DIFFERENCES IN INNOVATION MANAGEMENT PERSPECTIVES OF INNOVATIVE FIRMS: A CASE STUDY IN IZMIR

İNOVATİF FİRMALARIN İNOVASYON YÖNETİM PERSPEKTİFLERİNDEKİ FARKLILIKLAR: İZMİR VAKA ÇALIŞMASI

Dr. Murat NAZLI

Yaşar Üniversitesi, Sosyal Bilimler Enstitüsü İşletme Anabilim Dalı, nazli.murat@gmail.com

E. Evla KESİCİ

Yaşar Üniversitesi, Sosyal Bilimler Enstitüsü İşletme Anabilim Dalı Doktora Öğrencisi, eevlamutlu@gmail.com

Gönenç DALGIÇ TURHAN

Yaşar Üniversitesi, Sosyal Bilimler Enstitüsü İşletme Anabilim Dalı Doktora Öğrencisi, turhan@gonencdalgic.com

Dr. Hande ARBAK

Yaşar Üniversitesi, Sosyal Bilimler Enstitüsü İşletme Anabilim Dalı, handearbak@hotmail.com

Abstract

Primary purpose of the study is to find out the innovation management perspectives and future perceptions of innovative firms in İzmir, Turkey, in order to understand the current and future innovation dynamics of the province. Accordingly, 20 innovative firms in Izmir are analysed by using a face to face semi-structured interview technique and performing a content analysis. Study outcomes basically revealed a great diversion in various topics of innovation management. For instance; 85 % of firms focus on product innovation and 30 % of firms have both a strategic plan and an innovation plan. In addition, 75 % of firms mentioned that there is either a department or an appointed manager in dealing with innovation activities. 85 % of respondents use several tools to trigger creative thinking and innovation whereas 65 % of innovative ideas are generated from employees' suggestions. Only 35 % of firms emphasized that they have a systematic approach in finding out innovative perspectives. Results indicate a multidimensional understanding of innovation management and also in future perspective of the province. This diversion in the perception of firms, reveal that firms gain success in innovation, through a unique understanding of their own, more than implementing a standard procedure.

Keywords: *Innovation; Research Development; Innovation Management; Izmir; Case Study*

Öz

Bu çalışmanın temel amacı, İzmir'deki inovasyon dinamiklerini anlamak için, ildeki inovatif firmaların inovasyon yönetimi perspektifini ve gelecek algılarını ortaya çıkartmaktır. Buna bağlı olarak, İzmir'deki 20 inovatif firma, yarı yapılandırılmış yüz yüze görüşme tekniği kullanarak ve içerik analizi yaparak incelenmiştir. Çalışma çıktıları temel olarak, inovasyon yönetiminin farklı başlıkları altında çeşitli yaklaşımlar olduğunu göstermektedir. Örneğin, firmaların % 85'inin ürün inovasyonuna, % 30'unun da hem stratejik hem de inovasyon planına sahip olduğunu ortaya çıkartmıştır. Ayrıca, firmaların % 75'i inovatif faaliyetler ile ilgilenen bir birimin ve aynı zamanda atanmış bir yöneticinin olduğundan bahsetmektedir. Katılımcıların % 85'i yaratıcı düşünceyi ve inovasyonu tetikleyecek çeşitli araçlar kullanmaktadır ki, inovatif fikirlerin % 65'i, çalışan önerilerinden çıkmıştır. Firmaların sadece % 35'i inovatif perspektifler yakalamak için sistematik bir yaklaşımı olduğunu ifade etmektedir. Sonuçlar inovasyon yönetimi ve bölgenin gelecek durumu ile ilgili çok boyutlu bir perspektifi işaret etmektedir. Firmaların algısındaki bu farklılık, firmaların inovasyon alanındaki başarısının, standart bir prosedürü izlemek yerine, kendilerinin özgün anlayışları doğrultusunda gerçekleştiğini göstermektedir.

***Anahtar Kelimeler**: İnovasyon, Araştırma Geliştirme; İnovasyon Yönetimi; İzmir; Vaka Çalışması*

1. INTRODUCTION

The corporate world of 21st century is looking for new ways to gain competitive advantage, be unique and different, add more value what is managed, produced and served, be more creative and think of beyond the scope and limits. Under these circumstances, dynamic market conditions and hectic business environment encourage firms to focus on and invest in innovation (Osuna, 2014). The reason is that innovative activities are generally recognized as a strategic tool for sustainable competitive advantage (Damanpour, 1991; 1996) and source of a superior performance (Camisón & Villar-López, 2014).

Morgan (2015) underlined that as the world of business continues to evolve at a fast pace, innovation continues to become both a top priority and challenge in order to succeed and thrive in this altering world. Thus, organizations must adapt to the business world by implementing innovation models in management systems that encourage innovation in the organization. This study has been conducted to provide an analysis on innovation matter of Izmir centred innovative firms in order to understand the management systems.

As a developing economy, Turkey has a great amount of young population with an increasing education level (Turkish Statistical Institute, 2016) and Izmir is the second biggest city hosting 32 of top 500 companies of Turkey (Istanbul Chamber of Industry, 2012). Additionally, 23 of 250 national R&D Centers are located in Izmir and it is ranked as the 5th (Turkish Ministry of Science, Industry & Technology, 2016) that underlines a microgeographical significance. Grounding on the Triple-Helix-Model (Etzkowitz & Leydesdorff, 2000), governmental agencies and universities play an important role in

technology transfer from universities to industry and governmental institutions. Since there are nine universities in Izmir, academic entrepreneurship, spin-off, commercialization is increasing with high awareness (Temel et al., 2011).

According to 2014-2023 Izmir Regional Plan (Izmir Development Agency, 2013), prior strategic goals of Izmir are; having high capacity in technology, innovation and design, having a developed entrepreneur ecosystem, developing clusters, providing a sustainable production and service, being the attraction centre of Mediterranean. In line with these goals, Izmir is developing strategies to become more innovation oriented and entrepreneurial. The study of "Izmir Current Situation Analysis 2013" by Izmir Development Agency revealed that 30 % of 21 umbrella institutions such as associations, organized industrial zones, free zones, exchange markets have strategic plans on innovation (Izmir Development Agency, 2014, p. 111). This analysis includes a field research that analyses the innovative capacity of private sector. According to the research including 760 firms, renewable energy and environment technologies, processed vegetable and fruit, textile sector, chemical, biomedical sector, informatics, industrial air conditioning, climatization and cooling industries are drawing attention in terms of high innovation capacity in Izmir (Izmir Development Agency, 2014, p. 114).

An intensive government, industry and university relations and collaboration play a significant role on dynamics of innovation (Etzkowitz & Leydesdorff, 2000; Khorsheed & Al-Fawzan, 2014). Moreover, it is recognized as a third mission that universities empower regional innovation systems with their efforts on research commercialisation and improving economic growth in local economies (Brown, 2016). In this framework, Izmir Development Agency and X[1] University conducted a research project to discover the perceptions and applications on innovation of the most innovative firms in Izmir. The object of this paper is to reflect the findings of this research project through presenting an analysis of the twenty most innovative firms located in Izmir and aims to contribute to current knowledge on innovation for both academia and practitioners.

2. CONCEPTUAL BACKGROUND

Among several definitions of innovation, one of the most accepted is that of the OECD (2005) in the Oslo Manual. Accordingly, innovation refers to the implementation of a new or significantly developed product (good or service) or process, a new marketing method or technique or a new organizational method in business practices, workplace organization or external relations (OECD-Eurostat, 2005, p. 46). In the same vein, Yu and Si define innovation as "*the creation of better or more effective products, processes, services, technologies, or ideas that are accepted by markets, governments and society"* (2012, p. 526).

Novelty, innovation capabilities and innovative outputs resulted from development of new creative ideas and innovation processes ensure uniqueness to firms. From this point of view, current study relies on that innovation is among intangible resources that a firm possesses

[1] Name of the University is hidden for the sake of blind review

(Hall, 1993). Thus, the theoretical framework of the resource-based view (RBV) provides a basis of our understanding of innovation and its relationship with performance. Accordingly, innovation is a significant capability as it is associated with valuable, rare, non-substitutable, inimitable resources that are crucial for survival, growth and sustainable competitive performance of firms (Barney, 1991). Both internal (knowledge, creativity) and external (customers, supplier relationships) resources positively affect firms' innovation performance (Laosirihongthong et al., 2014). Subsequently, innovation contributes to economic growth, regional and national development, and human well-being (Woiceshyn & Eriksson, 2014).

Furthermore, configuration theories (Miles et al., 1978; Porter, 1980) that analyse the generation of sustainable competitive advantage (Priem & Butler, 2001) provide strategic and organizational characteristics that lead to superior performance. Generic strategies developed by Porter (1980) point overall cost leadership or differentiation to pursue competitive advantage both of which can be realized through product, process or organizational innovation. Several studies indicate that organizational strategy is related to innovation (Beyene et al., 2016b; Villan et al., 2016). Some studies evaluate innovation as a competitive strategy (Villan et al., 2016), some emphasize that "the heart of creative strategy must be strategic innovation" (Bilton & Cummings, 2010, p. 53) and underline strategic innovation as new and original (p. 58).

Grounding on the RBV and configuration theories of strategic management as theoretical basis of the study, our main purpose is to monitor antecedents, outcomes of efforts and applications on innovation in the most innovative firms in Izmir. Drawing from the main purpose, this study focuses on innovative perspectives of firms and future trends of innovation in Izmir ecosystem as well.

Several studies focus on mission and vision statements to analyse innovativeness and market orientation of firms (Candemir & Zalluhoglu, 2013). Drucker defines mission statement as part of the discipline of innovation (Drucker, 1998) and one of Drucker's (2010, p. 3) five most important questions is "What is our mission?" McDonald (2007) also studies the importance of mission in non-profit organizations through the change of being more business-like. According to Erol and Kambur (2014), innovativeness and self-confidence are the most frequent terms asserted in mission statements, though in vision statements, self-confidence and leadership are the primarily mentioned terms for Turkey's Top 100 Industrial Enterprises. Hence, we developed the following research questions (RQ) to explore top management's commitment to innovation:

> R.Q.1: Is there any expression related with innovation in your firm mission, vision and corporate values?
> R.Q.2: What is your purpose in your innovation activities?

Previous literature recognizes that innovation has a significant role on gathering and sustaining competitive advantage regarding to strategic management (Chereau, 2015) and benefits provided by innovation can only be obtained through a successful innovation strategy

that is fitted to competitive strategy (Damanpour, 1996). In other words, innovation and strategic management are strongly interrelated. Therefore, respondents are asked to perform SWOT analysis developed by Kenneth Andrews (Learned et al., 1965). Hence,

> R.Q.3: Do you have a strategic plan? If yes, is there an area related with innovation in your strategic plan?
> R.Q.4: What are the strengths and weaknesses of your firm related with your innovation activities?
> R.Q.5: What are the opportunities and threats that your firm faces with, considering their effects on your firm innovation activities?

A research by Sahay and Gupta (2016) has revealed that concentration of authority shows a negative association with innovation whereas participation in decision making has a positive relationship with innovation. Thus, the project team aimed at gathering information about administration of innovation in the firms together with the organizational structure, management practices on innovation (e.g. motivation tools that encourage employees to develop creative ideas, innovation rewards) and sources of knowledge to be used in the innovation process. Hence;

> R.Q.6: Who is responsible for the management of innovation in the firm? Is there any commitment in the level of CEO, Board of Directors or Investors?
> R.Q.7: Is there an appointed manager, personnel or department in dealing with innovation work and being responsible from these processes in your firm?
> R.Q. 8: Do you have specific organizational practices that can motivate your employees' creativity and innovativeness? (teleworking, casual wear, activities and reward system)

Development of creative ideas and evaluation of ideas in firms are challenging issues addressed by Haller (2013) regarding to efficiency and effectiveness. Efficiency of evaluation is about to make the high amount of contributions manageable, while effectiveness of evaluation is about identifying the most promising contribution. Haller (2013) offers open evaluation that is defined as "the integration of stakeholders outside file usual group of decision makers into file assessment of pre-developmental products or services by means of IT-supported acquisition, aggregation and assimilation of quantitative or qualitative judgments" (Haller, 2013, p. 15). In addition, it is widely accepted that innovation process is resulted from the combination of knowledge and other novel resources that a firm possesses (Cohen & Levinthal, 1990; Kogut & Zander, 1992). Knowledge is associated with the development of whole innovation processes (Hernandez-Espallardo et al., 2011; Slavkovic & Babic, 2013). Previous literature presents many examples stating that knowledge is one of the antecedents of innovation (Carneiro, 2000; Calantone et al., 2002; Dalgıç et al., 2016). In addition, knowledge has both internal sources including direct experiences and internal information, and external sources such as indirect experiences such as indirect learning and grafting, and external search of information (Fletcher & Harris, 2012, p. 634). Furthermore, there is a contradictory discussion on the role of internal and external sources of knowledge

on innovation. For instance, many studies focus on the influence of external knowledge on innovation (e.g. Cohen & Levinthal, 1990; Kang & Kang, 2009). Damanpour (1991) states that both professional knowledge of organizational members generated by education and experience, and technical knowledge resulted from organization's technical resources and potential affect positively innovation. Moreover, Garriga, von Krogh and Spaeth (2013) indicate that firms utilize both internal and external sources of knowledge to be aware of the developments in their environment. Therefore, the innovativeness is associated with the ability of a firm in the acquisition, distribution and interpretation of knowledge. Hence,

R.Q.9: Which resources do you benefit from in dealing with innovation? (customers, employees, partners, suppliers, competitors, universities)
R.Q.10: Do you perform market research? Have you ever explored and / or exploited an idea regarding to the results of market research related with innovation?
R.Q.11: How do you collect creative ideas inside your firm? Is your purpose to find a solution to a specific problem or collect new ideas systematically? What is your approach in obtaining innovative ideas?
R.Q.12: Is there an organizational formation that arranges filtering, and activating, creative ideas for innovation process?
R.Q13: Under what kind of circumstances do you give up an innovation project?

Proximity and location have a significant role in knowledge spillovers (Audretsch & Feldman, 1996) and as Garriga, von Krogh and Spaeth (2013) stated that a knowledge-rich environment is positively related with ability to innovate. Thus, final research questions are developed in order to understand the current ecosystem in Izmir –province and surrounding area- and its potential future with the lenses of most innovative firms in distinct.

R.Q.14: What is your opinion for the future of innovative activities in your firm? What will be your main goal?

R.Q.15: How do you evaluate the innovation ecosystem of Izmir regarding to both current situation and the future?

3. RESEARCH FRAMEWORK AND METHODOLOGY

Purpose of Research

Main purpose of this study is to find out the innovative perspectives of 20 innovative firms in Izmir, Turkey, by using a face to face semi-structured interview technique with open-ended questions (Robson, 2002; Onwuegbuzie, 2009) and including a content analysis of the selected firms. In other words, principal goal is to understand the firm's management capability of innovative ideas, evaluate the competences of firms in understanding innovation strategically and by this way comprehend the selected firms' core competences and reveal the current situation in the business environment in Izmir.

Population and Sample

Population of the study is 64 innovative firms with various scales in Izmir, Turkey. These firms represent several aspects of the concept of innovation as stated in Oslo Manual (OECD-Eurostat, 2005). In order to determine the most innovative firms among them, a preliminary assessment tool has been conducted. Accordingly, members of the project team have contacted with the firm representatives by phone and get information about innovativeness of the firm. With this purpose, determinants of innovation in literature (Subramanian & Nilakanta, 1996; Romijn & Albaladejo, 2002) such as firm size, ownership of intellectual property rights (including patent, utility model and industrial design registration), R&D intensity, and education level of employees have been taken into account. In addition, for more detailed information, the representatives were asked whether the firm has applied to innovation contests and if yes, the number of awards won, whether the firm has utilised innovation incentives from national institutions (e.g. TUBITAK, KOSGEB) or established cooperation for innovation projects with universities. General information gathered from the firm representatives at first step has been discussed in a special meeting with the participation of project team and an advisory committee including representatives from all technology transfer offices operating in Izmir. Finally, 20 most innovative firms among 64 firms are selected for analysis ensuring different scales can be represented in the research. The chosen firms are categorized as; Largescale with 250 employees and over, Medium and small scale between 11-249 employees and Micro scale firms between 1-10 employees.

Method

In the pre-research of this study, a short interview took place with Aegean Young Businessmen Association (EGIAD), Aegean Region Chamber of Industry (EBSO), Technoparks in Izmir, Technology Transfer Offices (TTO) and Directorates of Organized Industrial Zone (OSB) and different perspectives utilised to prepare the fundamental questions of the study. Besides the demographic characteristics (establishment dates, number of employees, educational backgrounds, female percent, industry analysis, types of innovation, firm scales), fifteen questions were asked to the firm owners, managers or innovation professionals.

A face to face semi-structured interview technique with open-ended questions is used as a research technique and along with the demographic questions, a total of 15 questions is asked to the managers or innovation related personnel (12 founders of firm, 2 general managers, 2 innovation managers, 2 R&D directors and 2 product development managers) in these 20 innovative firms which took 1.5 hours of recording to the tape. Questions for this research have been selected by a detailed literature review on measurement of innovation. Several approaches on innovation measurement including OECD and World Bank guidelines, Global Innovation Index, World Economic Forum Global Competition Report, European Union Innovation Scoreboard are examined (Dalgıç et al., 2015) and 15 open-ended questions are

determined after a careful review and adaption of all these different approaches. After the collection of responses, the recordings are transcripted meticulously and a content analysis is performed. While transcripting the recordings of the interview, a double cross-check is applied by the researching team to the text to overcome the misperceptions or misunderstandings about the actual meanings of expressions and concepts. This article is based on a research project which lasted in eleven months. During this period the research team found the most innovative firms in the region, interviewed with the managers and staff, analyzed, transcripted and evaluated the final version of the study. Data are collected within the scope of the project "Success Stories of Innovative Firms in Izmir", funded by Izmir Development Agency and actualized by a research team in X University.

4. FINDINGS

Demographics and Sample Characteristics

Table 1 represents the demographic characteristics about operating period and staffing of 20 innovative firms in Izmir, Turkey. The establishment dates of the firms range from 1941 to 2013 while number of employees range from 2 to 2000. Generally, firms have a few employees having a Master and Doctorate degree except one which has employees holding 15 Master degrees. The percent of female employees ranges from 6 % to 84 %. Statistics about the R&D Centres established in Turkey can be achieved through the Ministry of Science, Industry and Technology (MSIT). According to the results of (MSIT, 2016), there are totally 250 R&D Centres in Turkey, where 53 % is Undergraduate, 22 % is Master and 2 % is PhD graduate.

Table 1: Demographics of 20 innovative firms

Establishment date	Total # of staff	Graduation, # of staff				% of female
		U	M	D	A	
2010	2	2	-	-	-	50
2012	2	-	-	2	-	50
2013	6	-	3	1	-	17
2002	10	2	-	-	8	10
2007	13	-	4	2	-	46
1995	14	1	1	-	-	50
2009	14	-	2	-	-	40
2009	32	-	3	1	-	84
2004	32	-	-	-	-	16
1983	50	-	2	-	-	20
1993	70	-	-	-	-	25
2011	95	-	3	-	-	5
1998	120	1	1	-	-	17
1980	400	-	-	-	-	7
1941	500	-	-	-	-	No records
1974	550	39	5	-	-	No records
1968	720	57	4	1	-	6
2007	2000	-	15	-	-	No records

Table 2 represents the distribution of the firms according to sector, types of innovation and firm scale. Innovative firm sample mainly operates in manufacturing industry and is related to product innovation.

Table 2: Industry, innovation types and firm sizes

Industry, %		Types of innovation, %		Firm scale, %	
Manufacturing	40	Product	85	Large	25
Medical/Chemistry	20	Service	5	Medium	25
Food	15	Marketing	5	Small	25
Software	10	Organization	5	Micro	25
Textile	10				
Agriculture	5				

Understanding the Innovative Firms in Izmir

Beginning with the questions of part A, expressions related with innovation in the firm mission, vision and corporate values are listed in Table 3. Being innovation and product oriented are frequently indicated expressions.

Table 3: Innovation and mission, vision, corporate values (A.1.)

Expression	Frequency*	% of firms	% of expressions
Innovation oriented	14	70	15
Product oriented	9	45	9
Novelty	7	35	7
Consumer/Customer oriented	7	35	7
Paying importance to R&D	5	25	5
Presentation of creative solutions/unique ideas	5	25	5

*Expressions having frequency below (5); (4) each; Technology Oriented, Health related innovation, Branding, Being different from competitors (benchmarking), (3) each; Corporate communication, Worldwide existence, Continuity, Sustainability, (2) each; Communication with stakeholders, Human resources, Able to compete with foreign firms in the country, Customization, Organizational innovation, Recognition/familiarness, (1) each; To make life easier, Transparency, Marketing/process innovation, Flexibility, Innovative corporate culture, Quality, Price/cost competitiveness, Fast production.

One participant says that "*Our aim is to offer innovative, distinct, unique products to the market. With this aim, during each of our innovative projects, we ask how we can do even better than the previous ones without limiting ourselves. This is the main value of our firm that differentiates us from our competitors and lead to creative ideas and innovation*".

Table 4 represents basic motivations of firms behind innovation efforts. Firms mention various reasons as being different, first and unique. Additionally, economical purposes are manifested as profitability and being attractive in market. An interesting answer in terms of motivation is from a firm operates in the medical sector which is dominated by imported products. The owner of the firm states that "*Our motivation is to produce these stuff in Turkey. Why don't we manufacture?"*

Table 4: Purpose in innovation activities (A.2.)

Expression	Frequency*	% of firms	% of expressions
Differentiation	4	20	14
Profitability	3	15	11
Producing quality products	3	15	11

*****Expressions having frequency below (3); (2) each; National development, Export, Providing added value, Being first in the market, Productive processes, Unique products, Meeting customer expectations, (1) each; Being attractive in market, Branding, Utility, Avoiding waste food.

Table 5 represents whether firms have a strategic plan and whether there is an area related with innovation in their strategic plan. Accordingly, 65 % of firms have a strategic plan, 45 % have an innovation plan and 30 % have both. 25 % of firms have a research & development (R&D) plan that they can build up their work for the future. Only, one firm has both a strategic plan and a R&D plan. Three firms have an aggregate strategic, innovation and R&D plan. Generally, most of the participants indicate that instead of a rapid growth, taking firm steps forward is more preferable and necessary for sustainable success.

Table 5: Innovation and Strategic Plan (A.3.)

Expression	Frequency	% of firm	% of expressions
Strategic plan	13	65	48
Innovation plan	9	45	33
R&D plan	5	25	19

For part B; Table 6 shows the strengths and weaknesses of firms on innovation activities. Qualified human capital is one of the main strengths according to 45 % of firms. Experience and innovation capability comes the second. Contradictorily, finding qualified human resources and finance support are expressed as both weakness and strength by firm representatives.

Table 6: Strengths and weaknesses (B.1)

	Expression	Frequency	% of firms	% of expression
Strengths*	Qualified human resource	9	45	14
	Experience	7	35	11
	Innovative Studies	7	35	11
	Machine-equipment	5	25	8
	Cooperating with university	4	20	6
	Externally funded projects	4	20	6
Weaknesses**	Qualified human resource	5	25	15
	Number of HR	3	15	9
	Finance-funding support	3	15	9
	Market research	2	10	6
	Literature review	2	10	6
	Qualification of new graduate employees	2	10	6
	Forecasting the added value of innovative product	2	10	6
	Marketing	2	10	6

*Expressions of strength below (4) frequency: (3) each; Continuous improvement, Understanding needs & sector, Speed, Monopoly in specific product, competitive advantage, (2) each; Export, Flexibility, Mastery in theory, (1) each; Producer being in consumer position, Understanding customer demand, Well defined strategy, Having many customers, Worldwide communication, Pilot test of product/service, Communication between employees & top management, Clan culture inside firm, Price advantage, Working in niche subjects, Quality, Brand recognition. Total number of frequency is 66.
**Expressions of weakness having (1) frequency; Understanding customer demand, Planning, Using trial & error method, Perception of organization from outside, Technical risks, Prioritization of project ideas to be actualized, Regression in sector nationally, narrowing market, Relaxed culture in Izmir, Lack of institutionalism, Sectors' not paid attention by HR, Lack of sector specific academic studies, Taking time to develop a product. Total number of frequency is 33.

Table 7 indicates the opportunities and threats that the firms face with. Developing industries are seen as an opportunity by 20 % of firms. Competitors and economic fluctuations are stated as main threats by 30 % of firms.

Table 7: Opportunities and threats (B.2.)

	Expression	Frequency	% of firms	% of expression
Opportunities*	Developing sectors	4	20	9
	Products serving various sectors	3	15	7
	Capacity of creating new ideas	3	15	7
	Qualified Human resources	3	15	7
	Customized product development unlike competitors	3	15	7
	Project funds	3	15	7
Threats**	Competitors	6	30	11
	Economic crisis	5	25	9
	Imitation	4	20	8
	Legal Restrictions	3	15	6
	Low Awareness in Intellectual, Industrial & Commercial Property	3	15	6

*Expressions of opportunities below (3) frequency; (2) each, New generation being open to innovation, Niche market, Monopoly in sector, Doing good marketing, Development in export, Presentation of products off standards, Foreign trade, Low cost production compared to overseas, (1) each; Easy transportation of raw material, Flexible, speedy reaction, Having Intellectual & Commercial Property Right (ICPR), Commercialization of ICPR, No monopoly in sector, Technology use, Competitors not customizing products, not providing renovation service, Increasing number of customers, Nationally commercialized ICPR, Geographical position of country between East-West.
**Expressions of threats below (3) frequency; (2) each; Inability in Marketing, Negative perceptions of firm/product, Affordable equivalent product in international market, Price competition, Cost raise, Low Adaptation Speed, Economic and political landscape of customers, (1) each; Traditionalism, Sector dominance of international firms, Worrying about price getting ahead of quality, Being female in masculine sector, Insufficient human resource, Long-term payments, disorganization of cash flow, Not changing current perception about product, Not getting attraction of customers, Suitcase trade, Adoring foreign firms, Exchange rate fluctuations, Low financial power, Lack of standardization about product, Narrowing sector, Insufficient raw material nationally, Lack of sector specific academic literature, Technical risks about product, Lack of suitable strategy.

For part C, Table 8 shows the responsible mechanism of innovation management. 35 % indicated that the firm owner is responsible for innovation management whereas 25 % stated that CEO or the General Manager is responsible for this task. A team in the top management and R&D department were stated by 20 % each. 15 % pointed to R&D Manager and 10 % mentioned that marketing department performs this responsibility.

Table 8: Responsible authority for management of innovation (C.1.)

Expression	Frequency*	% of firm	% of expressions
Firm owner	7	35	23
General Manager/CEO	5	25	17
Team in top management	4	20	13
R&D Department	4	20	13
R&D Manager	3	15	10
Marketing	2	10	7

*Expressions having frequency below (2); Top Management, Chief Innovation Officer, Information Technology, HR Manager, Everyone inside the firm.

Table 9 summarizes whether there is an appointed manager or a department in dealing with innovation efforts. The vast majority of firms stated that R&D Department engages in innovation and manages innovation process. Moreover, 75 % mentioned that there is either a department or an appointed manager in dealing with innovative activities. 15 % stated that there are project teams whereas 10 % declared the top management that pursue innovation.

Table 9: An appointed manager or department (C.2.)

Expression	Frequency*	% of firm	% of expressions
R&D department	16	80	36
Department or appointed manager	15	75	34
Project teams	3	15	7
Top management	2	10	4

*Expressions having frequency below (2); Commercial team, Tendency to have an innovation manager in future, Food information management, Manager focusing on technology, Gastronomy chief, Family council, Chairman of the Board, Human Resource Manager.

Table 10 shows organizational practices on motivating employees to be more creative and innovative. In general, 40 % stated that in their firms, special organizational tools are applied in order to motivate the staff. Collection and evaluation of employee suggestions via suggestion boxes, digital suggestion kiosks have the highest value; 40 % and 30 % of the responses indicates that material reward is the second highest motivational tool.

Table 10: Practices that motivate creativity and enhance innovation (C.3.)

Expression	Frequency*	% of firm	% of expressions
Collection of suggestions/evaluation	8	40	36
Material reward	6	30	27
Participation in projects	3	15	14

*Expressions having frequency below (3); (2) each; Casual wearing, Brainstorming days, (1) each; Teleworking, Horizontal organization structure, Brotherhood relationship within firm, Graduate education support, Reward with overseas trip.

Table 11 summarizes the sources of innovation. Employee suggestions and customer demands were mentioned as the most significant two sources by 65 % each. 50 % of responses stated the competitors.

Table 11: Sources of innovative ideas (C.4)

Expression	Frequency*	% of firm	% of expressions
Employee suggestions	13	65	23
Customer demand & wants	13	65	23
Competitors	10	50	18
Universities	6	30	11
Suppliers	5	25	9

*Expressions having frequency below (5); Fairs (4), R&D department suggestions, projects (3), Participation in innovation activities (conference, congress, workshop) (2), (1) each; Top management demand, Market knowledge, Symposium, EU projects, Internet.

Table 12 indicates whether firms conduct market research in dealing with innovative activities. More than a half of the responses stated that sector experience is significant to know market conditions. Additionally, 30 % of participants indicated that they do market research. Firms gain marketing knowhow via customer feedback, internet resources, research reports, fair/travel, customer suggestions, focus group and samples.

Table 12: Market research (C.5)

Expression	Frequency*	% of firm	% of expressions
Sector experience	11	55	31
Customer feedback	11	55	31
Internet resources	5	25	14
Research reports	4	20	11

*Expressions having frequency below (4); Fair/Travel (2), (1) each; Sample test, Focus group, Customer recommendation.

Table 13 shows views on collecting innovative ideas. 45 % claimed that they have systematic approach, besides one of the firms indicated that their suggestion evaluation system is the core of their innovation. Generally, firms gather ideas from customers (i.e. complaints, suggestions, consumption patterns).

Table 13: Idea Collection (C.6)

Expression	Frequency*	% of firm	% of expressions
Customer Suggestions or Complaints	12	60	34
Employee Opinions	11	55	31
Brainstorming	5	20	14
Following Competitors	2	10	6
Following the Consumption Patterns	2	10	6

*Expressions having frequency below (2); Annual research reports, Routine meetings, Information from suppliers.

When the participants are asked if there is an evaluation mechanism for new ideas offered by employees, 55 % of them indicated that there is a mechanism for evaluation. The components of the evaluation process are detailed in Table 14. For one of the participants, rewarding is sharing the profit of the idea with the employee.

Table 14: Idea Evaluation and Activation (C.7)

Expression	Frequency*	% of firms	% of expressions
Focusing on finding a solution to an existing problem	14	70	27

Firm owner makes final decision	6	30	12
Evaluating feasibility of ideas	4	20	8
Profitability, value of innovative products in market	4	20	8
Rewarding owner of the succeeded idea	4	20	8
Commission for evaluating Ideas	3	15	6
Evaluation according to market need	3	15	6

*Expressions having frequency below (3); (2) each; Approval of Top Management, Pilot test of applications/products, Routine evaluation meeting, Combining two different ideas. (1) each; Evaluation of technological sufficiency, Evaluating through literature review, Easiness of accessibility to raw material, Evaluation by consumer, Involving marketing and sales departments to evaluation process, Evaluation of executive board.

Table 15 represents the when an innovation project is cut off. In addition, 9 responses indicated that under any circumstances, they do not give up the process. There is a pre-elimination of ideas in 3 firms and 2 firms stated that despite unsuccessful ideas, the projects are brought to a conclusion. One of the firms stated that innovative ideas are turned into projects if the idea is accepted after pre-evaluation of the management, as the pre-evaluation process is related to market research. Another firm that works in medical sector indicated that they had never given up an innovative project until now, though they would give up if the product is harmful for consumers.

Table 15: When to give up innovative projects (C.8)

Expression	Frequency*	% of firms	% of expressions
If; Profitability is low	4	20	19
Customer doesn't like	3	15	14
Market isn't ready	3	15	14
Budget problem	3	15	14
Investment amount is high or return price is not enough	3	15	14

*Expressions having frequency (1); If facilities are insufficient, If designing process can't be completed, If too much industry pressure, If risk is high, If there is a demand against the law of physics.

Table 16, shows the perspectives of participants on future plans on innovation of the firms. Some expressions are related to the sector of the firm indicating sector specialized needs (i.e. benefiting IT technologies in food sector, bringing novelty to medical sector despite conservativeness and resistance to novel products).

Table 16: Future plans of the firms (D.1.)

Expression	Frequency*	% of firms	% of expressions
Designing, producing novel products	14	70	30
Managing innovative projects	11	55	24
Enlarging the firm	3	15	6
Sustainability	3	15	6
Developing a successful team	2	10	4
Maintaining profitability	2	10	4

*Expressions having frequency (1); Bringing novelty to sector (Medical equipment), Producing high-tech products in Turkey, Decreasing monopoly of foreign investments, Cooperation with a European country, Benefiting IT technologies in sector (food), Designing high-tech products, New facilities, investments, Establishing employee bonus system, Developing R&D Center.

Finally, participants were asked their views about the innovative ecosystem of Izmir and 15 of them explained their perspectives. Answers are analysed according to two main criteria;

emphasizing the current situation and the future. Table 17 lists expressions about the current situation.

Table 17: Assessment of innovation ecosystem in Izmir, Current Situation (D.2)

	Expression	Frequency	% of firms*	% of expressions
Negative	Not having a culture supporting innovation	5	33	20
	Negative effect of lifestyle (related to working discipline)	4	27	16
	Lack of effective support between actors	3	20	12
	Lack of qualified human resources	2	13	8
	Technological insufficiencies	1	7	4
	High density of family firms, lack of institutionalization	1	7	4
	Less awareness related with intellectual properties	1	7	4
Positive	Positive effect of lifestyle (openness to change)	2	13	8
	Increase of innovation by triggering university-industry cooperation	2	13	8
	University's creation of added value in the city	2	13	8
	Having a suitable economy structure for city life conditions	1	7	4
	Positive effect of geographical position	1	7	4

*Total number of firms answered the question is 15.

In Table 17, both negative and positive expressions are used regarding culture of Izmir, though the consensus on the negative issues is more precise. Although participants don't conceptualize the culture of Izmir, some indirectly indicate that people live in comfort and not tend to work hard, but some participants define the culture as being open to changes.

Table 18 states the future suggestions about Izmir ecosystem. Generally stated is the need for development. Responses contain the need for increasing innovative activities, efforts, and entrepreneurship, enhancing the role of universities, customizing funding scope, and legislation.

Table 18: Assessment of Innovation Ecosystem in Izmir, Future Suggestions (D.2)

Expression	Frequency*	% of firms	% of expressions
Increase in innovation	4	20	19
Improving entrepreneur culture	3	15	14
Increase in investments, projects	2	10	9
Funding innovative studies	2	10	9
Increasing government support, providing legal flexibility	2	10	9
Increase of cooperation of industry-university	2	10	9

*Expressions having frequency (1); Increase of R&D Centers, Increase of investment from international source, City strategy should be defined according to this, Increase in R&D activities, Triggering innovation by writing success stories, Competitive environment triggering innovativeness.

Related to Table 17 and 18, a participant states that; "*Izmir is so scarce in technology and human capital and the industrialists in Izmir should professionalize. Residents of Izmir must learn to co-work with professionals and universities. University-industry cooperation is*

inevitable for success." Another participant underlines that there is no Izmir-specific market entry barriers for new-comers. Contrarily, life is cheap and transportation is easy. He adds as follows: *"For entrepreneurs, Izmir is like a paradise"*. Finally, the role of universities is indicated by another participant as; "*Izmir is developing with its universities. I believe the potential has increased in recent years, serious investments are taking place*."

5. ASSESSMENT OF FINDINGS

The establishment dates of 20 innovative firms range from 1941 to 2013 and from 2 to 2000 employees and the higher educational background of staff varies among them. Surprisingly, in general, firms have few employees having a Master and Doctorate degree except one firm operating in food industry and has employees holding 15 Master degrees among 2000 employees. OECD (2015) also underlines the association between human capital and innovation in various ways such as; more education fosters innovation, positive relationship between employees also positively affect productivity and growth. As the statistics of national R&D Centers indicate that human resources in R&D departments in Turkey are consistently growing, though the acceleration of total human resources cannot be seen in total number of women working at R&D (MSIT, 2016).

General distribution of employees by gender indicate that the proportion of female staff is lower than male staff except 4 firms. When sectoral distribution of innovative firms in Izmir is analyzed, the results show that 75 % operates in Manufacturing, Medical/Chemistry and Food Industry and there is a fair distribution regarding firm scales. Finally, among other types of innovation, product innovation is predominantly performed by 17 of 20 firms.

Results of part A indicate that top management is generally committed to innovation. 70 % of firms stressed the innovation focus, though the concept of innovation takes place in 35 % of firms' vision and mission which indicate that written documents are not well established. Similarly, more than half of the firms emphasized that they have a strategic plan and 45 % expressed that they have an innovation plan which they can build up their work for the future, and 25 % has a R&D plan, 30 % of firms both have a strategic plan and an innovation plan. Along with tough competition, according to 20 % of firms, the main focus is differentiation and innovation which facilitates differentiation to gain competitive advantage. According to Laosirihongthong et al. (2014), striving for differentiation strategy, is not necessarily lead innovation, though results in building strong network with partners.

Concerning part B, 45 % of firms, the most frequently stated strength in innovation activities is qualified human resources whereas lack of finding qualified staff is one of the expressed weaknesses. This conflict can indicate the variety of perspectives perhaps depending on the cognitive process of top management and also the firm specific properties such as sectors. Perceived strengths are mostly based on corporate expressions such as firm experience. However, weaknesses are mostly related to local issues such as human resources in Izmir in addition to firm specific issues such as lack of gathering data (literature review, market research). Opportunities can be related to; sector, human resource, product specified, access to

resources, technology etc. Weaknesses can also be classified under the same titles, and additively, inefficiency of data mining and marketing.

For part C, firms generally indicate the responsibility of the management in innovation process delegated to various authorities changing from firm owner to marketing staff, though 35 % of participants imply that firm owner is primarily responsible for innovation management. For instance, the owner of a micro-level firm of this study defines the purpose of his firm as making innovation. About enhancing innovative culture in firms, 40 % of participants think that collecting employee ideas generates motivation for innovation. Based on the idea management approach, firms use various resources for creating new ideas, mostly through customers and employees, in parallel with the previous research by Leiponen (2005), with the purpose of solving a problem. Related to idea management, the model of Graham and Bachmann (2004) indicates the origin of ideas in idea generation. Results indicate that ideas are gathered as a solution to a problem, as the participants indicate to be and targeted because the aim is to satisfy the customers. Besides, for data mining about market, firms usually facilitate their own experience and customer feedback.

As the innovative studies begin, participants are asked when to give up a project. Results indicate that the profitability of innovative idea, customer and market demand are the main issues to quit an innovative project. Expressions are indirectly indicating a need for improvement in feasibility analysis. Though some participants underlined that the novel products or services are tested in pilot areas, and giving up decision is made according to the test results. This perspective is not common in participants though carries a great potential in improving the management of innovation.

For part D, the perceptions of the firms about the future of firms and the future of Izmir is asked in two different questions. When a firm indicates the innovative culture of the firm itself, 5 of the participants indicated the negative effect of the culture of the city. This distinction is expressed as “We live in Izmir though we do not work like a citizen of Izmir”. Although the culture of the city is assumed to be open to novelty, the citizens do not tend to work hard for bringing the novelty. Izmir is also a city of having 9 universities, some of them founded in the last 10 years. The third generation university movements are also perceived to be active in the universities in Izmir. Participants indicated the increased attention of universities in the industry, under the title of university-industry cooperation.

6. THEORETICAL AND PRACTICAL CONTRIBUTIONS

Theoretical framework of resource-based view provides a foundation of our comprehending of innovation and its relationship with performance. Innovation is an essential capability as it is associated with valuable, inimitable resources that are crucial for survival, growth and sustainable competitive performance of firms (Barney, 1991). The research also tries to comprehend the capabilities of firms and how they sustain their survival in this hectic business world. Regarding innovation capabilities (Barney, 1991), configuration theories (Miles et al., 1978; Porter, 1980) that analyze the creation of sustainable competitive

advantage (Priem & Butler, 2001) provide strategic and organizational characteristics that lead to superior performance. In this sense, it was critical to understand strategic factors of researched firms that influence their performances. Some of the interview questions are related with generic strategies developed by Porter (1980) pointing cost leadership or differentiation to pursue competitive advantage through innovative products, processes or organizational innovation. Several studies indicate that organizational strategy is also related to innovation (Beyene et al., 2016b). By explaining their innovative efforts in mission and purpose in innovation, firm representatives stressed their organizational strategy. Some studies evaluate innovation as a competitive strategy (Villan et al., 2016), some emphasize that "the heart of creative strategy must be strategic innovation" (Bilton & Cummings, 2010) and underline strategic innovation as new and original. Besides, not only having a strategic plan but also having an innovation plan and R&D plan and various applications of innovative perspectives by some of researched firms bring different views to strategic innovation.

There are a few studies observing the SMEs in Izmir. According to Temel et al. (2011), although SMEs in Izmir are evaluated not to be sufficiently innovation oriented, the researched innovative firms in Izmir showed that they have profound current and future perspectives of innovation. Based on interviews of 20 most innovative firms in Izmir, learning real life situations and seeing staff in live working conditions during performing innovation efforts will help improve the perception of future researchers in this field of study. Comprehending innovative firm perspectives within large, medium, small and micro scales in various industries in Izmir generates a learning region (Perry, 2014) and encourages regional development and innovation approaches. Although R&D is seen as a costly activity and thought that only large size firms can handle that pressure and innovate sustainably, throughout the research, there is an inspiring effect of innovation not only on large scale firms but also on small and micro scale firms. It is seen that even in micro scale firms, innovation can be done in various ways. Learning managerial perspectives of firm officials gave the impression of how they run their firms through an innovation approach. Furthermore, understanding innovation types in business environment, dynamics in various scale organizations, firm capabilities to innovate, how much they are open to change, how they collect ideas, create idea pools, encourage and inspire employees and take advantage of human capital, are critical factors of innovation.

7. CONCLUSION AND SUGGESTIONS

In general evaluation of the researched firms, large scale firms have an R&D Center or they have the focus to establish an R&D Center. Compared to other innovation types such as organizational, service or process innovation, their main focus is on product innovation. In small and medium scale firms, there are different dynamics. Not having an R&D Center or an R&D Department is usual in these type of firms. However, they have other competences in order to differentiate themselves in the market.

The researched firms showed that the competences vary and they change in the way that they fit to the sector. For instance, although one firm serving in food industry does not have an

R&D Center or Department, it is open to change and minimizes the risks by pilot applications. Another firm which has two employees, to better and develop their products, asks for consumers' ideas at least once in a month. The difference between these type of firms and the others is that they know the market very well and communicate with the consumers directly.

Technologically advanced firms such as software firms are also analysed in this research. Generally, it is seen that various products are presented to the market that the firms develop, by adding local values, customizing and designing products according to the needs of the customers. Firms provide different services rather than just providing services by a standard software.

In micro scale firms, it is seen that there is an establishment of business with the purpose of product development by the idea creator. One of the participants is an academician and runs his/her own micro scale firm, indicating a spin-off. The development of a patented product which not only nationally provides added value but also internationally creates a value along with the academic support. Macro scale firms make a difference with their R&D Centers and these firms continuously use their new product development processes.

In a general approach, although employee suggestions are collected, there is no standardized evaluation method. There are various problems expressed by firm officials. For instance, regarding the evaluation of human resources and the ecosystem in Izmir, comments are made due to the insufficient human resources especially in high technology firms. However, in low technology firms based on design and service, they welcome the ecosystem in Izmir positively and find the human resources adequate. The general perception about the culture in Izmir is that people living in the city have a hard time fitting to tough working conditions. This detailed research sheds a light on future studies in this special field of innovation for the researchers, practitioners, policy makers and organizations.

8. LIMITATIONS AND FUTURE RESEARCH

The exploratory research comes with limitations. Only 20 innovative firms are analyzed among 64 establishments. A semi-structured face to face interview technique is preferred during the interview but other techniques or a more statistical method by using Likert scales can be performed. In some establishments, data were gathered in a difficult way due to their location, difficulty in transportation, rearrangement of appointments several times, distractions and noises inside some of the firms. It took approximately 1.5 hours of recording for each firm, in some situations exceeding that time, and the transcription process was a hassle.

For future studies, other innovative organizations in different industries can also be researched. Specifically, in service industry such as the five star hotels, travel agencies, museums or any other service oriented establishments, national or international associations related with innovation can be analyzed in-depth to comprehend their innovative approaches and future trends. This research mainly paid attention to firms which focus on product

innovation but for future research, firms which provide service innovation, marketing innovation and organization innovation can also be considered. According to Izmir Development Agency (2014, p. 114), renewable energy and environmental technology sectors are frequently mentioned in high innovation capacity sectors in Izmir. In this research, although there are firms which have works about eco-innovation, there is no firm directly aiming at the industry and as Diaz-Garcia (2015) stated that it is a young field of research, this specific subject is also open to development in Izmir.

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