# USING THE E-LEARNING METHODS FOR MANAGING OPEN INNOVATION ACTIVITIES IN BUSINESS ECOSYSTEMS*

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**ABSTRACT:** The development of ICTs has opened up new markets and ways of innovating. Open innovation breaks the original innovation border of organization and emphasizes the use of suppliers, customers, partners, and other internal and external innovative thinking and resources. How to effectively implement and manage open innovation has become a new business problem. Business ecosystem is the network system of value creation and co-evolution achieved by suppliers, customers, partners and other groups with self-organization mode. Nevertheless, it misses exploring the very nature of the relationships between the numerous players evolving in the surrounding environment. E-learning solutions in modular systems could then be easily adopted to different needs of businesses and could be upgraded or downsized according to the immediate learning needs of the enterprise. Businesses to remain innovate have to develop new organisational structures for the implementation of cooperative and collaborative forms of learning. This paper examines the importance of e-learning applications for open innovation in business ecosystems. E-learning should be considered as prerequisite for open innovation. Because it enables enterprises to build collaborative relationships, access competitive knowledge, develop and deliver new products and services, strenghthening the development of business ecosystems. The e-learning role in supporting open innovation is implicit but not enough analysed in the academic researchs. Today leading firms with innovative features is seen that use of e-learning methods from human resources management to supplier relationship, from customer relationship to distribution networks. Therefore, literature review has been made on the interaction of e-learning, open innovation and business ecosystems structure. However, innovative firms in Turkey that use e-learning methods in business ecosystems were examined. In the light of evaluations obtained from this samples are highlighted to e-learning achievements when firms managing its business ecosystems and planning strategies for open innovation.

**Keywords:** Open Innovation Management, E-Learning, Business Ecosystems, Organizational Learning

# İŞ EKOSİSTEMLERİNDE AÇIK İNOVASYON FAALİYETLERİNİN YÖNETİMİ İÇİN E-ÖĞRENME YÖNTEMLERİNİN KULLANILMASI*

**ÖZET:** Bilgi ve iletişim teknolojilerinin (BİT) gelişmesi yeni pazarlar ve yenilikçilik yolları açmıştır. Açık inovasyon örgütün kendine ait yenilik anlayışını aşarak tedarikçilerin, müşterilerin, iş ortaklarının ve diğer iç ve dış yenilikçi düşünce ve kaynakların kullanımını vurgulamaktadır. Açık inovasyonun hayata nasıl geçirileceği ve etkin bir şekilde nasıl uygulanacağı yeni bir iş sorunu haline gelmiştir. İş ekosistemi örgütün kendi yapısıyla beraber tedarikçileri, müşterileri, ortakları ve diğer grupları ile birlikte bir değer yaratma ve dönüşüm ağı sistemidir. Bununla birlikte örgüt yapıları bu oyuncular arasındaki ilişkileri keşfetmede yetersiz kalabilmektedir. Modüler sistemlerdeki e-öğrenme çözümleri işletmelerin farklı ihtiyaçlarına göre kolay adapte edilebilir ve öğrenme ihtiyaçlarına göre düzenlenebilir özellikler taşımaktadır. İşletmeler yenilikçi kalabilmek için ortak ve iş birlikçi öğrenme yöntemlerinin uygulanmasına yönelik yeni örgütsel yapılar geliştirmek zorundadırlar. Bu çalışmada iş ekosistemlerinde açık inovasyonu hayata geçirebilmek için e-öğrenme uygulamalarının önemi incelenmektedir. E-öğrenme açık inovasyon için ön koşul olarak kabul edilmedilir. Çünkü e-öğrenme ortak ilişkilerin yapılandırılmasına, rekabetçi bilgiye ulaşılmasına, yeni ürün ve hizmetlerin geliştirilmesine ve ekosistemlerinin güçlendirilmesine katkıda bulunmaktadır. Açık inovasyonu destekleyen e-öğrenmenin rolü oldukça açık olmasına karşın akademik araştırmalarda yeterli bir şekilde analiz edilmemiştir. Bugün inovatif özellikleri ile öne çıkan lider firmalar insan kaynaklarından tedarikçi ilişkilerine, müşteri ilişkilerinden dağıtım ağlarına kadar e-öğrenme yöntemlerini kullanmaktadırlar. Bu nedenle e-öğrenme, açık inovasyon ve iş ekosistemleri arasındaki etkileşimi değerlendirmek üzere literatür araştırması gerçekleştirilmiş ve iş ekosistemleri içinde e-öğrenme yöntemlerini kullanan Türkiye'deki inovatif firmaların uygulamalarından örnekler incelenmiştir. Bu örneklerden elde edilen bilgiler ışığında firmaların açık inovasyon için iş ekosistemlerini ve planlama stratejilerini yönetirken uyguladıkları e-öğrenme yöntemleri ve başarıları vurgulanmaktadır.

**Anahtar Kelimeler:** Açık İnovasyon Yönetimi, E-Öğrenme, İş Ekosistemi, Organizasyonel Öğrenme

## 1. Introduction

Today, we manage an environment of 'hyper-collaboration', in which human and technical interactions need to be diagnosed, monitored, and even incentivized. It is not only customers from whom we need to learn; but the knowledge of all stakeholders (e.g., suppliers, distributors, external research and media sources as well as competitors) needs to be harnessed. The innovation ecosystem, in its entirety, becomes the 'enterprise' and the unit of performance measurement.

In a trilogy of books on Knowledge Economics (Amidon et al., 2006), with 27 authors of from 17 countries, a modern economic foundation emerged with three Laws of Knowledge Dynamics (Amidon and Schwabe, 2013):

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The First Law: **knowledge multiplies when shared**. Knowledge – best referenced and measured in the form of Intellectual Capital (IC) – is the prime asset of 21st Century management.

The Second Law: **value is created when knowledge moves from its point of origin to the point of need or opportunity**. The real benefit of knowledge lies in action; innovation is the process where knowledge is put into motion or used. [e.g., the (geodesic-) **Distance** among participants of a network is the primary performance metric from a network perspective.]

The Third Law: **mutual leverage provides the optimal utilization of resources - both tangible and intangible**. Collaboration - the value of leveraging knowledge of one another - creates greater wealth and sustainability with profound network effects.

These Laws play a role in how companies approach their strategic thinking even when not stated explicitly. They are even more integral when considering innovation as business strategy. In last half of the last century with the quality movement, managers discovered the customer as central to marketing strategy.

Firms thus have to excel at building and governing such collaborative ecosystems in an attempt to jointly collect, interpret and respond to novel market intelligence (Almirall and Ramon, 2010; Velu et al., 2013). This raises a number of important questions. For instance, how can organizations orchestrate their own intelligence collection activities and those of its countless ecosystem members? How can they avoid information overload within their ecosystem by developing meaningful filtering and interpreting routines? How do they assimilate market intelligence and isseminate it within the system such that it is available at the right place at the right time? How do they coordinate the concerted response of their ecosystem? What mechanisms do they need to put in place to enable these processes?

Living creatures that live in a certain area and surrounding the mutual relationships formed with the inanimate environment and ecosystems are defined as continuous ecological systems. Acting like a unit and integrated to ecosystem organisms also constitute with their own environment. (Eyyubi, 2004). Business ecosystem theory gave the overall structure of value creation, value share and the research of new ideas in group co-opetition environment; it stressed cooperation, competition and co-evolution in system and the goal was innovation. Business ecosystem theory solved problem how to achieve synergies through cooperation in open network environment and broke through the limitations of traditional analytical methods. In addition, business ecosystem provided a new theoretical framework for innovation.

Understanding firm performance in such 'innovation ecosystems' requires a change in the way in which the strategy and the innovation literatures have traditionally linked industry dynamics to firm performance. Most obviously, it requires an approach that is explicit not only about the innovation challenges that are faced by the focal firm (Henderson and Clark, 1990; Christensen and Bower 1996; Velu et al., 2013), but one that is also explicit about the nature of innovation challenges confronted by the external partners. As the rapid change in economic context continues, organizations are forced to turn to learning organization or intelligent organization in order to enhance their competitiveness. Traditional training can no longer match the speed of organization development; hence, technology has appreciable implications for organizational capability and employee development to meet these challenges (Heraty, 2004; Wong and Huang, 2011).

A firm's competitive advantage depends on its ability to create more value than its rivals (Porter, 1985; Brandenburger and Stuart, 1996). Greater value creation, in turn, depends on the firms' ability to innovate successfully. To capture the returns from innovation, many firms strive to be technology leaders in their industry by being first to introduce new innovations to the market. A given innovation, however, often does not stand alone; rather, it depends on accompanying changes in the firm's environment for its own success. These external changes, which require innovation on the part of other actors, embed the focal firm within an ecosystem of interdependent innovations (Adner and Kapoor, 2009).

There are some uncontrolled factors in innovation process, so risks are brought for innovation. Enterprise will encounter the question on how to integrate and coordinate internal and external innovation resources (Westand Gallagher, 2006) when applying open innovation strategy. Chesbrough (2003) pointed out that there were intellectual property rights, technological dependence and other risks when he initially proposed the concept of open innovation (Xiaoren, et al., 2014).

**2. What is Open Innovation?**

Knowledge is the principal form of economic resource in the twenty-first century to complement materials, labor and capital (Powell et al., 1996; Snow et al., 2000; Velu et al., 2013). In a turbulent environment the sources of knowledge are more unpredictable and dispersed. Therefore, firms are not able to keep pace with the rate at which knowledge needs to be produced and managed on their own. In such turbulent environments there is much to be gained from innovation and a lot to lose from obsolescence (Powell 1998). A similar reasoning can be applied to the way firms need to organize themselves in a knowledge driven business environment. Thus, a collaborative approach to innovation is needed for firms to effectively leverage distributed knowledge. Firms need to cooperate with customers and other firms along both the demand and supply chain to create and manage knowledge (Velu et al., 2013).

Open innovation refers to the techniques used by firms to open up and strengthen their ability to investigate their external environment for innovation purpose. The head-on competition of the industrial era, where companies exhibiting the best assets usually won, is being replaced by a more holistic model, where competition mixes with cooperation to create greater value for an entire collection of organizations. In this context, the open innovation paradigm transcends the necessity of managing business ecosystems (Moore, 1993, 1996) to explore pathways to innovation while fostering value creation for a large number of loosely interconnected participants relying on each other for their mutual effectiveness and survival.

Chen and Chen (2006, 2007) thought that open innovation system should absorb more innovative elements and form multiage innovative mode based on stakeholder; they proposed that knowledge and resources of internal and external were fully used and integrated to build open innovation ecosystem and the success rate of innovation was improved (Xiaoren, et al., 2014). Other researchers Bamford et al., (2003) stated that open innovation made competition become competition among systems teams. According to these approaches in open innovation context, organizations relationship played a vital role in the process of innovation motivation (Xiaoren et al., 2014).

Since open innovation relies on a deep and wide network of business partners (Simard and West, 2006) co-creating value at the network level, the understanding of inter-organizational coordination is necessary to better appreciate the dynamic of open innovation at a global level. To be successful and most of all acceptable for managers, open innovation requires therefore: partnerships for value creation and control for value capture. This relies heavily on finding the right level of openness.

**3. The Perspective of Business Ecosystem**

The majority of studies in the innovation literature have sought to characterize the magnitude and nature of the internal innovation challenges confronted by focal innovators. The magnitude of innovation challenges can be characterized by the extent to which they require changes to the current approach to problem solving. The success of an individual innovation, however, is often dependent on the success of other innovations in the firm's external environment. While challenges in any location within the ecosystem will constrain the focal firm's ability to create value with its product, challenges located in different positions constrain its value creation and value capture in qualitatively different ways. Specifically, whereas upstream component challenges limit value creation by constraining the focal firm's ability to produce its product, downstream complement challenges limit value creation by constraining the customer's ability to derive full benefit from consuming the focal firm's product.

Moore (1993) describes the concept of business ecosystem as an economic community crossing many industries working cooperatively and competitively in production, customer service and innovation. Business ecosystems are characterized by a large number of loosely interconnected participants who rely on each other for their mutual effectiveness and survival (Iansati and Levien, 2004). Thus, the concept of business ecosystem clearly underlines loosely interdependence between partners within the community. Many different actors compose them (Moore, 1996): customers, market intermediaries (including agents, channels, and players selling complementary products and services), suppliers, lead producers, competitors and other stakeholders (Isckia and Lescop, 2009). These business communities embody the external context from which firm's insource external ideas and market internal ideas, creating value for anyone within the community: they are the core of open innovation. Learning how to create and capture value through ties created between partners is a very important issue. Indeed, when firms are highly dependent on each other, value creation doesn't depend on a single firm but is co-produced by the whole network.

Moore (1996) and Teece (2007) described the basic characteristics of business ecosystem. It included complexity, openness, dynamic nature, competition and cooperation coexistence, evolution symbiosis, centrality, diversity, self-organization and flexibility. They also stressed that business ecosystem had vague boundary and presented network structure; it was an open system existing dynamic interaction between each symbiotic enterprises or between system and surrounding environment, so the relationships were competition and cooperation, and co-evolution; system was built around core enterprise, and members presented diversity, etc.

Adner (2006) put forward that responsiveness of technology and market, co-innovation, etc. affected the health of business ecosystem. Iansiti and Levien (2004) found that cooperative relationships of mutualism and co-opetition were built which was conducive to the long-term development of core enterprise and business ecosystem.
Within a business ecosystem, the activity of a firm relies on a mesh of relationships characterized by varying degrees of intensity that take a more or less significant part in the innovation process. However, a company may be in a central position because of the business potential and resources it creates for other companies. Business relationships give access to knowledge, technologies, and innovation potential, which makes an actor an attractive partner. Within this framework, the networks represent the foundation on which relationships between firms are organised (Shapiro and Varian, 1998; Isckia and Lescop, 2009).

**4. Open Innovation View Based on Business Ecosystem**

The core of open innovation is that users, suppliers and partners can be integrated into design and development processes. Under open innovation paradigm, when the technological innovation capability is improved, the statuses of users, suppliers and partners should be enhanced. Knowledge and resources of internal and external are fully utilized and integrated. For system and standardized managements of innovation resources and enhancement of innovation participation efficiency, this partnership should be solidified, and innovation ecosystem is built; innovation technology and market uncertainties are reduced, and continuous innovation ability is created. According to open innovation mode and business ecosystem structure, open innovation process is embedded into business ecosystem framework (Xiaoren et al., 2014). A model of open innovation based on business ecosystem is shown in Figure 1.

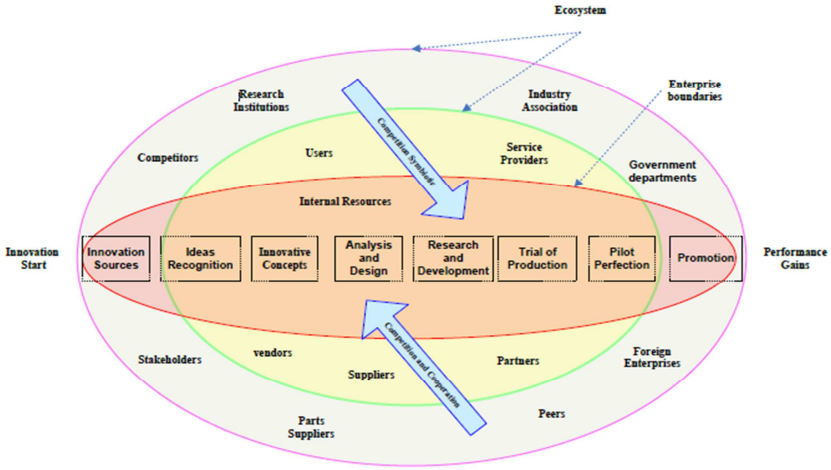


**Figure 1. Open Innovation Model Based on Business Ecosystem (Xiaoren et al., 2014).**

Open innovation promoted by business ecosystem in vary ways (Xiaoren, et al., 2014): From the view of stakeholders, business ecosystem including users, suppliers, partners and government departments, which are just internal and external innovation sources of open innovation mode. The other way is promotion of information exchange. By building a business ecosystem, a mechanism for mutual trust is established to achieve information exchange and knowledge sharing of various members.

Business ecosystem has a clear goal in allusion to different stakeholders, closes relationship among various members, and constantly improves its system range through information feedback mechanism. It absorbs various kinds of knowledge outside system and creates network system for promotion of information with knowledge conversion in order to achieve open innovation. Reduction of innovation risk is another factor in this point. Each member is ultimately tied to the destiny of business ecosystem; the formation of business ecosystem strengthens contact of enterprise with suppliers and user, and innovation has more pertinence. At the beginning stage of innovation, user participation reduces blindness. Through partners in system, market blank areas can be aimed at, and product is innovated, then product structure is adjusted. Supplier participation makes technology platform with service product factor. Have better adaptability to increase innovative success rate and these will all reduce innovation risk.
Also important wiev is improvement of innovation management efficiency. Business ecosystem allows various enterprises to regulate member's relations problem within ecosystem from the perspective of whole and development. Management plan of innovation process is deployed in business ecosystem members; various members cooperate with each other and advance toward a common goal to reduce innovative conflict, improve the synergy of innovation. They short innovation management process and make innovation process controllable. The establishment of business ecosystem is conducive to the implementation of effective management to ensure that enterprise is able to accept and take full advantage of innovation. Different members can provide good assessment feedback mechanism; easily form a kind of innovative support atmosphere. Finally; business ecosystem can enhance links among various members; because the ecological prospect restricts enterprises development, the health and the development of business ecosystem affecting the development of various members. Good communication among members and a higher degree of interdependence are convenient for the sharing of resources and capabilities; trust with each other can reduce transaction costs, which is beneficial to reducing friction in innovation process and mutual cooperation between each other so as to promote the enhancement of financial performance.

## 5. Understanding of E-Learning Potentials

Kopeck (2006) defines e-learning in a broader sense as the application of new multimedia technologies and Internet in education to improve its quality by enhancing the access to resources, services, information exchange and co-operation, in the narrower sense e-learning is seen especially as education, which is supported by modern Technologies and is implemented through computer networks – especially Internet and Intranet. E-learning cannot replace all forms of learning, but it can significantly streamline the education system.

The original reason for organizations to implement e-learning was mainly to reduce costs, but today it is clear that e-learning has many other advantages, such as time independence and individual learning. In the case of well-developed courses it also ensures high level of transmitted knowledge, standardized knowledge (everyone can get the same information, it is possibly to customize courses), student assessment with the same rules, the possibility in a short time to educate a large number of people, and many others (Mohelska and Sokolova, 2014).

With the rapid progress in information technology over the past two decades, online education dramatically increases and e-learning thus affected many areas, including management training. There are many e-learning programs and e-learning incorporated to the conventional teaching methods. This trend was inevitable, since the popularity of online communication and social networking has been a phenomenon in recent years. In addition, Schweizer (2004) says that e-learning is replacing face-to-face classroom instruction in a growing number of businesses, but what is the prospect for the continued proliferation of e-learning in business? On the one hand, the quality of instruction, the cost effectiveness of new technology, and a supportive e-learning educational culture, an expansion of the Internet, an increase in online courses, shorter business cycles, mergers, and increasing competition encourage business use of e-learning (Mohelska and Sokolova, 2014). On the other hand, employee

reticence in using learning technologies, insufficient corporate investment, and a lack of business- relevant university courses, narrow bandwidth, and the Internet access issues are constricting the business use of these technologies.

According to Ginn (2014) will be a severe gap in talent due to the 360 million workers who will retire from the global labor force by 2030. This leaves firms with talent gaps and the need for a skilled workforce that only comes with a solid learning program. The global work place is facing an unprecedented talent imperative. A theory model of The New Normal is shown in Figure 2.


**Figure 2. The New Normal (Ginn, 2014)**

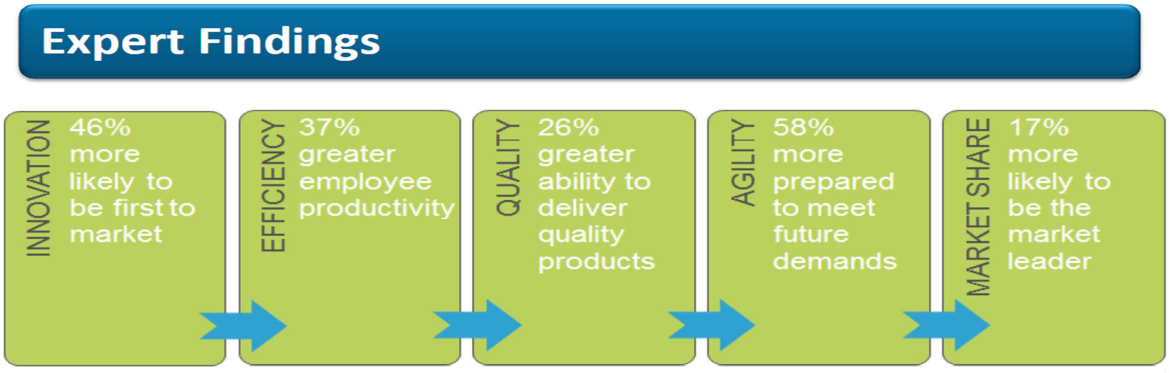


**Figure 3. Expert Findings (Ginn, 2014)**

Organizations with strong learning cultures significantly outperform their peers. It can be seen these steps in Figure 3.
There is also a lack of organisation of flexible learning solutions in businesses and cooperation among actors. Furthermore there is still much to be discovered about how people learn using different technologies, particularly in relation to interactivity, and how materials can be developed and structured to enable all learners to make effective use of them. Learning at the workplace is different from learning at school and in seminars. It is not important to go through a subject matter systematically but to solve problems resulting out of practical application. A problem occurs during work flow and has to be addressed directly without the detour of a complicated general further education. Different technological solutions get connected to each other and the internet and more and more features are added, e.g. multimedia messaging via mobile phones.

Today, learning in an enterprise is seen as a cooperative process which is happening along the working process of learners. New media have to integrate tools that support a more cooperate approach: via the learning media it should be possible to communicate with experts in and outside the enterprise, with tutors and coaches and other learners (Reich and Scheuermann, 2002). For a real integration of learning in working processes it is necessary to learn with real data and real projects instead of examples and constructed case studies – these emerge from working life themselves. Learning systems have to be implemented into work flow and have connections to the databases of the enterprises in order to find out the learning solutions (D'Atri and Pauselli, 2000; Reich and Scheuermann, 2002).

Especially employees working in industrial and technical jobs lack suitable workplaces and often have to face bad conditions for elearning on the job. Therefore it is necessary to find other solutions, e.g. construction of learning corners, learning islands or learning centres. It is important that employees have immediate access to information in order to get the qualifications needed for their work (Reich and Scheuermann, 2002). As a consequence, employees will have to acquire new know-how by themselves and move on to self-directed learning The managing director is usually highly visible, and is therefore better placed to remind people of the benefits of a learning orientation; learning projects and teams find it easier to make an impact and involve people; closer personal contacts create an environment where critical questioning and suggestions are likely to be heard.

E-learning tools such social learning structure of employee training platform created specifically for them to come together through mutual communication is to create learning opportunities. Supporting informal learning, social learning by doing business development, sharing knowledge and institutional memory, reinforcing the institutional development in this way, to be a learning organization stands out as an important tool.

Empirical studies show that e-learning technology has positive effects on learning effectiveness and job performance as well (Beamish et al., 2002; Egan et al., 2003; Green, 2004; Huang et al., 2007; Wong and Huang, 2011). Further, e-learning

technology plays an important role in facilitating learning content and interacting with learners in organizational learning (Wong and Huang, 2011).

For each innovation and the implementation of organizational change is the indispensable prerequisite organizational culture. Organizational culture is one of the essential elements of organizational learning. A strong organizational culture supports all innovation activities. So in this culture to be open to experience, to avoid the risks of failure by accepting a culture that supports learning is settled. In this culture the employer, employee, suppliers and so on. Business ecosystem elements can predict the opportunity for learning and development. At this point, the organization of learning in order to decide at what level the relationship between level of education and organizational culture are compared by analyzing the structure (Akdemir and Çukacı, 2005).

A number of organisations now make e-learning directly available to their customers. Online retailers are creating learning portals offering free classes to their customers, or two-way communications on ideas for ways that they can improve. This attracts customers to their site and keeps them there. Companies like Barnes & Noble, Dell and Starbucks are finding that 'educommerce', as it has been dubbed, helps create brand loyalty and drive revenues.

Charles Schwab, a company that pioneered discount brokerage fees, developed a strategy of educating its customers when it saw it was losing thought leadership and market share to new competitors. The company established a series of classroom courses on web investing, called WebShops. These classes helped the company understand what investors didn't know about investing. It then developed online courses and created a web-based learning centre. The courseware is free and offers new investors an informative and entertaining way to learn about and participate in investing.

"We needed to take some of the fear out of investing and make people feel capable," said Janet Lecuyer, vice president of interactive learning in Schwab's electronic brokerage division. "People are embarrassed about what they don't know, so they were hesitant to go to classes. Here, by themselves, they can learn at their own pace."

Companies are increasingly turning to customer focused e-learning for a variety of reasons: To fill a necessary support role; to provide a service that competitors don't have; to 'incentivise' potential customers and to add new revenue streams. Some companies aim to make customers more competent users of a company's products, leading to increased satisfaction and reduced support costs. In every case, the business model behind such customer focused e-learning identifies training as a value added service, rather than an internal cost.

E-learning also applies to partners as well as customers. A good example is Cisco's Partner E-Learning Connection portal. This is a one stop portal solution that provides certification, hands-on labs, new product training, sales training and reference materials for Cisco's distributors, value added resellers and system integrators. Moreover, there are many case studies of cost savings being achieved through the use of e-learning. It is presented some examples below (epiclearninggroup.com):
• In 2010, British Airways announced that their award winning 'Aviation Medicine' e-learning programme, developed by Epic, would reduce training costs by £1.1m over 3 years,

• 'Protecting Information', another e-learning programme developed by Epic on behalf of the Cabinet Office, had generated an estimated £20m cost savings across government in 2010,

• In 2009, McDonald's UK stated that the use of e-learning had generated over £1m of cost savings in the first year. McDonalds indicated that they had reduced training costs by nearly 50% by switching to e-learning.
The establishment of an enterprise approach to learning with the goal of integrating and aligning learning with organizational priorities should be development of high-impact and targeted learning initiatives. And it should be focused on performance improvement and the implementation of an open, reliable, and scalable infrastructure to support learning initiatives that can be easily integrated with other enterprise systems.

**6. The Investigation of Samples from Turkey**

The e-learning methods can play a significant role in organisational learning strategies and have a major impact on organisational performance. With markets and customer expectations changing so fast, it's increasingly important for organisations to change to meet these new demands. For large organisations in particular, this can be a huge challenge. Changing the hearts, minds and behaviours of an entire workforce is no small task. E-learning offers a valuable method to instigate large-scale change, due to many of the benefits already mentioned: consistency of message, fast roll-out, engaging mediums and easy distribution. But it is important to stress that interfirm learning is attributed an even higher importance to the innovation process.

When it is examined the firms which took in the first place in their sectors in Turkey, in these firms seems to be have a successful innovation management structure. At the same time, they significantly in their operatings from e-learning methods. It is important to examine of this relationship and be an example in terms for other businesses should be evaluated. The determinations regarding to these firms which selected for our study as sample are listed below:

**Arçelik:** Arçelik is established in 1955. Having operations in durable consumer goods industry with production, marketing and after-sales services, Arçelik A.Ş. offers products and services around the world with its 25,000 employees, 14 different production facilities in five countries (Turkey, Romania, Russia, China and South Africa), its sales and marketing companies all over the world and its 10 brands (Arçelik, Beko, Grundig, Blomberg, ElektraBregenz, Arctic, Leisure, Flavel, Defy and Altus). Arçelik of employees and work orientation of new staff has been reduced to 1 week to 2 weeks. Have a significant cost and time advantage. Approximately 500 to 600 people will benefit from this training. Arcelik, the e-learning in the education of English is

preferred. Tofaş: Dealer fiategitim.com portal for channel was established. This portal to the entire dealer network sales, customer relations principles, and their education is bringing the car to be launched. Through the site about 1000 dealers with employees training is shared. Koç Holding: Holding carried out across and 15 thousand white-collar that involves distance learning portal and the "Office 2000", "XP", "Windows 2000", "financier for non-financial", "contract law ", and many have been trained. **Migros:** The pioneer of organized retailing in Turkey, Migros today offers spacious stores in a wide range of formats and locations whose vast selection of stationer, glass and kitchenware, appliance, book, recorded media, clothing and other necessities give it the ability to satisfy nearly all of the shopping needs of its customers. Striving to give customers the benefit of technological developments while confidently continuing to serve them with its trusted human resources, the attention which Migros gives to information technology and the investments which it undertakes always keep it at the forefront of the retailing sector. Exceeding customer expectations while keeping a close watch on customer wishes since the day it was founded, Migros is known for its innovation and progress in retailing. Constantly expanding the geographical reach of its service network with the addition of new stores, Migros was Turkey's top retailer and ranked 199th in the world's retailing league table in 2011. 7 thousand employees, employees with training platform akademigros prepared for customer relationship management programs are offered. Yet there is also personal development training for employees. Petkim: using e-learning applications pioneer among public institutions. Implementation was completed recently. Thousands involving 200 employees and a year-long study hours and caught a high participation in the project.

**Turkcell** : GSM-based mobile communication in Turkey began when Turkcell commenced operations in February 1994. Turkcell then signed a 25-year GSM license contract with the Ministry of Transportation on April 27, 1998. Since then, it has continuously increased the variety of its services based on mobile audio and data communication, as well as on its quality levels and as a result, its number of subscribers. Turkcell is a regional leader by being the market leader in five countries out of nine it operates in. Turkcell's shares have been traded on the Istanbul (IMKB) and New York Stock Exchanges (NYSE) since July 11, 2000, and it is the first and only Turkish company ever to be listed on the NYSE. Turkcell had signed 3G contracts in more than 110 countries, ranking it among the world's top operators in terms of the provision of international data services. Turkcell also ranks among the top operators in terms of GPRS roaming, where it has signed contracts with operators from more than 165 countries. (NYSE: TKC, ISE: TCELL), the leading communications and technology company, is delighted to announce that Turkcell Academy has had the honor of receiving an Excellence and Innovation Award for the fourth time from the Corporate University Exchange ("CorpU"). Turkcell Academy, remaining the only Turkish company to win a CorpU award, had also been honored by awards in 2008, 2010, and 2011. Turkcell Group's Corporate University, as well as the information management and development center "Turkcell Academy"; established for Turkcell employees in line with the Company's "invest in people" principle, received the Branding award with its University-Industry Alliance at the 13th Corporate University Xchange Excellence and Innovation Awards (CorpU Excellence Awards). Having undertaken several alliances, joint programs and projects with universities throughout Turkey to develop a qualified work force for the sector, Turkey Turkcell Academy has been found deserving of this prestigious prize. Honoring awards in 8 different categories; renowned companies such as Intel, MasterCard, and Boeing have previously received the award that Turkcell Academy has been granted. Through various platforms developed by Turkcell Academy, it is targeted to provide a qualified workforce for the sector, support entrepreneurial ideas of technologically promising young people, and through university visits increase the visibility of Turkcell, while raising the awareness of the young people about their careers. Leader programs such as "Life with Turkcell" seminars, Technology Leaders Master Scholarship Programs, and joint certificate programs in cooperation with universities are designed in line with this vision to add value to the telecommunications sector. Having been named "The Most Admirable Company" consecutively each year based on research conducted among university students as part of Turkcell Academy's relations with universities, Turkcell's brand awareness is strengthened (Turkcell, 2014).

**Garanti Bankası:** Established in 1946, Garanti Bank is **Turkey's second largest private bank** with consolidated assets of US$ 109.3 billion as of June 30, 2014. Garanti is an integrated financial services group operating in every segment of the banking sector including corporate, commercial, SME, payment systems, retail, private and investment banking together with its subsidiaries in pension and life insurance, leasing, factoring, brokerage, and asset management besides international subsidiaries in the Netherlands, Russia and Romania. As of June 30, 2014, Garanti provides a wide range of financial services to more than 12.6 million customers with more than 19 thousand employees through an extensive distribution network of 984 domestic branches; 6 foreign branches in Cyprus, one in Luxembourg and one in Malta; 3 international representative offices in London, Düsseldorf and Shanghai with 4,000 ATMs, an award-winning Call Center, internet, mobile and social banking platforms, all built oncutting-edge technological infrastructure. Almost ten thousand people received training through this channel. Orientation, information technology, products, procedures and practices, Microsoft software, personal development, finance and licensing exam preparation training was provided to CMB. Metering for the online exam module was utilized as well. Put "Önersen" into service for employees to provide opinions and suggestions In 2012, Garanti Bank became the first and only institution in Turkey to be deemed worthy of the Investors in People (IIP) certificate in the "Gold" category. IIP is the only international standard in the world to certify the quality of companies' HR practices. In addition to created e-learning culture between Dogus Group and Garanti Bank employees.

**Teknosa:** TeknoSA İç ve Dış Ticaret A.Ş. is the technology retailing company of Hacı Ömer Sabancı Holding A.Ş., and aims to provide consumers with the latest technology at the best prices and high quality service. Started out with 5 stores in the year 2000, almost 300 TeknoSA stores currently offer services and products in 77 cities across Turkey. TeknoSA has shown stable growth in a relatively short span of ten years. Further, thanks to its availability, quality of service, reliability, speed and product diversification, it enjoys recognition as the most widespread technology retailer in Turkey. TeknoSA today continues to increase service quality and diversity of products in its own business line with the support of almost 4000 specialized employees, a far cry from the original 163 employees when the company was set up. In comliance our principle "Sustainability of education" and "education on an equal terms"; the www.teknosaakademi.com education and training website, which was established for our employees to simultaneously access to updated and correct information anywhere and anytime, and benefit from various development tools, is also open to the access of those who participate in the candidate programs to work at Teknosa stores as well

as those already working for Teknosa (Teknosa, 2014).

On Teknosa Academy e-learning website, the employees can;
Assign more than 160 professional/personal/managerial e-trainings offered to them and get any training they want during the year, show training exam information on their user walls, thanks to its "Social" characteristic, write comments and opinions related to these contents, learn any kind of information in the fields such as questions-answers, discussion groups and news source, have access to any questionnaire and form offered to them, largely benefit from the portal contents updated every week and have access to a living information world, learn while having fun with the help of various applications, such as training games, training videos, TechnoCafe, have access to the content information/summaries of more than 700 books and make an instant request to read these books, access to monthly Teknosa e-bulletins and examine archives.

**Aras Cargo:** Aras Distribution and Marketing, was formed in 1979 by Celal Aras. And having established a giant distribution network, it laid the foundations of Aras Kargo by realizing and acting on the commercial potential of its applicability to the shipping business. As a result, Aras Kargo entered into service in 1989. Today Aras Kargo, which has improved its service quality thanks to the innovations it has brought to the sector, is Turkey's leading courier company with the largest access network that offers services to 12 million people, corporations, and institutions per month with its 19 Regional Directorates, 28 Transfer Centers, 844 branches, a fleet of 3,000 vehicles and an expert staff of 9,000 employees. Aras Cargo is nine thousand employees trains with Aras Academy Project. Aras Cargo employees receive two training with this project: Cargo Cycle, Orientations. This trains help to grown up to company.

Aras Cargo has been awarded "The Leader of Growth Excellence" by Frost & Sullivan, one of the world's largest research and consultancy groups. Earning this award for growing exceeding the sectorial average without compromising on service quality, Aras Cargo's Chairman of the Executive Board and CEO, Evrim Aras, received the prize at the ceremony held in London on behalf of all employees. Frost & Sullivan, which has been performing global research and growth consultancy for over 50 years, has awarded Aras Cargo, the leading and innovative cargo company of Turkey, "Growth Excellence Leadership". Awarded by Frost & Sullivan for being "a company which has the vision of providing high quality in customer experience and also growing above the industrial average", Aras Kargo's Chairman of the Executive Board and CEO, Evrim Aras, received the prize at the ceremony held in London (Aras Kargo, 2014).

## 7. Conclusion

The new global economy poses more complex challenges to workers, requiring higher levels of education, computer literacy, critical thinking, information analysis, and synthesizing skills. In response to the new challenges of technology and market, enterprises should choose open innovation route. The innovation system research highlights how the organization of knowledge production is becoming still more complex in the knowledge economy. Today human capital has replaced physical capital as the source of organizational. Many employees require ongoing training to maintain skill levels to meet job requirements. Also extending learning beyond the enterprise can strengthen relationships with partners, suppliers and customer.

Beyond the boundaries of the firm, a community of organizations and stakeholders compete and collaborate to deliver specific goods and services issued from the innovation process. The evolution from business environment to business ecosystem results from cooperation: both companies and other organizations leverage new ideas, satisfy customers, and create new products and services through open innovation systems. This increasingly networked structure has shifted the focus of competition away from the management of internal resources, to the management of capabilities outside the direct ownership and control of the firm.

E-Learning has important benefits for implementing open innovation in business ecosystems. It eliminates the barriers that have historically prevented people in different business departments and different reletionship levels acquiring, on an equal basis, high quality education and support services involving technology, applications development, ecosystem strategic direction and cultural change. Otherwise it makes learning pervasive, continuous and relevant. And it propagates knowledge sharing through access to expertise and collaboration between employees and partners, and improving the performance and productivity of employees.

Apply e-learning to facilitate the cultural and organisational challenges faced by business in transforming their structures, processes and internal employee culture to drive in their ecosystem development. Effective deployment of e-learning in the community to raise the level of technology and application user skills, therefore lowering the cost of access and raising demand for ecosystem applications and services. Effectively leverage investments in ecosystem platform development to better implement e-learning platforms and processes to complement learning frameworks within the formal and informal education system. This includes evaluating the impact of current learning programs on human and organizational performance, and redesigning instructional processes, content and delivery mechanisms.

Developing new tools is one step, having them integrated and used effectively in an organisation is quite another. Individual acceptance and organisational integration of new technology is particularly critical for e-learning issues in the business ecosystems, because successful learning requires motivation and insight. Changes in work-related behaviour require social and organisational support. An important way to raise learning motivation is to systematically take into account employees´ suggestions and feedback. In business ecosystem surpasses the physical boundaries of traditional enterprise and is inter-enterprise architecture. It is a network of enterprises mutual contact and resource and information exchanges, and its core is based on the co-evolution of a mutually beneficial manner. Enterprise in business ecosystem shares the same breath and has a common fate. If wanting to develop and grow, enterprises have to be co-evolution with related members and mold an open businesses ecosystem with strong resistance. In business ecosystem, the enterprises form ecological co-prosperity sphere through complementary resources and capabilities. They research and develop new products through cooperation or competition and provide customers

with core products and services. It's essential that organisations develop learning strategies to ensure staff skills; knowledge and experience remain relevant and valuable.

An innovation sytems need to the change. E-learning help to business for this challenge. A number of critical success factors should be considered in this interaction such as shared vision, leadership support, technology/infrastructure, content, acceptance/embracing of e-learning by stakeholders, economically funded and/or affordable, regulatory environment supportive and legal systems protective of e-learning processes sustainability. When evaluated in this study the case of Turkey of these companies are successful and innovative in their sectors. In addition to these common features, these firms also use in effective way of e-learning methods. Work in this area should be examined with more large-scale quantitative research and comparative analysis should be carried out in different sectors.

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