The Importance and Place of Information Technology in the Changing Marketing Concept*

Değişen Pazarlama Kavramında Bilgi Teknolojisinin Önemi ve Yeri

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Abstract

Nowadays, information is a tool that provides strategic and competitive information that supports strategic marketing decisions through accurate, valid and reliable information. This has led organizations to develop new policies and strategies in a competitive environment based on existing information technologies and the nature of economic activities has changed radically in parallel with the development process of information technologies. Many concepts such as the definition, scope and role of marketing have been affected by this change. Although the literature does not cover a long period of time, the foundations of marketing discipline, which had a past history until humanity, were influenced by changes in information technologies. The aim of this article is to present this new marketing perspective which is shaped by information technologies within the scope of innovations in marketing activities and functions based on a literature research. In this study, after briefly explaining the definition of globalization, the concepts of the development of information communication technologies and the popularization of the Internet are examined in detail and the role of the developments in information technologies on the changing marketing activities has been investigated. In the conclusion section, the place and importance of information technologies in the changing marketing approach are evaluated.

Keywords: Globalization, information technologies and marketing.

Öz

 Günümüzde bilgi, stratejik pazarlama kararlarını çeşitli kaynaklar vasıtasıyla doğru, geçerli ve güvenilir bilgilerle destekleyen bir ve rakabet avantajı sağlayacak bir araçtır. Bu durum örgütlerin mevcut bilgi teknolojilerine dayanan rekabetçi ortamda yeni politikalara ve stratejiler geliştirmelerine neden olmuş ve ekonomik faaliyetlerin niteliği bilgi teknolojilerinin gelişim sürecine paralel olarak radikal bir biçimde değişmiştir. Bu değişim sürecinde pazarlamaların tanımı, kapsamı ve rolü gibi birçok kavram da bu durumdan etkilenmiştir. Literatürde uzun bir

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süreyi kapsamamasına rağmen insanlık tarihine kadar eski bir geçmiş olan pazarlama disiplininin temelleri, bilgi teknolojilerindeki değişimlerden etkilenmiştir. Bu makalenin amacı, bir literatür araştırmasına dayanarak pazarlama faaliyetleri ve işlevleri alanında yeni olanaklılar ve yenilikler kapsamında bilgi teknolojileri tarafından şekillendirilen bu yeni pazarlama perspektifini ortaya koymaktır. Bu çalışmada, küreselleşmenin yanı sıra pazarlama inşası açısından açıklandığı sona, bilgi iletişim teknolojilerinin gelişimi ve internetin popülarleştmesi kavramları detaylı bir şekilde incelenmiş ve bilgi teknolojilerindeki gelişmelerin değişen pazarlama faaliyetleri üzerindeki rolü araştırılmıştır. Sonuç bölümünde, değişen pazarlama yaklaşımında bilgi teknolojilerinin yer ve önemi değerlendirilmiştir.

Anahtar Kelimeler: Küreselleşme, bilgi teknolojileri ve pazarlama.

INTRODUCTION
Marketing is defined as the activities like creating, communicating, sharing and exchanging proposals that create great value for customers, partners and society, as a set of enterprises and processes (Keelson, 2012). While marketing is a broad and complex science that includes economic and social actions, the field of application of marketing is based on an idea that is not hard to understand. This is based on the fact that marketing is based on the exchange of mutual satisfaction in the commercial sense (Grönroos, 1994). Although it has been accepted that marketing practices are as ancient as the history of mankind, it has been studied in the academic sense as a marketing science at the beginning of this century. Throughout the first three quarters of the twentieth century, when as a discipline it gained momentum and developed, the main focus was on trade and exchanges (Sheth & Parvatiyar, 1995).

Today, the world is in a process of change and restructuring. The main dynamics of this process are globalization, information society and technology. Although globalization is used as a multifaceted concept, its most fundamental idea is the increasing integration of societies and economies. The idea of the information society entered the world's agenda with the discussion of the information age and the transnational society. In this social order, knowledge; it is defined as an important force that shapes advanced economies and affects the professional structures as well as the nature of work and production. The use of information and communication technologies, becoming widespread since the end of the 20th century, is also expanding rapidly. The rapid development of information and communication technologies enables people to reach the information they want with the help of computers effortlessly. Thanks to these technologies, it is possible to transfer information from the information center anywhere in the world.

Parallel to the development of information and communication technologies, the nature of economic activities has changed radically. There has also been a number of changes in the marketing approach in parallel with the development of the consumer market, the competitive environment and technology and globalization with the increase in education and communication levels of consumers (Alabay, 2010b). Local marketing activities based on the face to face communication process of the past have undergone a major transformation process together with the globalized world. In the course of this change, many concepts have changed, including the definition, scope and role of marketing. These developments, which are composed of complex processes closely related to each other, have revealed the necessity of the societies to think and live on the world scale. The Internet, which has been seen as the communication tool of the third millennium in recent years, has created a great usage area especially in international marketing. The aim of this
article, which is based on a literature research, is to reveal the theoretical structure of the marketing thought as a process of change in terms of its historical and scientific development from the 1900s to the present and to make a review of the structural change and development that it has been exposed to. While doing so, the processes of marketing will be explained by social events and movements in the world.

GLOBALIZATION

The term “globalization”, which refers to the emergence of an international network belonging to an economic and social system, comes from English (Cuterela, 2012). Globalization is a complex concept which is defined in many different ways in the literature (Marginean & Orestean, 2012). The differences in definition are based on world views, perspectives and ideologies (Paksoy, 2012). By its very nature, globalization embraces a multitude of disciplines, society and culture. This, no doubt, allows for economic, social or political perspectives (Al-Rodhan, 2006).

Globalization is a concept that is used in many ways, but it’s most basic idea to be underlined is that it is increasingly integrating societies and economies. This integration is carried out by a wide range of actors, including civil society, labor force, enterprises, international organizations and states, national and international policies, new economic relations and new technologies (Gunter & Hoeven, 2004). Globalization or global integration includes phenomena that look different yet are closely related to each other like global integration, the dissemination and development of economic, political and social relations among countries, resolution of polarization based on ideological distinctions, better recognition of different social cultures, beliefs and expectations, and the intensification of relations among countries (Reich, 1998).

Globalization is defined as the process by which societies become increasingly aware of the fact that geographic boundaries begin to lose their importance in terms of their social, cultural and economic aspects as well as the fact that the economic activities are interconnected worldwide and become increasingly interconnected (Ture, 2009). The concept of globalization refers to social, political and economic activities that are primarily spread across borders; such that events, decisions and activities in a region of the world are considered to be noteworthy by individuals and communities in remote regions of the globe (Held and McGrew, 2008). From this point of view, globalization means, in a sense, the spread of material and spiritual values and the accumulations within the framework of these values across the world by spreading international borders. The concept of globalization is often the case that certain ideas, opinions, practices, events, technologies, institutions, etc. are globally established, or that a large part of the social life in which the national identities, economies and borders are solved on a global scale is determined by global processes and the emergence of global culture (Paksoy, 2012).

Globalization includes some specific descriptive technologies specified as computerization, miniaturization, digitalization, satellite communication, fiber optic technology and some Internet (Cuterela, 2012). It is possible to express the descriptive perspective of globalization as integration through technologies. All of these processes show that the concept of globalization symbolizes social change and that the world, society and daily life are in a process of expanding, deepening and accelerating change.
globalization processes in economic, political and cultural fields both expand and shrink the world (Bayrac, 2003).

**DEVELOPMENT OF INFORMATION AND COMMUNICATION TECHNOLOGIES AND OF INTERNET BECOMING WIDESPREAD**

**Societal Change**

In the literature, it seems that the concept of change defined by loading different meanings. While Toffler (1981) expresses as consisting the number of events in specific time interval, Blake and Jarvenpaa (1991) describe change as turning into from a given situation to another case of planned or unplanned system in a parallel description (Saylı & Tufekci, 2008). Changes constitute a fundamental and indispensable characteristic of each structure. Change that is social and cultural has inherent in everything. This social and cultural phenomenon exposes could never remain static (Ince, 2005).

Since the existence of human race, the world has witnessed continuous social changes. Until today, called information age is required to take a look at the history of civilization (Bayrac, 2003; Celme & Isevi, 2002). When examined by means of history of world, mankind — until recent years — had various phases beginning as “primitive societies” lived on respectively, nature and hunting behind agriculture-based “farming community” moving on using steam power in the industry during “commercial-industrial society” as its specific characteristics carrying different social stages in each phase. Classical structure of the society has rapidly changed leaving its place to an information society. Nowadays “information society” is called as "beyond industrial society" after the information became a resource to the fore with the introduction and source processing and used for managing the technological advances (Bensghir, 1996).

Alvin Toffler, a famous future scientist, explains social change in his “Third Wave” (Kocabas, 2005) by analogy with the successive waves (Wan, 2012). Alvin Toffler explains the economy and society at three levels, which he calls "waves." Each of these three waves has its own characteristics (Haller, 2011). Stating that there observed two major waves in human history, the first of which is synonymous with pre-industrial agriculture and hunter societies, Toffler explains the second wave with the social practice and ways of thinking in which narrow conception of industry is overcome. According to him, we are on the threshold of the Third wave. “The belief by Toffler that Third Wave societies will be based on transnational corporations, but also on widely decentralized socio-economic institutions will show that capitalist practices will continue” (Nair, 2009: 231).

Considered to have started with the invention of the plow, the nomadic life of humanity is settled now; therefore the market is limited to production areas and nearby villages Agricultural Society, is the first step. The second stage is the industrial society, starting with the invention of the steam machine, that led to mass production making specialization important under the influence of economic, social and cultural areas of the French enlightenment and anywhere physically accessible comes to the fore as a market within that modernization process. The third stage is the information society beginning with the development of the first digital computers, putting information and qualified human resources and the market in the center of the digital communication network that can be accessed from all over the world (Tasci, 2007).
The concept of knowledge comes from Latin “informato”, meaning “forming”, “markup” and is used to mean “notification”. Knowledge is the product of human curiosity. Information in general is defined as “intellectual property” or “learned thing” obtained through thinking, judgment, reasoning, reading, observation and experiment (Balay, 2004; Pamukoğlu and Ocak, 2007). Production, processing and sale of knowledge are the fastest growing industries in the world. Although the information is of high cost during the first production, the reuse of it offers a lower cost. Therefore, information spreads faster than the labor, the goods and services and money. Speed of dissemination of information creates a limitless society, as well as businesses, due to equal opportunities in access to information, paved the way for the firms entering into the system of competitiveness. Accordingly, information is of great importance and changing people’s lives, while creating new paradigms. Thus, the most important element in the information society is information itself (Yucel, 1997; Cop and Bekmezci, 2008). In the last decade of the 20th century, the rapid development of information and communication technologies is the most significant characteristic of the important development in the history of civilization (Alabay, 2010a).

The concept of the information society, shaped with the developments in information technology, differs from the industrial society in all aspects and has emerged as a new type of society. Many concepts have been proposed to identify the new society that is replacing the industrial society. These can be listed as posteconomy society, postindustrial society, information society, etc. (Sahin and Temizel, 2007). Whichever is used, in reality, we are witnessing a new era of social transformation which is to be highlighted. Transformation, in fact, is related to the industrial societies. These societies, have been evolving into a new kind of society which is called “Information society” (Goker, 2001).

In this context, that social structure emerged in 21st century, even if it has been labeled by different names by scientists, has a common point to be agreed on by all of them. Information and communication technologies which have marked this century have initiated a transformation into a new social and industrial society and have created “information society” (Kaypak, 2011). The information society is defined as a society that allows people to access various kinds of information easily, to convert them into knowledge and, to have a self development (Kocacik, 2003). Phase of information society, is the phase that comes after industrial society (Sarıgoz, 2012).

Drucker (1995) stated that the age in which we live is a transition age in all areas. Information and communication technologies can provide extremely economic and social benefits. New technologies help to increase the efficiency of the economy, to create new business opportunities, to disseminate technical developments and ideas more easily and to establish simultaneous communication among people and institutions in different countries and regions (Alabay, 2010a). Information society has been a stage within the growing use of information technologies in the 1950s and 1960s, in developed countries such as America, Japan, and Western European countries (Selvi, 2012; Sarıgoz, 2012; Yuksel, 2013).

One the most important technological developments of the world we live in, is the advance in information technology. Developments in information technology suggest co-ordination based “common knowledge” or, in a way, identification of common human labor and creating theories with a contemporary approach. Opportunities on behalf of common
knowledge that are offered especially by computers or internet technology, and communication are very important. These developments make human life easier. In addition, faster usage of information leads acceleration of scientific developments (Aksoy and Akdemir, 2009). In this context when the concept of information technology is analyzed, it is seen that by this concept, it is intended to mean all the tools like computers, data collection tools, network and communication tools which are used to provide information to organizations and fast-developing applications (Akolas, 2004).

Communication technologies have a much longer history than computer technology. It did not have such long time to understand that electric is the ideal tool for transmitting the information. Using electric in telecommunication has a history of 150 years. This process has been an important step in the field of communications in every twenty years: Telegraph towards 1850, the phone between 1850 and 1880, communication with electromagnetic waves towards 1900, television technology between 1950 and 1960 have been developed, finally, since 1970, new media technologies have been in use until our time (Seker, 2005).

In this way, with the development of information technologies business, management, and consumption activities which are necessary for the execution of setup data has increased. International companies that are operating in international sectors using information and communication technologies simply had the competitive advantage (Kevuk, 2006). These developments increased effectiveness by making the flow of information of all kinds for the production acceleration besides the advantages in the use of time and space, and efficiency in production. Thus, in the information society it is obvious that the technologicai infrastructure consists of mostly communication equipments (Erkan, 1998).

Internet

Internet consists of a computer network that enables millions of computers worldwide to communicate with each other through fiber-optic cables, telecommunications satellites and ordinary telephone lines (Seker, 2005:380). All kinds of data transferred to the computer in this network can be used by almost everyone and users have unlimited possibilities. Internet is an open-ended, wide-area network system, and it is an umbrella term used for information and communication technology lines that provide communication potential (Yaman and Erdogan, 2007: 238).

Figure 1. Development Process of Internet

![Figure 1. Development Process of Internet](source: Ince, 1999)
Internet began with the initiative of President Dwight D. Eisenhower, who saw the ARPA (Advanced Research Projects Agency) project as a need in the United States in 1957 to provide America's computer network and communications infrastructure. This computer network and communication were mainly used by major organizations such as the army and the government. In 1969, the first steps of the Internet were laid with the ARPANET (Advanced Research Projects Authority Net) system, which was created by the United States Department of Defense ARPA unit. The first link within the ARPANET was held in 1969 with four centers in the University of California at Los Angeles, the Stanford Research Institute, the University of Utah and the University of California at Santa Barbara. The first form of the Internet came up with inter-computer connections. With this project, the aim of the scientists connecting the computers in California (3) and the state of Utah (1) was to communicate and exchange information among military bases in different places (Leiner, et al., 1997; Leiner, et al., 2009). At the International Computer Communication Conference held in October 1972, ARPANET merged with the NCP (Network Control Program). Electronic mail (e-mail) was introduced in the same year. In 1980, ARPANET was divided into the Military Computer Network of the US Department of Defense; “Military Net” and NSFNET (National Science Foundation NETwork), which was used to support education and research. On January 1, 1983, the Transmission Control Protocol entered into force under ARPANET. TCP/IP is the main chain of the internet network that exists today. TCP/IP has been developed and used as a common language that enables different computers and networks on the Internet to communicate with each other in a healthy way. In 1987, NSFNET announced that it would operate a strong backbone called NSFNET MERIT over seven regional points with its Internet structuring planning. American giant computer firm IBM and American giant communications firm MCI later joined this operation. Internet was used as text-based until 1989. In 1989, the world has faced the most important development to date on the Internet. A World Wide Web-WWW, a hypertext based information system project that will enable scientists from all over the world to work in coordination with each other, was proposed by a scientist called Tim Barners-Lee. The accepted project began to develop rapidly, and in 1990, the first browser-only browsers were developed and the process of privatizing the Internet backbone was started with the Advanced Network Services generated for NSF-NET operation. In the first half of the 1990s, Internet was commercialized with software developed one after the other and the other elements complementing it introduced to the market (Yannis and Albertos, 2009; Frischmann, 2001) and it became a means of communication for at least 20 million people (in fact estimated at 30 million) in 135 countries on subjects such as education, sales, health information, etc. (Dehkordi, et al., 2012).

CHANGING ROLE OF MARKETING
Course of Marketing from Historical Perspective to the Future
Marketing practices are thought to have been since ancient times. However, it can be said that marketing ideas became an academic discipline in the 20th century (Shaw and Jones, 2009). The emergence of marketing can be called as old as human history. In course of time mankind has supplied to the market more than their needs and in this way there has been a significant supply-demand balance even in periods where there is no money in usage. In primitive societies, marketing didn't make any sense because everybody supplied their own necessities. Over time, the interdependence of people has increased and then the
necessity of intercommunal cooperation and specialization in production emerged. This dependence generated the exchange as the most primitive form of trade. In the exchange payments were made with commodities, no-cash. Through the following ages, to create changing the balance of supply-demand along with rapidly increasing population and developing industrialization, a new system was considered necessary on behalf of ensuring the balance of market (Kececi, 2011; Altunisk et al., 2001). Implementations of marketing (Shape: 2) was adopted respectively manufacturing, product, selling and customer-oriented approaches from past to present. In present, ensuring satisfaction of customers will not be enough but also protecting of the welfare of society has emerged as a necessity (İlter and Bayraktaroglu, 2007).

Figure 2. Evolution of marketing

![Evolution of marketing](source: Alabay, 2010b)

It has shown that the development of marketing was considered as four main periods in the process of between 1850 and 1990 and the last one was expressed as “Customer-Oriented Marketing Perception”. Owing to effects of some factors, like technological developments, qualitative and quantitative developments in the form of competition and changes in customer expectations, marketing approach has been moved from product-oriented approach to customer-oriented approach (Ilban et al., 2009). Using marketing as an academic term comes across to the year 1897 (Erdogan et al., 2011). Providing that it starts at 1900’s, including the first twenty years of the discovery process of the marketing opinion has been started by academicians who are still working at the University of Wisconsin. In these periods, considering of marketing as a subset of the economics has played an important role in emergence of the marketing as a distinct discipline and economists are interested in distribution of manufactured products (mostly agricultural products) (Paylan & Torlak, 2000).

Marketing is basically an exchange process based upon supplying people's necessities and wishes. Each of two or more parties in order to supply his/her own necessity, while they give some valuable things (good, service or opinion) to other side, they win other important things (money, account receivable or credit) (Emgin & Sungu, 2004). As a science, marketing gained momentum during the first three quarters of the 20th century; the main focus was on trading and exchange (Sheth & Parvatiyar, 1995). If it is necessary to consider the period of the marketing until 1950 as a period that was formed historical and implementational background of the marketing, it is possible to see the following period as a turning point and breakpoint (Paylan & Torlak, 2009).

In the 1960s, some criticism was started to make about the marketing implementations after the welfare of society was emerged as a rising value. There upon Philip Kotler (1972) has made two contributions to the field of marketing in response to
this criticism. The first, he proposed to use of marketing methods for “non-profit organizations” as well. Thus, the concept of “social marketing” has been propounded expressing that social opinions and events could be marketed. It is known that the marketing was used in the field of public health and political marketing by non-profit organizations long ago but this term became widespread with contributions of Kotler and Zaltman (1971) into the field. Kotler, who defended to add social perspective to the marketing in response to some criticism about implementations of the marketing should be more ethical, made one more contribution to field of marketing as he developed term of marketing (1972) (İlter & Bayraktaroglu, 2007).

Kotler, who put forward those two opinions, laid a foundation of the marketing. American Marketing Association, which wants to develop marketing as both a science and an implementation area and contributes to this field with its publications, redefined the marketing expanding its content in 1985 (Emgin & Sungu, 2004). According to this definition made by American Marketing Association, “marketing” is a process of planning and implementation of creating, pricing, distributing and promotion efforts of products, services and opinions with the aim of providing exchange suitable for aims of individuals and organizations (Terkan, 2011).

**General Factors of the Change in Marketing**

As it is known, marketing began to flourish in the societies that produce more than the requirements. Again, as it is well known, marketing followed a series of marketing focused understandings from “production-marketing”, “marketing-product” and “marketing and sales” to an understanding of market focused marketing (Susar & Narin, 2012). Despite many different factors that influence changing of marketing, in general it is possible to collect those factors under three main headings. These can be listed as (Kececi, 2011):

- Globalization
- Increase in consumer’s level of education and communication.
- Technological developments and the expansion of Internet,

During the radical change, coming with the globalization period, the industrial society is entirely leaving its place to information society. In the information society, based on different paradigms, factory and material production is losing its value as the key feature of quality of the society and, instead, the production of knowledge as an important symbolic element is gaining importance. In like manner, the capital playing a strategic role in industrial society leaves its place to information; the raw materials and labor which has an important place in production also increasingly lose importance (Bayrac, 2003).

Growing rapidly in the production and communication technologies, focusing on customer, new management understanding, and the social, political and cultural changes is emerged as features shaping the competitive environment in information age and giving course to the competitive environment (Cop ve Bekmezci, 2008). Globalization is not only a change in terms of the production and management of businesses, but also has led to new insights in the field of marketing (Karacor, 2007). In the globalized world is shown rapidly changes and developments in communications technology. With advances in the field of communication is growing in volume of the information available to the public every day and as a result of this growth, interaction among people is increasing (Karacor, 2007).

This phase which is expressed as the information era has uncovered intense competitive global markets along with the consumer groups who know what they want,
who have very good use of communication networks, and come with complex demands. Those consumers, who are equipped with information technology, have forced global markets and businesses of this era to change in a way that requires (Topçu et al., 2007). With the increasing use of computer technology and the Internet, especially advances and getting cheaper of information technologies in business offer the opportunities on a global level to the companies (Alabay, 2010a). From this aspect, improvements especially in the field of computer, telecommunication, information and transportation enabled companies to offer value to their customers with new expansions in the marketing. So that enterprises, which have to get organized according to customer expectations, could make an interaction with their customers as creating much more values by technologies in digital era (Pirtini, 2009).

In the information society that individual customer orientation is important, all the dynamics of economy is affected owing to these variations. Those dynamics in economy started to improve new production and marketing plans towards individual customer demands. Market dynamics starts to give a direction to its activities with holistic understanding of the marketing, combines marketing tactics and strategies of production and marketing, can be responded qualifications and demands of target consumer group as benefits from the components of market dynamics information economy (Topçu vd., 2007).

**The New Marketing Perspective Shaped by Information Technologies**

The development of Internet technology and communication has changed the direction of activities of businesses, they have more adapted on this electronic environment day by day. Internet technologies have affected companies in many different areas. One of the most important of these effects was observed in marketing activities and marketing concept and operation has been adapted to the Internet environment (Kocoglu & Ozcan, 2010). In recent years, showing a very rapid development, information technology has significantly rocked in current marketing balance in all industries around the world (Birkan, 1998). Accordingly, geographical boundaries disappeared; markets where buyers and sellers meet gained a different dimension (Elibol & Kesici, 2010). International marketing activities over the Internet has been exploded and has emerged accompanying global information network. The Internet has fundamentally provided a different environment for international marketing and it has required different and permanent strategic approaches (Tan et al., 2004).

Internet marketing is a strategical process related to placing, promotion, and pricing the products in the “target markets”. The characteristics of the Internet and benefits can be described as a revolution in the world of marketing. In the context of internet marketing when compared to the benefits, it seems to be a very suitable environment for promotion that have accrued unchanging element of the marketing mix (Karaca, 2012). Internet allows companies to work for the needs of their customers with less cost. Companies have opportunity to make direct connect between production-supply chain and both the partners and the end user. Thus, they can both create a wide customer data base and provide reliable feedback (Tan et al., 2004). With emerge of new Internet company structure and marketing concept, the sales of consumer-focused companies has brought a new dimension to international trade. The Internet economy is especially undergoing marketplace or market changes. In the traditional market methods lead to a transformation in the business relationship shifting in electronic plane what we call a virtual plane sales and purchases of style, created by means of objective (Altınok et al., 2003).
Nowadays, businesses have become very important as a result of the facts like virtual marketing, information age and globalization. Unlike traditional marketing process, virtual marketing has a structure which has a different feature (Yurdakul & Kiracı, 2008). Namely, it is possible to say that Four P’s of Marketing have changed by information and communication technologies. With the aid of interactive media, the product can be designed to suit the needs and appeal of customers, while its stage of design. Personalized pricing and dynamic pricing can be seen “online” pricing systems. At the distribution stage, organization through managing the supply chain online and integrating channels etc. has the ability to meet with the customer “at the right time and place” product for customer. Four P’s of marketing, the “Promotion” also has become integrated marketing communication in a virtual environment (Aytekin, 2007). The main reasons for this change are rapidly changing conditions in the creation of marketing activities in electronic environment and of external factors being more dynamic in the virtual marketing environment (Yurdakul & Kiracı, 2008).

Existing marketing and sales practices and theory, sales force automation tools, database marketing, relational marketing, network marketing, electronic commerce systems and Internet, including the adoption of new technology tools and marketing concepts are undergoing unprecedented transformations (Avlonitis and Karayanni, 2000). With the rapid advancement of electronic communication and adoption of the Internet in marketing practices, traditional marketing methods have changed dramatically. Being a huge global network connecting millions of computers around the world, Internet is considered as a new marketing tool with the potential to radically change the way companies do business with their customers (Yannis & Albertos, 2009).

As a result of the information revolution in the information age, business managers have taken into consideration issues such as the globalization of markets, the change in industry structure, constantly changing customer needs, rising customer expectations as important issues. This also caused a change of business management and customer understanding and has made them more customer focused (Cop & Bekmezci, 2008). Nowadays, the need for marketing research and information gathering and the importance of strategic marketing planning are rapidly increasing with the popularization of the concept of marketing, and the strategic planning (Karayormuk & Koseoglu, 2005).

Marketing is accepted as the first functional area that adopts the concept of management information system (MIS) and adapted to the needs of its managers. In 1966, Philip Kotler used the term “Marketing Neural Center” and described how to create a separate section for computer resources based on supporting a company’s marketing activities. The marketing management information system was conceptualized by a number of academics in the field of marketing, which developed conceptual models of marketing information systems (later, abbreviation MKIS) to illustrate system components and their use (Li, et al., 2001).

In this context, in today's economy, marketing information systems are of great importance for businesses (Karayormuk & Koseoglu, 2005). Market information is quite extensive to cover all the technical and economic information on marketing system. This information consists of producers’ income and investments, production, distribution factors, climate factors, productivity, stocks and market, a variety of prices and quality or the quantity consumed in a variety of income levels and etc., the statistics revealing consumer behaviors and demands and price fluctuations (Fidan, 2009).
Marketing is defined as the activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large (Keelson, 2012). Marketing Information System (Figure 3) reflects the transformation of data entries into information outputs, control unit of marketing management and feedback mechanism by using outputs to make changes in the operations and environments of firms. Marketers who draw attention with their ground studies formed by theoretical models prefer to apply advanced computer technology to model components. This advanced computer has been used in both input subsystems and output subsystems and in advanced applications such as mathematical modeling, knowledge bases and artificial intelligence (Li, et al., 2001).

**Figure 3.** The Framework of a Marketing Information System

According to the Marketing Information System model in Figure 4, there are three sub-systems that provide data collection and data entry: data processing, marketing research, and marketing intelligence. The computing subsystem is the accounting information system of the enterprise and digitizes all kinds of input of the enterprise. The marketing research subsystem is usually a system of customer surveys that collects data on specific issues. The marketing intelligence subsystem provides data on external environmental issues, such as the environment, competitors and government agencies. This data is then collected in databases. In the database, data is transmitted to the Marketing Information System outlet to be converted into information. There are five subsystems in the Marketing Information System model that provide information output from databases which are product, place, promotion, price and marketing mix. Four of the output subsystems express the classical marketing mix; fifth refers to the ability to integrate marketing P’s into marketing strategy. The data in the database are transmitted to marketing managers by means of five output subsystems (Li, et al., 2001:312-315).

The concept of marketing information system has been seen to occur as a technique to apply specific marketing decisions on time to process new information technology in the
1960s (Karayormuk and Koseoglu, 2005). Decision time of managers becomes a bit more complicated in the business world, where the customer becomes the boss and obtaining information getting more difficult day by day. Marketing managers are required to take the right decisions as soon as possible for business continuity. In this context, Marketing information system consists of the infrastructure of integrated marketing which is necessary for managers while deciding (Fidan, 2009). Ideally a marketing information system creates regular reports, makes repeated studies, updates information combining old and new data, determines emerging trends and can analyze the data using mathematical models representing the real world (Tek & Dalkılıç, 2010).

CONCLUSION

We can affirm that concept of marketing in the academic literature started to be discussed through the end of the 20th century and the concept has been coming to existence since the first days of mankind till today. It seems that the history of marketing is as old as humanity in the studies of history of marketing concept. Actually, although it is an ambitious statement to express that the marketing has an adventure, which follows the same way with social life it is possible to assert the statement having supported by some researches.

As a result of the study, many concepts, including the definition, scope and role of information technology and technology tools and marketing, are developing in parallel. Information technologies have brought some benefits to the phase of processing information together with the effect of the change in the nature of enterprise activities. In terms of the production, distribution and service that organizations gain competitive advantage and, on the basis of all activities of the organization, information technologies are used in inter-organizational relations and internal communication. Thanks to information technology, enterprises can access information about customers in a faster way. In today's competitive environment, information-oriented enterprises can survive. Businesses reach their information about their customers in databases in a short time and they can easily identify the needs of their customers and find the necessary solutions.

Information technologies have brought some easiness to processing of information with its effects on changing the nature of business activities. Information technology is used on the basis of all activities of the organization, inter-organizational relationships and in communication within the organization where they provide to gains competitive advantage of manufacturing, in terms of the services and distribution. Companies reach information about customers more quickly through information technology. Businesses which focus on information can survive in today’s competitive environment. Businesses reach the information about customers located in their database and find necessary solution by identifying the needs of customers easily in a short time.

REFERENCES


