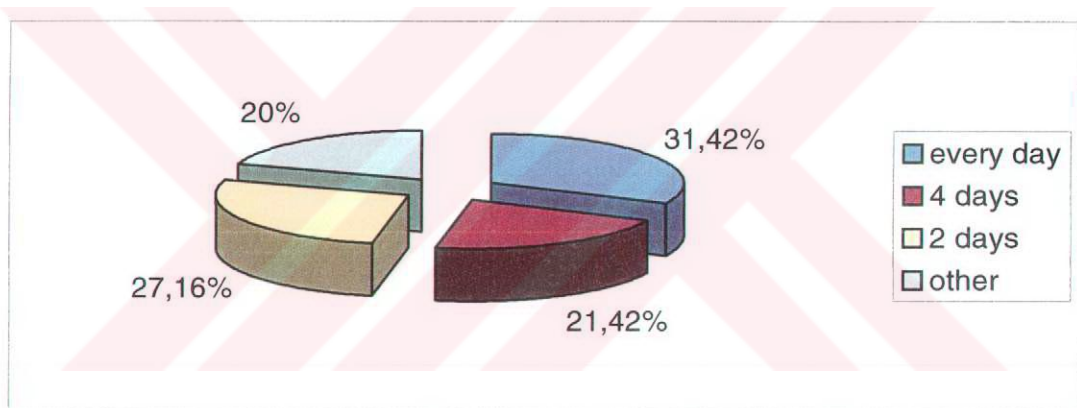


Figure 6.44 Mechanical Engineering Faculty Interviewees' Frequency of Visiting Taksim Square

Figure 6.45, the aim of visits to Taksim Square is demonstrated; cultural activities take the interest of 26.39% of the interviewed persons, then leisure with 24.87%; shopping occupies 21.31% of the interviewed persons' schedules; bank services are in fourth position with 18.78%.

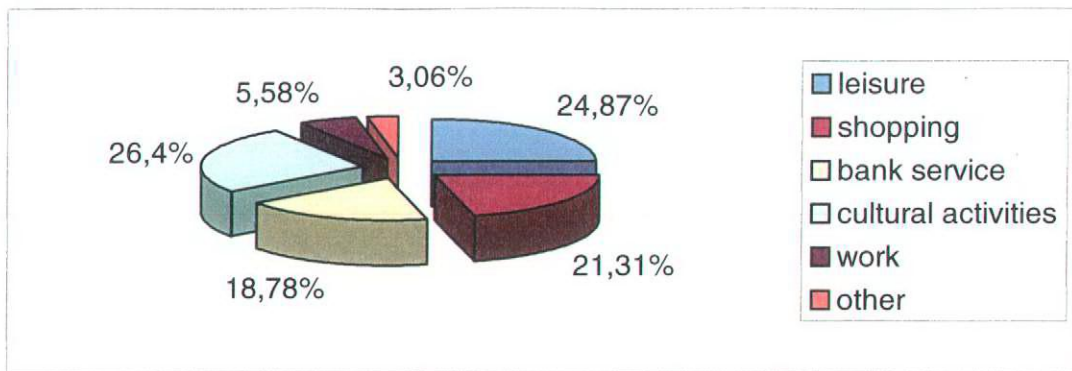


Figure 6.45 Mechanical Engineering Faculty Interviewees' Purpose of Being Taksim Square

The last question addressed is about Taksim square activities that could be substituted by using the internet. Most of the interviewed persons confirm that they are more and more using the internet in order to get their bills paid, and for buying concert tickets. Results obtained show that bank services are mostly solved through internet use, even though the bank branch that serves the Mechanical Faculty worker is very close. Bank services take 39.77% of the substituted activities interest, cultural activities is represented in the average of 19.3%, then shopping with 10.22% (Figure 6.46).

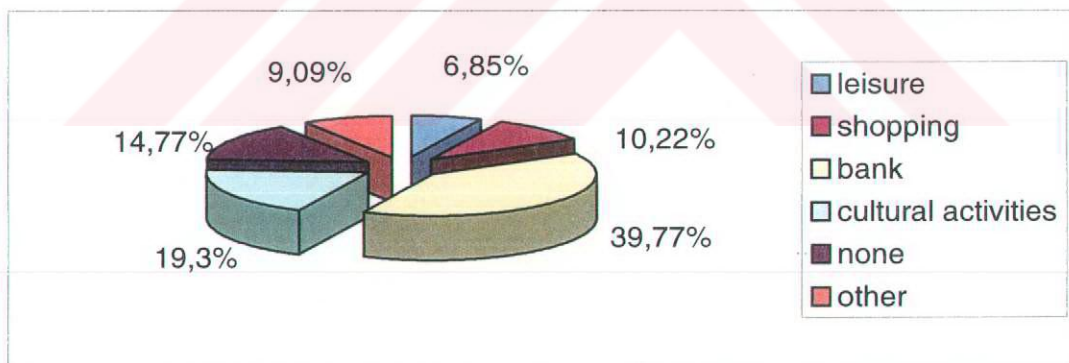


Figure 6.46 Mechanical Engineering Faculty Interviewees' Taksim Square Substituted Activities by Internet Mean

From the result of this questionnaire the following key words can be levelled:

Bank services are going virtual, and consequently branches as buildings will progressively disappear from the square; second, cultural activities are undergoing some changes in the manner of ticket sales; third, leisure and shopping are affected by the phenomena as well and that would affect small commerce. Concerning

leisure, most of the interviewed persons opt for internet-provided leisure facilities because it is safer and cheaper.

A person who uses the internet for almost 8 hours per day, it seems as if it is hard for him to do other thing after work time. Internet use consumes not only the interest of citizens but also their time of being in the open air, or being in public space. Most people are not conscious of what is changing in themselves and the direction they are going. The consequence is properly a social problem; in the next and immediate stage it will affect the surroundings, the space and outdoor activities. The internet café is replacing the traditional café; chat group rooms are replacing outdoor neighborhood gathering places.



7. GENERAL CONCLUSIONS

For centuries city centres have provided livability for much of urban life: shopping, civic activities, leisure, or simply for meeting and gathering. Architects, urban planners, geographers, and sociologists insisted on the role that human behaviour plays in giving sense to open space. Livable open space necessitates actions and activities; neither architects nor urban planners can decide the future of a public open space, but they learn from human behaviour and changing variables how to design an open space and what it would be necessary to provide there.

History shows us that the square is a place where changes are rapidly felt. In fact, public open space was always undergoing change; in different periods of history and under specific conditions, space changed. Learning about the historical development of public open space was of prime interest, because it led to making a connection between changes that occurred on the space and the factors responsible for that change.

In the beginning urban open space was used for community meetings, whether religious, commercial or governmental. There was little interest in setting aside separate spaces: one space did triple duty. The prehistoric urban space, which had many uses, is a prototype that still survives in simple communities everywhere.

In the Mesopotamian cities of 4000 years ago, the temple square and the market square were separated physically as well as functionally. The sense of public space and public life was more enlightened in Greek civilization. Public life flourished around the agora; people came together as individuals or in groups, to discuss, to shop or just to relax.

With respect to the difference between Greek and Roman conceptions of space, the Romans had succeeded in creating a well-organised and zoned forum, but they failed in keeping the outdoor activities lively, as it was in the Greek

agora. The Roman forum gave a way to localise activities; more and more activities transferred from outdoors to indoors, because of bringing extra muro activities inside the city to the forum. During the Roman Empire the forum underwent many changes, but by the end of the empire public life had decreased.

In the Middle Ages, religion helped in revitalizing public life: it was around a church or a mosque that people traded, commuted and relaxed. The great plazas of the Renaissance, carefully planned and formally designed, were a departure from the more organic naturally-evolving public spaces of the Middle Ages.

In Renaissance cities, wheeled traffic combined with the idea of powerful national sovereignty to stimulate the development of dramatic and dynamic urban open space. Trade and maritime transportation had given opportunities to Renaissance open space to prosper. The discovery of the new world had brought wealth and richness to open space in Europe. The shape of Baroque and Classicistic squares is in both instances based on the experience of progression in time.

A square in Seljuk and Ottoman cities is an urban space serving the whole city in terms of civic, ceremonial, religious, social, educational-cultural, commercial, residential and transportation functions. Seljuk and Ottoman squares act as distributing nodes serving the masses moving in and out of the major buildings to and from the neighbouring paths. Many types of squares which used to exist in Ottoman times were no longer used during Republican times.

Today, city centers face real challenges. They must respond to the changing needs and demands of modern-day living; squares need to prosper in order to survive. They must compete effectively with the advances in the means of technological communication.

Electronic networks afford goods and services distribution with lower cost in a shorter time; economic directive seems to be the strategy for future urban city planning. Cities have experienced such transformation before; in particular, the industrial revolution demanded the provision of extensive industrial areas, worker housing, downtown offices and high-capacity transportation systems.

Cities that could respond grew and prospered, while many that could not went into decline. But the result of industrially fuelled growth and transportation were often, of course, extremely destructive; old quarters were obliterated, architectural patrimony was lost, railways and highways brutally divided urban tissues, and the urban poor ended up living in conditions of misery.

Fortunately, electronically-serviced space for information work does not have to be concentrated in large contiguous chunks, like the commercial and industrial zones of today, but they can effectively be distributed through finer-grained urban fabric, totally independent from the centre and interdependent with the other urban fragments.

Information technology is a set of tools that helps us work with information and perform tasks related to information processing. The high speed of developments in information technology provides new opportunities for citizens, on the social level as well as on the economic level. It helps them to save money and time, but also poses a real problem for the direct use of public open space and particularly for activities held there. They have always faced a degree of competition throughout their historical past, but in the last ten years the competition has increased markedly.

Information technology is creating new behaviour in social moods, which is transmitted through the actions of citizens. Networks deliver information whenever and wherever people desire and allow them to perform many activities without moving in space; banking, bill-paying, shopping, entertainment and correspondence can be done virtually. Gathering places are no longer attractive; public life seems to be slipping away along with public open spaces. Dematerialization, decentralization and demobilization are factors which result from information technology use. New urban strategy has to be implemented, and new directions have to be designed to ensure the vitality of future urban open spaces .

Under these circumstances, this study aims to evaluate changing urban open space activities under the effect of rapidly progressing and widely spreading information technology. Taksim Square was selected as the case study area.

Taksim Square has been chosen from among the large number of rival squares in Istanbul because of the character of its shape, public elements, services and also its history. Throughout its history, from the 17th century when it was a simple empty field for cannon-firing exercises, through its life as a gathering place at the end of Ottoman Empire, to a ceremonial venue during the Republican period, it has remained the most popular square in the city.

Introducing metro service at the heart of the square has added the potential and capacity for receiving greater numbers of citizens and consequently the services that have to be offered to them. Today it is a square connected worldwide via wire and wireless communication systems reaching the different activities held there ranging from hotels, banks, shopping and cultural facilities. On various occasions, different events such as festivities, workshops and fairs have been held in the square.

As the first stage of the research, Taksim Square was studied period by period throughout its history, extracting the changes that occurred during different periods and viewing the impact projected on activities in the square. In this stage, review of the books, articles, historical maps, old photographs were very useful. An understanding of the transformations which have occurred during the last decade in the square's daily life was obtained by interviewing the expert persons, who have experiences related to the changes in the space from living in this area. These interviews provided information which cannot be found in written form, but only can be transmitted from personal memories.

Later, new citizen behaviour and actions were experimentally observed in the Square. Within the last ten years, information technology has progressed rapidly, and becomes indispensable for the daily life of the citizen. Through observing Taksim Square, we see new patterns of human behaviour arising: the notion of space is no longer well-identified for citizens, the limits of the square can go beyond its physical edges.

Citizens are no longer aware of landmarks in the square, because information technology devices create another dimension of landmark that can carry the individual beyond the limits of the square. Human behaviour is changing through the acquisition of new technology devices; this change is spontaneous and rapidly

materialized in space in the form of physical elements such as ATM Machines, (Akbil) transportation card dispensers, TV cameras etc.

The observation process helped in formulating the questionnaires. The first survey took place in the square itself and was addressed to users; it aimed to trace the link between internet use and square activities, and to show the degree to which one affects the other. The second survey took place in buildings which have direct and permanent relations with the square, and in this case, questions were addressed to internet users to see how this affects their square visits.

The results obtained show that the primary Taksim Square activities seem to be going virtual: cultural activities, bank services, gross commerce and even entertainment have their substitutes on the net. When a virtual facility like an electronic home banking system substitutes for a physical one like a branch bank, there is a net dematerialization effect; there is no longer need so much physical construction. The replacement of large physical buildings by miniaturized equivalents occurs; in the case of the bank branch, ATM machines are the substitute. According to results obtained from the surveys, not one of the interviewed persons mentioned their need for the Taksim PTT office; their bills are deducted directly from their salaries.

Another example of dematerialization is obtaining concert tickets; it used to be necessary to move and stand in a queue in order to get concert tickets, but that is no longer the case. All interviewed persons confirm that they use the internet for buying concert tickets. A cultural centre continues to exist but only in the sense of giving performances, and the commercialisation is undertaken on the net. The overall effect of electronic devices is to partially substitute the previous stated activities, and that affects directly the form and volume of the concerned buildings. In the next stage it creates dematerialization and even deconstruction if it is needed.

The use of internet facilities has limited people's daily movement; in general, moving bits is immeasurably more efficient than moving people and goods. The savings are seen in reduced vehicle use, a lessened need for occupation of land by the transportation infrastructure, and reduction of the time spent in travelling. That would reduce the overall volume of traffic, and also redistribute it away from the

congested peaks, resulting in decentralization; electronic distribution of services eliminates longer trips to intermediates access points. Regarding the use of the internet for leisure, the interviewed persons stated that they can download a movie from a server or play games on the net, for example, instead of driving to the regional shopping centre.

A promising strategy for polycentric cities interconnected by efficient transportation and electronic facilities, diminished use of mechanical vehicles and increased use of pedestrian paths assuring links between citizens and service facilities will depend on the possibility of electronic connection rather than localation within the city. .

Decentralisation of the city centre activities occurs through the use of the internet and the activities are more equitably distributed: accessibility is achieved irrespective of one's location. That opportunity allows us to create a new strategy for the urban design of the city of the future: the city will no longer be a whole, but a group of fragments interconnected with one another by an efficient transportation infrastructure and electronic facilities.

Those city fragments would be self-contained and totally independent from centralization links; in fact, this situation is actually indicated in the survey results. In this case, the city square has to be more attractive than it was before. New IT devices could be developed in different forms, providing more efficient and secure use of space and creating a new image for urban open space.

REFERENCES

- Alexander, C.**, 1970. Note on the Synthesis of Form, Harvard University Press, Cambridge, Massachussets.
- Alexander, C.**, 1977. A Pattern Language, Oxford University Press, New York.
- Alexander, C.**, 1987. A New Theory of Urban Design, Oxford University Press, New York.
- Altman, I. and Ervin, Z.** (Eds.), 1989. Public Places and Spaces, *Human Behaviour and Environment*, 10, Plenum, New York.
- Appleyard, D.**, 1981. Livable Streets, University of California Press, Berkeley, pp. 143-153.
- Appleyard, D., Lynch, K. and Myer, J. R.**, 1964. The View from the Road, Massachusetts Institute of Technology Press, Cambridge.
- Banerjee, T.**, 2001. The Future of Public Space, Beyond Invented Streets and Reinvented Places, *Journal of American Planning Association*, 67, 9.
- Banz, G.**, 1970. Element of Urban Form, McGraw-Hill Book Company, London.
- Batten, D. F.**, 1995. Network Cities, Creative Urban Agglomerations for the 21st Century, *Urban Studies*, 32, No.2.
- Batty, M.**, 1990. Intelligent Cities, Using Information Networks to Gain Competitive Advantage, *Environment and Planning B*, 17.
- Batur, A.**, 2003. Personal interview.
- Bell, D.**, 1973. The Coming of Post -Industrial Society; A Venture in Social Forecasting, Basil Books, New York.
- Beyoğlu 1930, 1991. Ofset Yapımevi, İstanbul.
- Beyoğlu 1870-2000, 2001. Dimage Digitale Fotoğrafçılık A.Ş., İstanbul.
- Bölen, F.**, 2003. Personal interview.
- Cafer, E.**, 1987. An Early Seventeenth Century Ottoman Treatise on Architecture (Risale-i-Mimariyye), translated and annotated by H. Crane, Brill, Leiden, pp. 32-78.

- Canter, D.**, 1977. *The Psychology of Place*, St Martin's Press, New York.
- Carr, S.**, 1992. *Public Space*, Cambridge University Press, Cambridge, pp. 26-48.
- Castells, M.**, 1996. *The Information City: Information Technology, Economic Restructing, and the Urban-Regional Process*, Basil Blackwell, London.
- Cezar, M.**, 1992. XIX. Yüzyıl Beyoğlu, Güzel Sanatlar Matbaası, İstanbul.
- City Guide Istanbul, 1989. Cem Offset Matbaacılık Sanayi A.Ş., İstanbul.
- Coastes, J. F.**, 1982. New Technologies and Their Urban Impact, Cities in the 21st Century, , *Urban Affairs Annual Review*, **23**.
- Collins, G. R. and Collins, C. C.**, 1981. Camillo Sitte Reappraised, Mansell, London.
- Communication Outlook 1999, Organisation for Economic Co-Operation and Development, Paris.
- Committee on the Internet in the Evolving Information Infrastructure, 2001. *The Internet Coming of Age*, National Academy Press, Washington D.C.
- Cordis Focus, 20 November 2000. Community Research and Development Information Service, European Commission, Luxembourg.
- Erkut, G., Ertekin, Ö. ve Gezici, F.**, 1995. Bilgi-Enformasyon Teknolojisindeki Gelişmelerin Şehir-Bölge Mekansal Organizasyonunun Yeniden Yapılanması Üzerindeki Etkileri, İstanbul Teknik Üniversitesi, Araştırma Fonu Projesi.
- Ervin, Z. and Moore, G.**, (Eds.), 1991. *Advances in Environment, Behaviour and Design*, Plenum, New York.
- Fischer, C.**, 1976. *The Urban Experience*, Harcourt Brace Jovanovich, New York, pp. 16-36.
- Fischer, C.**, 1981. *The Public and Private Worlds of City Life*, *American Sociological Review*, New York.
- French, J. S.**, 1978. *Urban Space: A Brief History of The City Square*, Hunt Publishing Company, Dubuque, Iowa.
- Gans, H.**, 1962. *The Urban Villagers*, Free Press. New York.
- Gautier, T.**, 1990. *Constantinople: Istanbul en 1852*, Les Editions ISIS , Istanbul, pp. 86-155.
- Gibberd, F.**, 1959. *Town Design*, The Architectural Press, London.

- Gibbs, M., and Richard, J. S.,** 1994. Navigating The Internet, Deluxe Edition, Indianapolis, Indiana, pp.12-56.
- Girouard, M.,** 1985. Cities and People, Yale University Press, New Haven.
- Golob, T. F. and Regan, A. C.,** 2000. Impact of Information Technology on Personal Travel and Commercial Vehicle Operations: Research Challenges and Opportunities, *Transportation Research – Part C: Emerging Technology*, University of California, Irvine, USA, pp. 33-48.
- Gospodini, A. A.,** 1988. Type and Function in the Urban Square: A Case Study of London *PhD Thesis* in Architecture.
- Gülersoy, Ç.,** 1986. Taksim: Bir Meydanın Hikayesi, İstanbul , pp. 38-112.
- Güzelleşen İstanbul: Lütfi Kırdar Tarafından Sedat Çetintaş’a Hediye, 1943. İstanbul Belediyesi Yayını, İstanbul.
- Haag, S. and Keen, P.,** 1996. Information Technology: Tomorrow’s Advantage Today, Mc Graw-Hill, New York, pp. 23-67.
- Hafız Hüseyin Al- Ayvansarayi.,** 2000. The Garden of The Mosque: Hafız Hüseyin Al- Ayvansarayi’s Guide to the Muslim Monument of Ottoman İstanbul, translated and annotated by H. Crane, Brill, Leiden, pp. 12-28.
- Harita Kataloğu I, 1992. İstanbul Büyükşehir Belediyesi, İstanbul.
- Irwin, A. and Ervin, H. Z.,** 1989. Public Places and Spaces, Plenum Press, New York.
- İstanbul from Empire to Republic: Photographs from National Geographic, 2000. Türkiye İş Bankası Yayını, İstanbul.
- İstanbul Şehir Rehberi, 1998. İstanbul Büyük Şehir Belediyesi, İstanbul.
- Ittelson, W. H.,** 1960. Visual Space Perception, Springer, New York.
- Ittelson, W. H.,** 1973. Environment and Cognition, Seminar Press, New York.
- Ittelson, W. H., Rilvin, L. G. and Proshansky, H. M.,** 1970. The Use of Behavioral Maps in Environmental Psychology, Seminar Press, New York, pp. 125-128.
- Jacobs, J.,** 1961. The Death and Life of Great American Cities, Vintage, New York, pp. 36-43.
- Jacobs, J.,** 1963. City Planning in United States, Ullstein, Berlin.
- Kayra, C.,** 1990. İstanbul Mekanlar ve Zamanlar, Akbank Yayını, İstanbul.

- Kılınçaslan, T.**, 2003. Personal interview.
- Krier, R.**, 1979. Urban Space, London Academy Editions, London.
- Kolay, İ.**, 2003. Personal interview.
- Lee, R. G.**, 1972. The Social Definition of Outdoor Recreation Places, in Social Behaviour, Natural Resources and the Environment, Ed. Burch, W., Harper and Row, New York.
- Lokmanoğlu, H.**, 1955. Haritalı Şehir Rehberi İstanbul, İstanbul Halk Basımevi, İstanbul.
- Lynch, K.**, 1960. Image of The City, Joint Centre for Urban Studies, The MIT Press, Cambridge.
- Lynch, K.**, 1985. A Theory of Good City Form, The MIT Press, Cambridge.
- Managing Downtown Public Spaces; Projects for Public Spaces, 1984. Planner Press, American Planning Association, Washington D.C.
- Morris, A. E. J.**, 1979. History of Urban Form Before the Industrial Revolution, 2nd Edition, Wiley, New York.
- Moughtin, C.**, 1991. The European Streets, Path and Places, Butter Worth-Heinemann Ltd, Oxford.
- Moughtin, C.**, 1992. Urban Design Street and Square, Butter Worth-Heinemann Ltd, Oxford.
- Mumford, L.**, 1950. Technique et Civilisation, Edition du Deuil, Paris.
- Mumford, L.**, 1961. The City in History: its Origins, its Transformation, and its Prospects, Secker and Warburg Press, London, pp. 106-117.
- National Geographic Magazine*, 2000, 2, 43-48.
- Newman, O.**, 1973. Personal Space, Macmillan, New York.
- Newman, O.**, 1980. A New Market Place with the Vitality of an Old Landmark; Harbour Place in Baltimore, Architecture Record, New York.
- Nirven, S.**, 1948. İstanbul Beyoğlu Kazası, İstanbul.
- Pervititch, J.**, 2001. Istanbul in the Insurance Maps, Axa Oyak Yayını, İstanbul. pp. 123-128.
- PTT Statistics*, 2000. PTT General Directorate, Ankara.

- Rossi, A.**, 1966. The City as The Basis for The Study of Characters of Buildings, in *Selected Writings and Pojects*, Eds. O'regan, J. and Rossi, A., Architectural Design, London.
- Rudofsky, B.**, 1965. Architecture Without Architects; A Short Non-Pedigreed Architecture, Museum of Modern Art, New York, pp.77-80.
- Şahenk, H.**, 1996. Bir Zamanlar İstanbul, İstanbul Büyükşehir Belediyesi Kültür İşleri Daire Başkanlığı Yayınları, İstanbul.
- Sime, J.**, 1986. Creating Places or Designing Spaces, *Journal of Environmental Psychology*, 6, 49-63.
- Sitte, C.**, 1965. City Planning According to Artistic Principles, translated by George, R. and Collins, C., Phaidon Press, London.
- Smith, P. F.**, 1977. The Syntax of Cities, Hutchinson, London.
- Stein, C. S.**, 1957. Toward New Towns for America; introduced by Lewis Mumford, Reinhold Publication, New York.
- Sumner, H., and Freely, J.**, 1985. Istanbul a Brief Guide to the City, Redhouse Press, Istanbul.
- Tagg, S. K.**, 1974. The Subjective Meaning of Rooms: Some Analysis and Investigations, Eds. Canter and Lee, Architectural Press, London, pp. 63-68.
- Taksim Meydanı Kentsel Tasarım Proje Yarışması, 1987. Cem Ofset Matbaacılık A.Ş., İstanbul.
- Tange, K.**, 1966. Function and Symbol, in Architecture and Urban Design, 1946-1969, Eds. Kulterman, U. and Tange, K., Pall Mall Press, London.
- Taylor, L.**, 1979. Urban Open Space, Academy Editions, London, pp. 40-66.
- Tsagarousianou, R., Damian, T. and Brayan C.**, 1998. Cyberdemocracy: Technology, Cities and Civic Network, Routledge, London. pp. 20-30.
- Tuan, Yi-Fu.**, 1977. Space and Place: The Perspective of Experience, University of Minnesota Press, Mineapolis, pp. 5-32.
- Turkey in Gravures, 1996. Republic of Turkey Ministry of Culture, Directorate of Publication.
- Tütel, E.**, 1998. Beyoğlu Beyoğlu İken, Oğlak Yayıncılık ve Reklamcılık Ltd, İstanbul.

- Vernez-Moudon, A.**, 1986. Built for Change: Neighbourhood Architecture in San Francisco, MIT Press, Cambridge.
- Wegner, M.**, 1985. Urban Information Systems and Society, in The Future of Urban Form: The Impact of New Technology, Eds. Brochie, J., Newton, P., Hall, P., Nijkamp, P., Routledge, London.
- William, J. M.**, 2000. E-Topia, Urban Life, Jim-But Not As We Know It, The MIT Press, Cambridge, pp. 31-64.
- Wood, L. J.**, 1970. Perception Studies in Geography, *Transactions of the Institute of British Geographers* **50**, 129-142.
- Wright, J. K.**, 1947. Terrae Incognitae: The Place of the Imagination in Geography, *Annals of the Association of American Geographers* **37**, 7-18.
- Zucker, P.**, 1959. Town and Square, From the Agora to the Village Green, Columbia University Press, New York, pp. 102-236.
- Zucker, P.**, 1970. Town and Square, From The Agora to The Village Green, The MIT Press, Massachusetts, pp. 22-42.

<http://www.bilkent.edu.tr>
<http://www.bddk.org.tr>
<http://www.cyberatlas.com>
<http://www.ectnewmedia.com/review/default.asp>
<http://www.nua.ie/surveys/index.cgi>
<http://www.prweb.com>
<http://www.web2.infotrac.galergroup.com/itw>

APPENDICES

APPENDIX A: Questionnaire Form Performed at Taksim Square

APPENDIX B: Questionnaire Form Addressed to Internet User at The Faculty of Architecture and Mechanical Engineering of Istanbul Technical University

APPENDIX C: Questionnaire Form Performed with Expert Persons about the History of Taksim Square and Recent Changes

APPENDIX D: Taksim Square Map 1996.



APPENDIX A: QUESTIONNAIRE FORM 1

Study area : TAKSIM square

Point : A - B - C - D - E

Investigator name :.....

Date and time :.....

1. Gender:

a. Male

b. Female

2. Age:

3. Marital status:

a. Single

b. Married

4. Education:

a. None

b. Primary school

c. High school

d. University

5. Profession:

a. Private

b. State

6. Profession speciality :

a. Administration

b. Health

c. Commerce

d. Finance

e. Engineering

f. Teaching

g. Other

7. Where is your work place (office) / school located?

.....
.....

8. Where is your home located?

.....
.....

9. Why are you at the square?

a. Work

b. Shopping

c. Cultural activities

- d. Entertainment (meet friends, relax, stay in café or bar)
 - e. Dwelling
 - f. Others
10. Which of the below activities could you perform by means of the internet instead of coming to the square?
- a. Work
 - b. Shopping
 - c. Cultural activities
 - d. Entertainment (meet friends, relax, café, bar)
 - f. Others
11. Where do you use the internet?
- a. Work
 - b. Home
 - c. Internet café
12. Do you have a mobile phone?
- a. Yes
 - b. No
13. Frequency of coming to the square
- a. Daily
 - b. Once a week
 - c. Once a month
 - d. Other
14. What does Taksim Square represent for you?
- a. Monumental space
 - b. Shopping place
 - c. Transportation terminal
 - d. Other
15. Other than Taksim Square, what other squares do you frequently visit?
-

APPENDIX B: QUESTIONNAIRE FORM 2

Study area:

Investigator name:

Date and time:

1. Gender:

a. Male

b. Female

2. Age:

3. Marital Status:

a. Single

b. Married

4. Profession:

5. How many days per week do you connect to the internet?

a. Every day

b. Other

6. At work, how many hours do you use the internet?

a. 8 hours

b. 4 hours

c. Less than 2 hours

d. None

7. For what purpose do you use the internet?

a. Work

b. E-mail

c. Information

d. Leisure and entertainment

e. Banking

f. Shopping

g. Other

8. Where is your home located?:

9. Are you connected to internet at home?

a. Yes

b. No

10. How many hours do you use the internet at home?

a. 4 hours

b. 2 hours

c. Less than 2 hours

d. Other

11. For what purposes do you use the internet at home?
- a. Work
 - b. E-mail
 - b. Information
 - c. Leisure
 - d. Shopping
 - e. Banking
 - g. Other
12. Do you go to Taksim Square frequently?
- a. Yes
 - b. No
13. How many times a week?
- a. Every day
 - b. 4 days a week
 - c. 2 days a week
 - d. Other
14. For which purposes would you be at Taksim Square?
- a. Leisure (meet friend, café, bar, walking by)
 - b. Shopping
 - c. Bank services
 - d. Cultural activities (AKM, buy book, visiting other cultural centre)
 - e. Work
 - f. Other
15. Which of the above activities do you prefer to use the internet instead of going to Taksim square?
- a. Leisure
 - b. Shopping
 - c. Bank services
 - d. Cultural activities
 - e. Other

APPENDIX C: QUESTIONNAIRE FORM 3

Questions addressed to persons who have experience of the earlier days of Taksim Square

Place:

Investigator name:

Date and time:

Name:

Gender:

Profession:

Period:

1. Where were you living at that time?

.....

2. Did you use to go to Taksim Square?

.....

3. How often did you use to go to Taksim Square?

.....

4. What did you do there?

.....

.....

5. What activities of that period do not exist any more?

.....

.....

.....

6. Do you feel that the square is changing?

a. Yes b. No

7. In your opinion, what are the key words of this change?

.....

.....

8. What does Taksim Square represent for you?

.....

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