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İNOVASYON, GİRİŞİMCİLİK VE YÖNETİM YÜKSEK LİSANS PROGRAMI

YÜKSEK LİSANS TEZİ

THE RELATIONSHIP BETWEEN MANAGEMENT MODELS AND ORGANIZATIONAL INNOVATIVENESS

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ABSTRACT

THE RELATIONSHIP BETWEEN MANAGEMENT MODELS AND ORGANIZATIONAL INNOVATIVENESS

Zayneb Boukari

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Today, acting as a traditional organization is not enough to survive in the marketplace. Organizations have to create new business models and new management models to differentiate themselves from their competitors. They have to innovate in order to adapt with the new path of doing work.

The critical role of management on the creation of an internal environment which fosters organizational innovativeness has been the main emphasis in many studies. Despite of the changing conditions introduced to the contemporary business environment, most organizations are still using the same old practices and adopting the same old principles while designing their management models. Therefore, it is suggested that current management models should be reinvented through combining and smartly choosing the management principles in accordance with the company's organizational objectives to fit to the new competitive environment.

Following this vein of thought, the main purpose of this study is to explore the relationship between four generic management models; namely; discovery model, quest model, science model, and planning model; and organizational innovativeness dimensions; namely, product, market, process, behavioral, and strategic innovativeness. The framework is discussed with reference to the management models suggested by Julian Birkinshaw. In the following sections, first a literature review of the "Management Models" framework and the concept of Organizational Innovativeness will be presented, then the relationship between the four management models and the organizational innovativeness are explained within a conceptual model and then hypotheses are developed.

In the last section of the study, a research on the relationship discussed is put forth. This research had been carried out with the firms of Yıldız Technical University's Techno park through a questionnaire.

As a result of the research, findings supported the view that management models play a significant role in fostering the emergence of organizational innovativeness.

Keywords: Management Model, Innovativeness, Contemporary Management, Modern Management.

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1. INTRODUCTION

The extent of firm innovativeness is considered as a critical component for the success of firms (Hult, Hurley, & Knight, 2009, p. 429).Regardless the degree of turbulence in the market, the management is expected to be innovative, achieve and keep a continuous state of innovativeness (Hult, Hurley, & Knight, 2009, p. 436).

Nowadays being only a traditional organization is not enough to survive in the market; Organizations have to create new business models and new management models to differentiate from their competitors, they have to innovate and aim to be a market leader, they have to shift their organization culture according to their vision and mission, to be an open system and benefit from external environment in order to innovate and adapt with the new path of doing work. Briefly they have to do management innovation to assure an enduring success.

Top managers as administrators play the role of bridge between the organization and the technological environment. They are responsible from introducing changes into the organization and to innovate (Daft R. L., 1978).

The new century came with new challenges that organizations should deal with such as accelerating the path of strategic renewal, creating an engaging work environment, and making innovation everyone's and and every day's job (Hamel, 2007, p. 40).

In comparison with the enormous changes we've witnessed over the past half century in technology, lifestyles, and geopolitics, it is seen that so few evolutions had emerged in the practice of management (Hamel, The Future of Management, 2007, p. 4). Although all the changes in business environment most of organizations are still using the same practices and adopting the same principles.

Some thinkers like Henry Mintzberg argues that management cannot be changed; "Managers deal with different issues as time moves forward, but not with different managing. The job does not change" (Mintzberg, 2009, p. 14). Another school of thought propose inventing a new model. On the other hand, Julian Birkinshaw came with a different view, he thinks that "we need to develop a more comprehensive understanding of what management is really about to make better choices." Therefore, he is suggesting to reinvent management.

Innovation is certainly a necessity to gain a competitive advantage (Cooper & Kleinschmidt, 2000). but the most important thing should be creating a difficult-to-duplicate advantage from innovation because not all innovations are created equally, and this can be achieved through management innovation (Hamel, 2007, p. 34).

For this purpose, in the following chapters, first a literature review of the "Management Models" framework and the concept of Organizational Innovativeness will be presented, In the Third chapter the relationship between the four management models and the organizational innovativeness are explained within a conceptual model and then hypotheses are developed.

After the literature review, the research methodology is introduced then the findings of the research are presented. The final chapter consists of the discussion and the conclusion of this research.

2. MANAGEMENT MODEL AND MANAGEMENT INNOVATION

The market conditions today generate many dilemmas to companies they have to deal with; Fierce competition, tight margins, increasing bargaining power of customers and suppliers, high employee turnovers, constricted innovation scope, fast and professional imitators and copycats and more. Therefore, differentiating from other companies is a necessity, and the best way must be differentiating and building competitive advantage through management model innovation because it is the hardest innovation to imitate, an enduring and valuable one.

Managers have to take cognizance of improving management practices as much as they do for developing new product and services (Birkinshaw, 2012, p. 25). Nowadays managers' most important task is no anymore managerial functions and the company effectiveness, it is the challenge to build a sustainable competitive advantage.

The new management model is expected to make companies consisting of more freedom, empowerment, engagement, and more innovation rather than companies with exaggerated control, guidance, and obedience (D'Amato, 2015, p. 34).

According to Daft (2008), " Today's best managers give up their command-and-control mind-set to focus on coaching and providing guidance, creating organizations that are fast, flexible, innovative and relationship-oriented". They have to put people at the center by adopting a bottom up perspective to get the most out of the organization's employees (D'Amato, 2015, p. 30). However, traditional managers face difficulties to shift to new ways of managing because they are used to be in charge, make all decisions and know everything about their subordinates' work (Daft R. L., 2008, p. 23).

2.1 Definition of Management Model

In the last decade with the revolution of technology and the increasing role of innovation, some terms that may be existed before had gained more importance. One of these terms is the business model.

A business Model articulates the logic of how a business creates and delivers value to customers. It is designing the architecture of revenues, costs, and profits associated with the business enterprise delivering that value (Teece, 2010, p. 173).

Business models became the point of interest of many business strategists and is considered as key path to competitive advantage, therefore they are trying hard to develop it and focusing on innovating it. But even a good and innovative business models is not enough to assure a competitive advantage since it is easy to imitate.

Therefore, as Julian Birkinshaw (2012) said, "...asking, what is your management model, is as important as asking what is your business model."

"A Management Model is the choices made by the executives of a firm regarding how they define objectives, motivates effort, coordinate activities, and allocate resources—in other words, the definition of how work of management gets done." (Birkinshaw, 2012).

In other words, a management model is the choices expressed by the managers regarding decisions, systems, procedures, people and organizational structure (D'Amato, 2015, p. 29).

Alike the business model that is a conceptual model designing the "what" and "why", The management model helps defining the "how" and the principles of the organization and its practices and then it is affecting the organizational culture.

2.2 Importance of Management Innovation

Nowadays being only a traditional organization is not enough to survive in the market; Organizations have to create new business models and new management models to differentiate from their competitors, they have to innovate and aim to be a market leader, they have to shift their organization culture according to their vision and mission, to be an open system and benefit from external environment in order to

innovate and adapt with the new path of doing work. Briefly they have to do management innovation to assure an enduring success.

Management models and organizational forms change over time to meet new needs. Therefore, managers are always on the lookout for fresh ideas, innovative management approaches, and new tools and techniques (Daft R. L., 2012, p. 31). But only if the management innovation is based on a novel principle that challenges management orthodoxy, and if it is part of an ongoing program of inventions, it can be able to create a sustainable competitive advantage (Hamel, 2007, p. 2).

2.3 Dimensions of Management

Many definitions had been given to management, one of the most popular definition of management is that management is about how we get work done through others.

Management is often described as "the process of reaching organizational goals by working with and through people and other resources" (Fulmer, 1988, p. 4).

Another definition of management is that "Management is the attainment of organizational goals in an effective and efficient manner through planning, organizing, leading and controlling organizational resources." (Daft R. L., 2012, p. 6).

It can be concluded that managers are responsible for the processes of getting activities completed efficiently with and through other people and setting and achieving the organization's goals by executing four basic management functions: planning, organizing, leading, and controlling.

Many management writers have defined the activities of management in different words but the perspectives are already the same. In general, the most famous definition of management functions is that managers are responsible for planning, organizing, leading, and controlling. In fact, all these approaches to management activities can be considered as traditional, the continuously changing market conditions is requiring a new approach or new approaches.

As mentioned before, management model is about making choices of 4 dimensions, defining objectives, motivating effort, coordinating activities, and allocating resources.

This management model suggested by Julian Birkinshaw define 4 dimensions of management that should be reinvented in order to make management an agent of economic progress, more effective and more responsive to the changing world.

1. Setting Objectives,
2. Motivating employees,
3. Coordinating activities,
4. Making and communicating decisions

Birkinshaw did not included the controlling function because he assumes that controlling should be cut across all four activities.

The framework in the figure below highlights the four dimensions of management that represent the processes and practices and the principles that underlay the actions of each dimension.

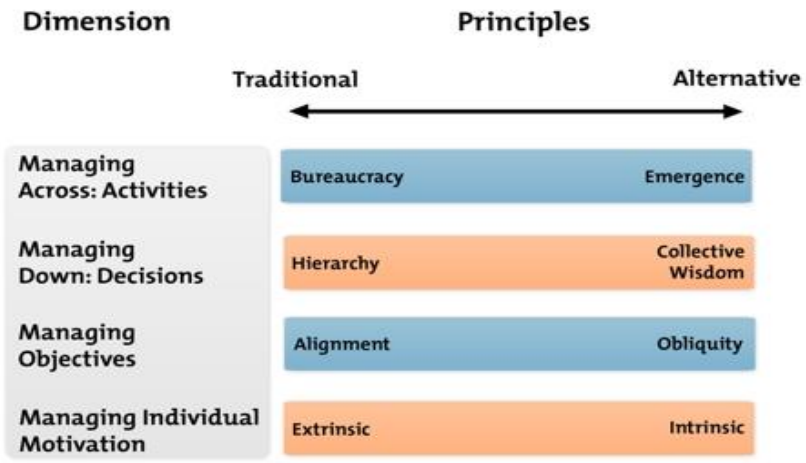

Figure 1: The Four Dimensions of Management

Julian Birkinshaw, ***Reinventing Management*** (San francisco:Jossey-Bass, 2012),38.

In order to reinvent the four dimensions and allow the manager make smarter choices during the management process each dimension was considered in two divergent principles.

The first represent principles that are customary and firms are using insinuatingly for long time, they can be labelled as traditional principles. The second is the alternative principle that has been talked about for a long time and day after day start to be adopted (Birkinshaw, 2012, p. 37).

In all four dimensions, the principles on the left side of the spectrum are all well know and can be considered as the "traditional" model of management. But this characterization should not be viewed negatively because this model worked well for many successful companies. In order to change managers have to well understand the spectrum and make more conscious decisions (Birkinshaw & Goddard, 2009, p. 84).

In order to reinvent management and change management processes and practices, the management principles should be well understood. A framework is developed to enable managers diagnose their management model and define the choices made about their management practices. The framework consists of the four main principles of management; setting goals, motivating employees, coordinating activities, and making decisions dimensions. For each dimension traditional and alternative principles were identified (Birkinshaw, 2012, p. 52).

The biggest challenge of every manager is to understand the relative benefits for each principle, to evaluate the appropriate one or even the best combination and to envision and experiment with new approaches (Birkinshaw, 2012, p. 84).

2.3.1 Coordinating Activities

In this dimension two poles were defined, bureaucracy and emergency, the managers are delivering the activity of coordinating by choosing or unconsciously adopting bureaucracy principles or emergency principles, this dimension reflects choices about how activities are coordinated in the company.

Bureaucracy is "a mean of coordinating economic activity that relies on formal rules and procedures to ensure conformity of behavior and to generate consistent outputs (Birkinshaw, 2012, p. 38).

The bureaucratic organizations approach is credited to the German theorist Max Weber who introduced most of its concepts.

Weber argued that organizations should rely on formal structures and positions instead of particulars because rational authority is necessary for changing and being adaptable (Daft R. L., 2008, p. 38). But if the company's main objective is innovation then emergence as an alternative principle for coordination is more worthy and valuable than bureaucracy (Birkinshaw & Goddard, 2009, p. 85).

As an alternative management principle emergence is all about a spontaneous order where the guiding structure are defined and employees coordinate activities by themselves but in accordance with the guiding structures (Birkinshaw, 2012, p. 60).

In fact, the emergence principle even if it is placed on the opposite side of bureaucracy it does not mean unformal structure or a chaos in the coordination activities but it is more about a structured self-organizing.

In the coordination spectrum it is not necessary to choose one pole and principle and there is no right solution, managers should make choices that depends on their companies' situation and circumstances.

2.3.2 Making and Communicating Decisions

Although decision making is a part of everyone's life, it is particularly an important function of managers. Almost every management action involves decision making. Some authorities have even asserted that decision making is management, and that the job of managing is actually the job of making decisions. Others, although admitting that the process is present in almost every management function, are less willing to state that any one component is the whole of an activity (Fulmer, 1988, p. 46).

The spectrum of Making and Communicating Decisions dimension is indicating two principles. Hierarchy as a traditional principle and Collective Wisdom as an alternative principle.

Decision making or resource allocation generally is traditionally managed through the principle of hierarchy; the notion that managers have legitimate authority over their subordinates (Foss, Saebi, 2015, 93). But in the recent years, managers are moving to the right pole of the spectrum and started paying more attention to the collective wisdom.

The alternative principle, collective wisdom, suggests that under certain conditions the aggregated expertise of a large number of people can produce more accurate forecasts and better decisions than those of a small number of experts (Birkinshaw, 2012, p. 90).

Cognitive diversity is about assembling a diverse group of people with different degrees of knowledge in order to make major decisions and benefit from the

collective wisdom emerging throughout. A decision made by a diverse and uniformed group would be better than a decision made by only one person even though his own smartness and expertise (Surowiecki, 2005, p. 31).

The assumption of hierarchy is that the top manager or the boss knows best and have more wisdom and expertise than its subordinates, but adopting this principle in the making decision function and ignoring the contribution of the collective intelligence of the employees must be a big loss for the organization. Managers are surely expected to take decisions and make critical choices but using collective wisdom enable them make smarter choices.

2.3.3 Setting Objectives

This dimension is about the way managers set their organizational goals through. Two principles are defined, Alignment which is the widely used traditional way. And the alternative principle is to manage objectives obliquely—to set one's sights on goal A and, in the process of pursuing A, to arrive at a worthwhile goal B (Birkinshaw & Goddard, 2009, p. 83).

"Alignment is simply the adjustment of an object in relation to other objects. In the business context, the principle of alignment means that all employees are working toward the same common objective" (Birkinshaw, 2012, p. 121). While the oblique principle that was first introduced in the business context by John Kay suggests that goals are best achieved when pursued indirectly:

"Paradoxical as it sounds, goals are more likely to be achieved when pursued indirectly. So the most profitable companies are not the most profit-oriented, and the happiest people are not those who make happiness their main aim. The name of this idea? Obliquity" (Kay, Obliquity, 2004, p. 1).

The oblique principle gains more importance for complex companies operating in a turbulent and unpredictable environment. Companies that choose pursuing goals directly and adopt alignment are often successful if they are small and operates in a predictable business environment (Birkinshaw, 2012, p. 121)

Obliquity approach is appropriate when there is complex systems and uncertain environment, and whenever the effect of our actions depends on the ways in which others respond to them. Directness on the other hand can be adopted in a stable environment, where objective are one dimensional and transparent, and goals

achievement control is possible (Kay, Obliquity, 2012, p. 8). Therefore, the contextual and environmental characteristics of an organization are expected to influence the adoption of the appropriate approach.

In the goal setting principle, managers can adopt different approach according to their environment, they can simply and directly set a short-term financial goal and ask the employees to align around it, this is the traditional principle. Or choose to obliquely setting goals and define an indirect goal, creative goal or a leap of faith goal.

The indirect goal is a stepping-stone toward the end goal, even though the uncertainty of the creative goal, employees are intrinsically motivated and aim to achieve for their own sake. While the ultimate objective of these two approaches of setting goals is making profits for its shareholders, the leap of faith approach assumes that all the company stakeholders are independent with one another and should be considered the same without any hierarchical ordering.

In modern companies, both principles can be used, it depends only on the environment and the firm nature. If the business environment is stable and predictable the principle of alignment is appropriate, but if the business environment is uncertain and dynamic then the obliquity principle is more accurate (Birkinshaw, Reinventing management, 2012, p. 143). Again, it is the manager's job to define which principle is accurate.

2.3.4 Motivating Employees

This dimension is about managing individuals and motivating them through two main principles. Extrinsic and intrinsic motivations.

"Creative employees like scientists, inventors, and designers are not always attracted by traditional incentives as titles and promotion. They seek creativity, freedom to innovate, and recognition for their breakthrough innovation." (Gupta, 2009, p. 292).

Employees can be motivated intrinsically or extrinsically, if they are motivated intrinsically then the source of motivation is the interest or the satisfaction they get from doing this work. If extrinsically then the source of motivation is material reward and external incentives (Casebourne, 2014, p. 8).

The extrinsic motivation which is considered as traditional because it is the most adopted through material rewards, coercion or even the threat of punishment or deductions is no more enough to encourage employees. Nowadays, people are seeking for another type of satisfaction in work.

Intrinsic motivation refers to the enjoyments and the pleasant sentiments a person feel when a complex task is accomplished, or particular action is performed, or a personal mission is achieved (Daft R. L., 2008, p. 442).

Some people are more strongly driven than others by the enjoyment and sense of challenge in their work (Amabile, 1997, s. 40). The most talented and innovative employees are looking for intrinsic motivation like satisfaction from the work itself and are rarely motivated extrinsically by material rewards such as money and benefits, or even praise and recognition (Daft R. L., 2012, p. 467).

Highly creative employees are the key component for organizational innovativeness (Gupta, 2009, p. 290). Therefore, a manager looking for innovation is more concerned with intrinsic motivation techniques.

Employees needs had changed, furthermore the material expectations and social expectations like recognition or belonging needs they are aiming to do a work they love. But still moving completely to the right side of the spectrum and adopt only the intrinsic principle is not possible. Here reveals the manager's responsibility and challenge to find the right combination to manage employees and encourage them.

2.4 Four Models of Management

Defining the key dimensions of management is important for making choices and understanding the principles, but the most important is to put this dimensions together and apply these principles in combination to identify coherent patterns of activities that will generate "management models". Such an approach can offer companies an analytical and perspective power to use their management model as a source of competitive advantage (Birkinshaw & Goddard, 2009, p. 87).

In order to help companies pointing out their current position and to make more conscious choices for changing their management model, a framework of four management models was generated. The management models are applicable for the overall company as for a particular unit or project.

The framework below highlights the four management models. Each axis' scale runs from tight to loose with the traditional principles of management at the tight end and the alternative principles of management at the loose end. The Horizontal axis refers to the means of management (coordinating activities, making decisions); the vertical axis refers to the ends of management (setting objectives, motivating people) (Birkinshaw, Reinventing management, 2012, p. 173).

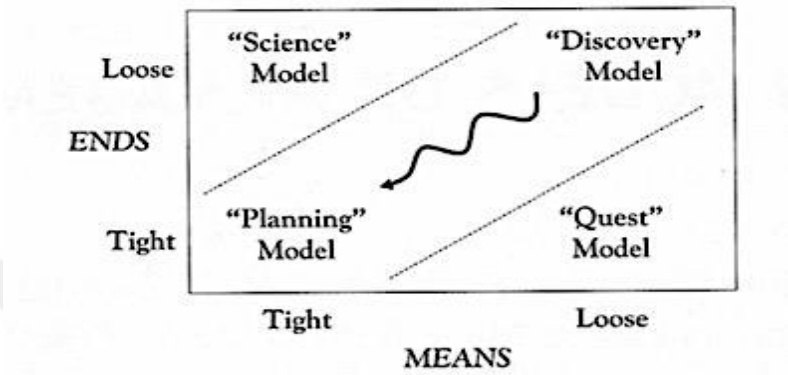

Figure 2: Management Model Framework

Julian Birkinshaw, ***Reinventing Management*** (San francisco:Jossey-Bass, 2012),174.

In order to simplify it the framework below present the four management models according to the principles.

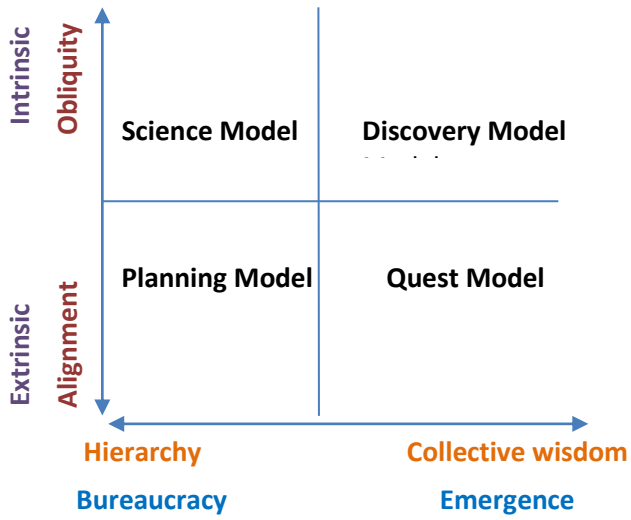

Figure 3: The four Management Models

Julian Birkinshaw, ***Reinventing Management*** (San francisco:Jossey-Bass, 2012), adapted from 174.

2.4.1 The Discovery Model

The discovery Model suggests loosen up both the management means and ends. The quest model is suitable for start-up ventures and small and medium businesses operating in an ambiguous, uncertain, and fast changing environments or for a particular units or project in large and established companies. Even if it is faced to chaos, this model can be effective for certain activities like for the Silicon Valley (Birkinshaw, Reinventing management, 2012, p. 183).

2.4.2 The Planning Model

This model is more adopted in mature industries where work is conducted in a linear manner and where the degree of predictability of the market evolutions is high (Birkinshaw, Reinventing management, 2012, p. 191). In this model companies tend to rely on formal rules and structures and be more bureaucratic, Decision making or resource allocation generally is traditionally managed through the principle of hierarchy. Organizational goals are traditionally achieved directly, and managers use extrinsic ways to manage their employees and motivate them.

Nevertheless, companies using this model when faced to some disruptive changes tend to develop more flexible bureaucracies to have additional freedom and sometimes are forced to combine intrinsic approaches with extrinsic ones (Birkinshaw, Reinventing management, 2012, p. 191).

2.4.3 The Quest Model

In this management model bureaucratic and hierarchy elements are eliminated, “means” are loosen up and “ends” are tightened; Mangers in this model is setting clear organizational goals and encourage employees to reach these objectives through a variety of means, in other words employees are told what to do but not the how and the way to do it (Birkinshaw & Goddard, 2009, p. 88).The quest model is useful for established and growing companies operating in a competitive arena and aiming to do different things (Birkinshaw, Reinventing management, 2012, p. 194).

2.4.4 The Science Model

The Scientific model is suggesting tight means and loose ends with formal rules and structures, authority in decisions and with intrinsic motivation approach and

obliquity in achieving goals. The application of this model is limited because it is relatively unusual in the corporate environment (Birkinshaw, Reinventing management, 2012, p. 175).

3.ORGANIZATIONAL INNOVATIVENESS

3.1 Innovation and Innovativeness Concepts

Even though the critical differences between creativity and innovation, these two terms are often used interchangeably in the literature, as it can be resulted from the now widely accepted definition of innovation equaling creativity plus (successful) implementation, creativity is the departure of innovation and a crucial and essential building block for it (Von Stamn, 2008, p. 1). Amabile et al. (1995) differentiate between creativity and innovation by defining creativity as " the production of novel and useful ideas in any domain » and the innovation as " the successful implementation of creative ideas within an organization ». Creativity operates especially on the individual level, while innovation operates much more on the group and organizational levels, but they are necessary for each other (McLean, 2005).

Even though the fundamental differences between creativity and innovation, these two concepts are often used interchangeably. As it can be resulted from the now widely accepted definition of innovation equaling creativity and plus (successful) implementation, creativity is an essential building block for innovation (Von Stamn, 2008, p. 1). Creativity is the departure of innovation and its most crucial part.

According to Van de Ven and Poole (2000), innovation is the development and implementation of people's new ideas through interacting with others within an institutional context.

"An Innovation is the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relation." (OECD, 2005, p. 46).

3.2 Organizational Innovativeness

Without regarding the level of market turbulence in which a firm is operating, innovativeness is a crucial determinant and a tool to achieve business performance (Hult, Hurley, & Knight, 2009, p. 436). According to Cooper and Kleinschmidt (2000), firm innovativeness is absolutely necessary to excel its competitors, and achieve firm performance.

Many definitions of organizational innovativeness had been developed in previous researches. One widely used definition consider Innovativeness as the firm's propensity to introduce and support new ideas, novelty, experimentation, and creative processes that may result in new products, services, or technological processes (Yusof, 2010) It also refers to " a firm's capacity to engage in innovation; that is, introduction of new processes, products, or ideas in the organization" (Hult, Hurley, & Knight, 2009, p. 429).

Weerawardena (2003) defines organizational innovation as ;

"An organizational innovation is the implementation of a new organizational method in the firm's business practices, workplace organization or external relations."

Wang & Ahmed (2004) defined the organizational innovativeness as "an organization's overall innovative capability of introducing new products to the market, or opening up new markets, through combining strategic orientation with innovative behavior and process". (Wang & Ahmed, 2004)

3.3 Innovativeness' Dimensions

Many typologies of innovation were suggested in the literature. There are three widespread typology and distinguish a pair of types of innovations: Administrative and technological, product and process, radical and incremental. (Damanpour & Aravind, 2012)

Administrative innovations are defined in the "dual-core model" typology proposed by Damanpour et al. (1989) as the introduction of a new management system, administrative process, or staff development program. Recently administrative innovations are referred to as management innovations defined by Hamel as anything that changes management practices, or modifies traditional organizational forms and by implication enhances organizational performance.

Technological innovations are technology-based product and process innovation. They can be the adoption of a new idea pertaining to a new product or service, or the introduction of new elements in an organization's production process or service operations (Damanpour, 1991).

Another typology was proposed by Schumpeter, he categorized innovation as radical that give rise to great disruptive changes, and incremental innovations which is about making small changes and adjusting the existing products, services or processes (Von Stamn, 2008, p. 8). Schumpeter (1934) proposed five types of innovations : (1) The introduction of a new good ; (2) The introduction of a new method of production ; (3) The opening of a new market ; (4) The conquest of a new source of supply of raw materials or half-manufactured goods ; (5) The creation of new market structures in an industry.

The Oslo Manuel (2005), distinguishes four types of innovations; product innovations, process innovations, marketing innovations and organizational innovations.

"A product innovation is the introduction of a good or a service that is new or significantly improved with respect to its characteristics or intended uses.

A process innovation is the implementation of a new or significantly improved production or delivery method. This includes significant changes in techniques, equipment and/or software.

A marketing innovation is the implementation of a new marketing method involving significant changes in product's design or packaging, product placement, product promotion or pricing."

Hamel (2007) suggested a different typology of innovation and aligned innovation forms in a hierarchy according to the level of value-creation and competitive defensibility, so that at the base of the pyramid operational innovation, then product and service innovation, strategic innovation and on the top management innovation with the highest level of value-creation and competitive defensibility.

Various researches handled innovation narrowly and often as an unidimensional construct for this reason, Wang & Ahmed after scanning the literature (Table 1) and came with a multidimensional conceptualization of organizational innovativeness taking all the underlying factors of the overall organization into consideration and

distinguished five innovativeness dimensions; (1) Product Innovativeness; (2) Market Innovativeness; (3) Process Innovativeness; (4) Behavioral Innovativeness; (5) Strategic Innovativeness (Wang & Ahmed, 2004).

Table 1: Dimensions of Organizational Innovativeness

Author	Product	Market	Process	Behaviour	Strategic
Schumpeter(1934)	X	X	X		
Miller and Friesen(1983)	X		X	X	X
Capon et al.(1992)		X			X
Avlonitis et al.(1994)	X		X	X	X
Subnamarian and Nilakanta(1996)			X		
Hurley and Hult(1998)				X	
Rainey(1999)				X	X
Lyon et al.(2000)	X		X		
North and Smallbone(2000)	X	X	X	X	

Wang, C. L., & Ahmed, P. K., "The Development and Validation of the Organizational Innovativeness Construct Using Confirmatory Factor Analysis", **European Journal of Innovation Management.** v.7 n. 4 (2004): 303-313, p. 304.

According to Wang & Ahmed (2004) ;

(1) Product Innovativeness refers to "the novelty and meaningfulness of new products introduced to the market in a timely fashion".

(2) Market Innovativeness is defined as "the newness of approaches that companies adopt to enter and exploit the targeted market".

(3) Process Innovativeness means "the introduction of new production methods, management approaches, and technology for the improvement of production and management processes".

(4) Behavioral Innovativeness is about "an organization's behavioral proclivity or willingness to change".

(5) Strategic innovation is defined as the identification of gaps such as a customer segment, a customer need, or a way of producing, delivering or distributing products

that is new or existing but neglected or not realized by competitors and use this gaps to grow and become the new mass market (Markides, 1998). Wang and Ahmed (2004) refer to Strategic Innovativeness as "an organization's ability to manage ambitious organizational objectives in order to stretch or leverage resources creatively".

Product and market innovativeness are both market-based, connected to each other, and inter-twined for this reason they are often studied as product-market innovativeness (Wang & Ahmed, 2004, p. 305). In this study too product and market innovativeness were considered as one construct.

These five dimensions together are inter-linked and represent the organization's overall innovativeness. Product and market innovativeness are two inter-twined dimensions and are externally focused and market-based while process and behavioral innovativeness are internally focused (Wang & Ahmed, 2004). The strategic innovativeness is considered with internal and external processes.

4. CONCEPTUAL MODEL AND THEORETICAL FRAMEWORK

This study attempts to discover the nature of relationships between the four management models and the types of organizational innovativeness, treating them as the main constructs.

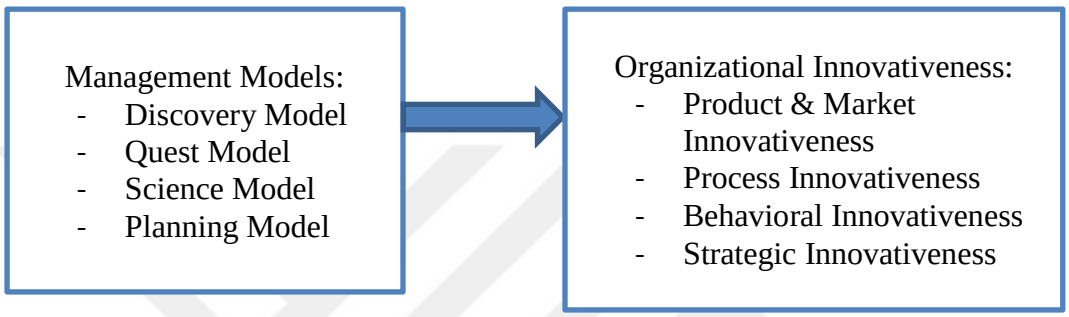

Figure 4: The Conceptual Model

The underlying assumption of this stream of research is that organizational innovativeness is facilitated and influenced by practices and principles of the management model in terms of specific principles related to coordination, decision making, setting objectives and motivation principles. More specifically it is discussed here that certain principles in each management model impact the emergence of certain innovativeness types.

The new business conditions compels firms to adopt an entrepreneurial and innovative behavior through creating new structures and different decisions-making protocols and being more responsiveness, make decisions faster and benefit from innovation. (Teece, Firm organization, industrial structure and technological innovation, 1996, s. 201)

The literature suggests that organizational innovativeness can be influenced by individual(Organizational leaders), organizational, and environmental factors (Kimberly & Evanisko, 1981).

The organizational influences, especially the structural variables are considered as the primary determinants of innovation (Damanpour, 1991, p. 557).

In line with Burns and Stalker's model of organic and mechanical types of organization, the role of organizational characteristics in fostering or suppressing innovation have been the subject of many studies. (Hull & Hage, 1982) Harold (2000) assert that especially in uncertain and turbulent environment conditions, organic forms fosters organizational innovation.

One of the contemporary management model is the quest model, in this model, emergence, collective wisdom, aligned goals and extrinsic motivation practices are dominant.

Today managers tend to involve people throughout the organization, decentralize planning in order to let people understand the goals and plans and adopt them (Daft R. L., 2008, p. 178). Clegg et al.'s (2002) study argue that people are more likely to make efforts to innovate when they feel themselves trusted and empowered. Ellonen et al.'s study also suggest that different types of trust contribute to the emergence of organizational innovativeness. Specifically, the study argues that building both interpersonal and impersonal organizational trust especially, positively affects the behavioral innovativeness. On the other hand the positive impact of impersonal and institutional trust on all dimensions of organizational innovativeness is underlined (Ellonen, Blomqvist, & Puumalainen, 2008, p. 177).

The result of several related studies show that both centralization and formalization conduct to restriction in creativity and innovation (Ekvall, 1999, p. 410) and that employee innovation and learning is limited and restricted when formal plans are dictated by top executives (Daft R. L., 2008, p. 175).

According to McKnight and Chervany (2001) trust-related behavior can be outlined in more cooperation, information sharing, informal agreements, decreasing controls, accepting influence, granting autonomy, and transacting business.

Especially emergence and collective wisdom principles in the management models can be considered as trust-related behaviors because executives adopting these principles are reducing the controls and rules, accepting influence of subordinates and granting them more decision-making power and autonomy.

Following this line Semerciöz et al. (2011) highlight the importance of institutional trust to organizational innovativeness and find that organizational trust had a positive effect on process innovativeness, followed by behavioral, product and strategic innovativeness.

Coordinating activities by emergence and using collective wisdom in the making decisions process are the main principles of the quest management model.

Therefore, it can be asserted that:

H1: Quest management model, especially coordination, decision making related principles, fosters the emergence of behavioral innovativeness.

H2: Quest management model, especially coordination, decision making related principles, fosters the emergence of process innovativeness.

H3: Quest management model, especially coordination, decision making related principles, fosters the emergence of strategic innovativeness.

It is also argued that more participative team structures play an important role to promote the development of high-quality new product (Olson, Walker, Jr., & Ruekert, 1995, p. 59).

H4: Quest management model, especially coordination, decision making related principles, fosters the emergence of product innovativeness.

One of the widely adopted management model is the traditional planning model characterized with centralized decision making, formal organizational structures, aligned direct goals and an extrinsic motivation approach.

Especially in stable and predictable environments, some degree of formalization and centralization in decision making may enhance the organizational ability to implement innovation (Harold, 2000, p. 153).

Olson et al. (1995) found that more efficient new product development processes can be associated with more bureaucratic approaches. Process innovativeness is concerned with the introduction of new production methods, new management approaches and new technology that can be used to improve production and management processes (Wang & Ahmed, 2004).

In this model's organizational conditions especially incremental innovations in the product and process levels might arise.

Therefore, it is suggested that;

H5: Planning management model, especially coordination and decision making related principles, fosters the emergence of process innovativeness.

H6: Planning management model, especially coordination and decision making related principles, fosters the emergence of product innovativeness.

The science management model, is characterized with bureaucratic and formal rules and at the same time with oblique goals and intrinsic motivation. It uses tight and standardized procedures, but it encourages employees to seek new ways of delivering.

Especially in creative and science-based works, where scientific progress, critical acclaim and peer review is as important as commercial objectives, setting creative goals of the obliquity approach is more appropriate (Birkinshaw, Reinventing management, 2012, p. 131). Because, scientists, inventors and designers are more intrinsically motivated than extrinsically and prefer creativity, freedom to innovate and recognition (Gupta, 2009, p. 192).

McGraw (1978) proposed that simple and straightforward tasks can be enhanced by extrinsic motivation while in creative, open-ended, and complex tasks where search is required this motivation approach may result in adverse performance effects.

"Creative employees like scientists, inventors, and designers are not always attracted by traditional incentives as titles and promotion. They seek creativity, freedom to innovate, and recognition for their breakthrough innovation." (Gupta, 2009, p. 292).

Creativity cannot be achieved through orders, it is relying on intrinsic motivation, inspired, knowledgeable and enthusiastic individual and teams (Von Stamn, 2008, p. 3) Those are committed to the organization and are expected to create an innovative culture within it.

Therefore, it is suggested that;

H7: Science management model, especially setting objectives and intrinsic motivation related principles, fosters the emergence of behavioral innovativeness.

Even though the bureaucracy and hierarchy prevalent in the science model the extent of freedom given to employees through obliquity principle and the intrinsic motivation of employees are more predominant and allow this model in fostering organizational innovativeness.

Especially in an organization with a high behavioral innovativeness, the overall organizational innovativeness can be emerged because this organization has an innovative culture enabling all types and forms of innovations. For this reason, it can be suggested that,

H8: Science management model, especially setting objectives and intrinsic motivation related principles, fosters the emergence of product innovativeness.

H9: Science management model, especially setting objectives and intrinsic motivation related principles, fosters the emergence of process innovativeness.

H10: Science management model, especially setting objectives and intrinsic motivation related principles, fosters the emergence of strategic innovativeness.

Especially if the managerial level is characterized with behavioral innovativeness, then managers will be more interested and willing to make strategic innovations.

Strategic innovativeness is considered to be the difficult innovativeness type to be achieved, especially for large established companies, it is a hard challenge for managers to create and design an innovative culture that promote a questioning attitude within the organization (Markides, 1998).

In the discovery model, emergence, collective wisdom, obliquity, and intrinsic motivation approaches are found to be highly relevant.

Employees are more likely to be creative when they are primarily intrinsically motivated, by the interest, enjoyment, satisfaction, and challenge of the work itself (Amabile, 1988).

It is argued that creativity goals enhance innovation because creativity is a key skill for innovation activities. The long-term productivity and innovativeness of organizations are achieved when the creative behavior is increased (Shalley, 1995).

On the other hand, as explained before as a trust-related behaviors emergence and collective wisdom fosters the organizational innovativeness. Thus, it can be hypothesized that;

H11: Discovery management model, especially coordination, decision making, setting objectives and intrinsic motivation related principles, fosters the emergence of behavioral innovativeness.

H12: Discovery management model, especially coordination, decision making, setting objectives and intrinsic motivation related principles, fosters the emergence of process innovativeness.

H13: Discovery management model, especially coordination, decision making, setting objectives and intrinsic motivation related principles, fosters the emergence of strategic innovativeness.

H14: Discovery management model, especially coordination, decision making, setting objectives and intrinsic motivation related principles, fosters the emergence of product innovativeness.

The table below summarize the hypotheses and show the expected affecting principles for each management model and the expected affected innovativeness types.

Table 2: Hypothesis Summary

Management Model------Affecting Principles		Innovativeness Type
Quest Management Model	-Coordinating activities principle: Emergence -Decision making principle: Collective wisdom	Behavioral
		Process
		Strategic
		Product
Planning management model	-Coordinating activities principle: Hierarchy -Decision making principle: Bureaucracy	Process
		Product
Science management model	-Setting objectives principle: Obliquity -Motivating employee principle: Intrinsic motivation	Behavioral
		Product
		Process
		Strategic
Discovery management model	-Coordinating activities principle: Emergence -Decision making principle: Collective wisdom -Setting objectives principle: Obliquity -Motivating employee principle: Intrinsic motivation	Behavioral
		Process
		Strategic
		Product

5. METHODOLOGY

5.1 The Research Aim and Importance

This study attempts to discover the nature of relationships between the four management models and the types of organizational innovativeness, treating them as the main constructs.

The underlying assumption of this stream of research is that organizational innovativeness is facilitated and influenced by practices and principles of the management model in terms of specific principles related to coordination, decision making, setting objectives and motivation principles. More specifically it is discussed here that certain principles in each management model impact the emergence of certain innovativeness types.

In order to survive under such dynamic and turbulent market circumstances, organizations have to obtain a sustainable innovative organizational environment.

Organizational innovativeness is a key component for the firm performance. Because of the fierce competition that organizations face in all industries, organizations are obliged to adopt new management principles that promote innovation within the organization. Traditional management models are no anymore effective in the new business environment and order. Therefore, shifting to new management principle, and making smart and right choices while combining them to create the appropriate management model is the hardest challenge facing the managers. From this point of view, conducting a research about the contemporary management principles and models can be evaluated as the major important theoretical aspects of the study.

Besides the theoretical contribution, the effort of the study is to draw a frame for the principles and management models that promote organizational innovativeness and by implication the organization performance can be considered as a practical contribution.

5.2 The Research Scope and Method

5.2.1 The Research Method

In this study, quantitative survey is conducted in order to measure the relationship between management models and organizational innovativeness. Data collection is based on primary data, questionnaires first were translated to Turkish.

5.2.2 Sampling Design

The population of the study is firms of Yıldız Technopark. Yıldız Technopark was founded in 2003 and is hosting nearly 234 firm.

The study was focused on the firms of Yildiz Technical University Techno Park. In order to measure the variables accurately, the main sample consists especially of a managerial level represented by general managers or founders of the firms.

A Total of 150 sets of questionnaire were distributed and 90 questionnaires were collected. However, among these 90 questionnaires 10 cases were not complete and only 80 respondents were set as the sample size in this study.

5.2.3 Questionnaire Design

The questionnaire was divided into three (3) sections, namely Sections A, B, and C.

All the variables that measure the tested constructs were listed in section A, B, and C of the questionnaire.

All the tested constructs were measured by a multiple-item six-point summated rating scale (1= Completely Disagree; 2= Disagree; 3= Almost Disagree; 4= Almost Agree; 5= Agree; 6= Completely agree)

Respondents were asked to answer a questionnaire of 55 questions, consisting of 16 questions regarding management models, 29 questions regarding organizational innovativeness, 10 demographic questions.

The first section is for the measurement of management models, 16 items in English language were developed by Julian Birkinshaw (2012).

The second section of the questionnaire is 29 items for the measurement of Organizational Innovativeness developed by Wang and Ahmed (2004).

The last section contains demographic information about the respondents and their firms.

5.2.4 Data Collection Method

First a self-administered survey method in the form of drop-off surveys technique and the email deployment method was used. However, the response rate was very low; only 2 firm responded the questionnaire. Therefore, it was decided to use the household drop-off survey method, and the questionnaires were handed to all the firms and after a time picked up. The survey was conducted in the workplace where respondents could return the questionnaire after fill in it. The voluntary nature of the participation was explained verbally as well as being indicated in the the survey questionnaire. Respondents were invited to complete an anonymous survey questionnaire that took approximately 20 minutes of their time to complete.

5.3 The Research Assumptions and Limitations

5.3.1 The Research Assumptions

It is assumed that the answers given by respondents are sincere and honest.

It is also assumed that the respondent is representing all the organization.

At the same time, it is assumed that the instrument used in this study is appropriate and fulfill all the conditions required to collect data for this study.

The data analysis was performed after satisfying the multivariate analyses' necessary assumptions below;

(i) whether the data show multiple normality distribution, and in this study no outliers have been determined in the data set and the variables are normally distributed.

(ii) whether there is a linear relationship between the independent variables and dependents variables. In this study, distributions were scattered close to the elliptic shape and linear relations were found between the data.

(iii) whether there is a multicollinearity between the variables. In this study no high level correlations were found between the variables.

5.3.2 The Research Limitations

Due to time constraints the sample was limited with just one Thechnopark and respondents were selected only from Yildiz Technical University.

5.4 Findings and Analysis

5.4.1 Sample Characteristics

Information about the participants like the year of establishment of the company, the activity area, the target market, the type of the firm, the number of employees, the position in the organization, the education level, and abroad experience are detailed below.

According to the responses given by participants, most of companies were founded after 2004, it can be said that most of participating firms were founded within the last 10 years.

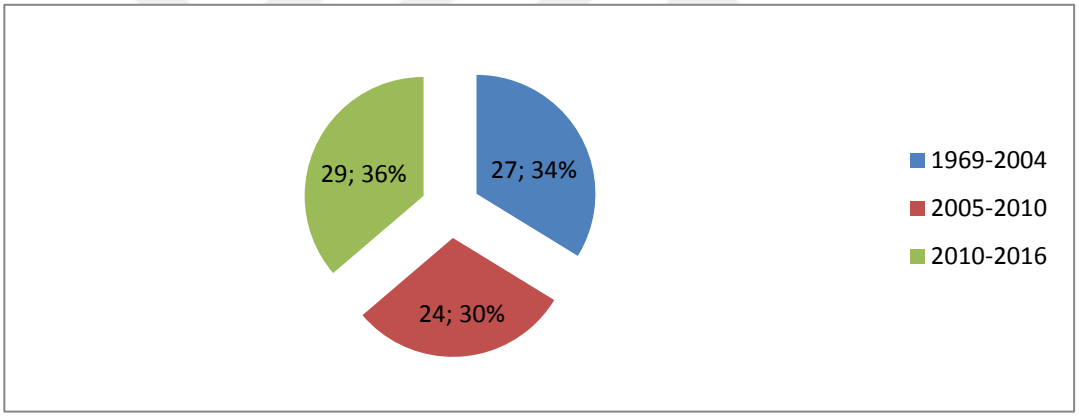

Figure 5: The Establishment Year

The results of activity area as shown in figure (6) indicates that 58 of total participating companies operate in software with 72,5%. Thus the large majority of the companies are engaged in software sector. 6 of total companies operate in telecommunication technologies with 7.5%, 6 of total companies operate in pharmaceutical sector with 7.5%, 4 of total companies operate in hardware with 5%, 4 of total companies operate in hardware with 5%, 4 of total companies operate in digital mobile media with 5%, and 2 of total companies operate in audio and video processing technologies with 2.5%.

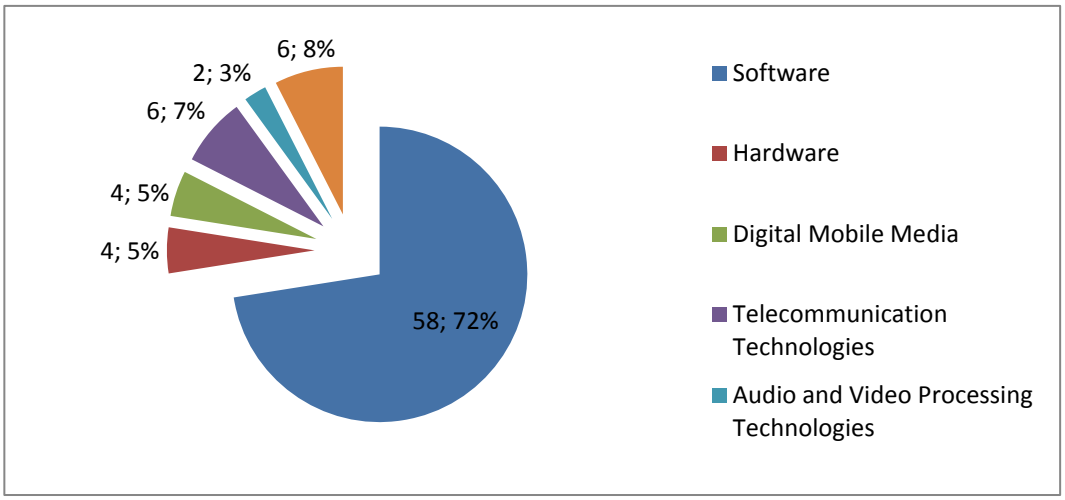

Figure 6: The activity Area

According to results regarding the type of the firm, 72 of the 80 companies are independent with a domestic capital with 90% while only 6 companies are independent with an international capital, and only 2 companies are subsidiary of an international company.

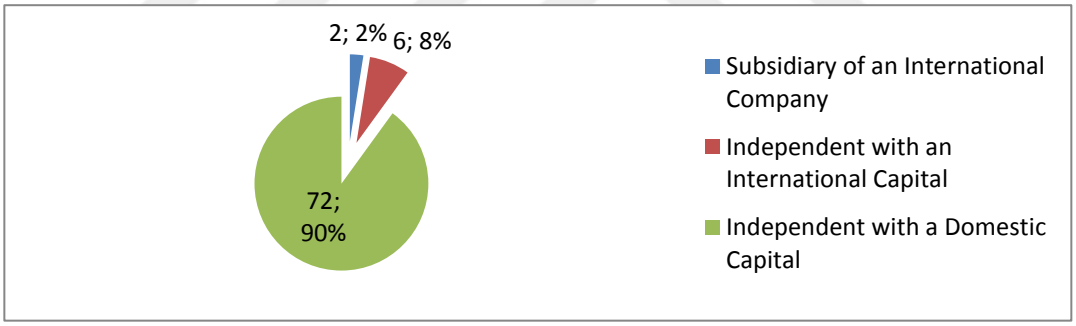

Figure 7: The Type of the Firm

Positions of the respondents as shown in Figure (8) are company owner with 15%, managers with 32,5%, and specialists/engineer with 35%, while only 17.5% of respondents were administrative/ support staffs.

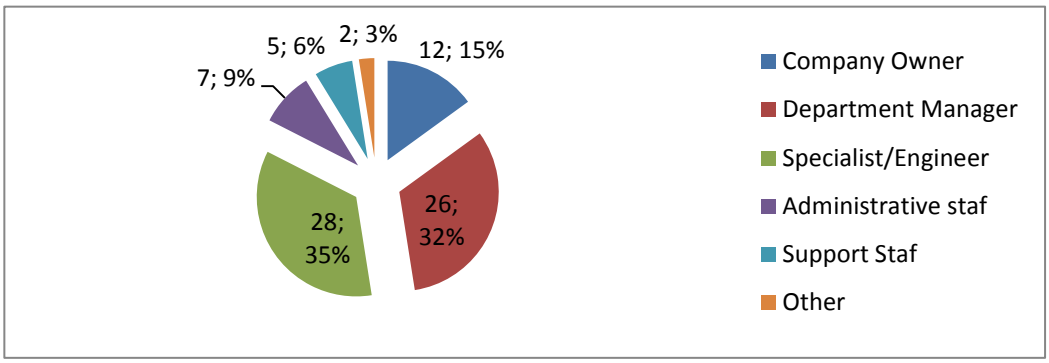

Figure 8: The Respondents' Position in the Company

A total of 50 of respondents were male with 63% on the other side 30 respondents were female with 37%.

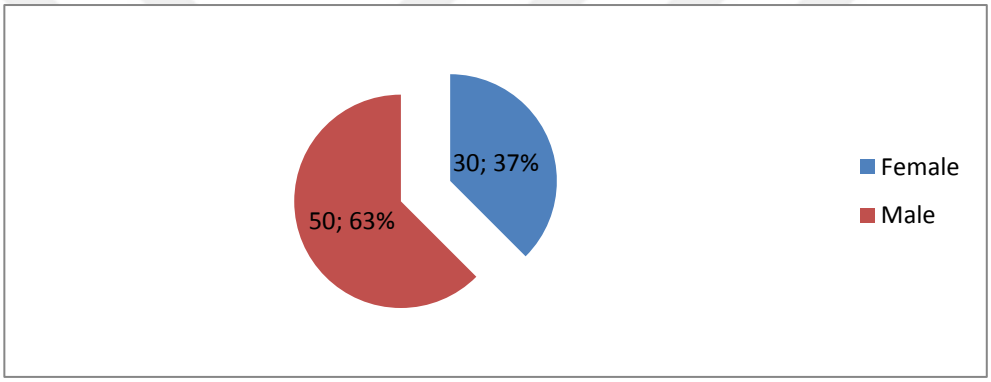

Figure 9: The Respondents' Gender

According to the results of the respondents' educational background; a large part of respondents had graduated from university with 56%, 15% had a master degree level, 5% have a PhD degree and only 2% had a high school level.

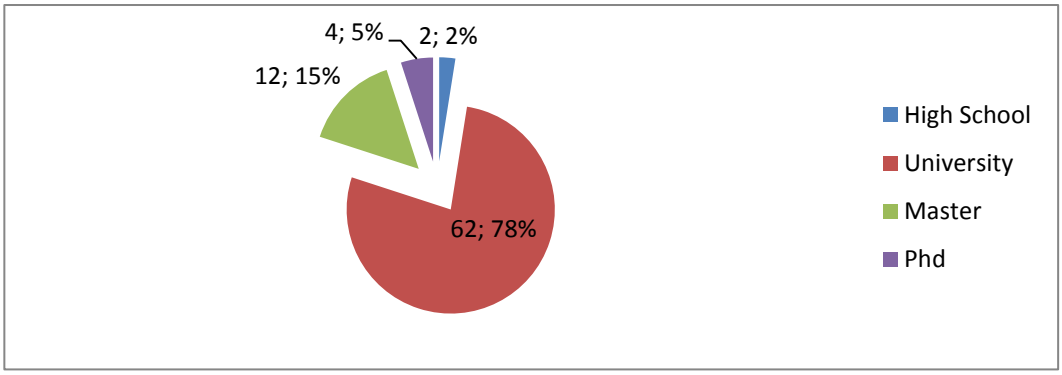

Figure 10: The Respondents' Educational Background

The results of the employee's number as shown in figure (11) indicates that 30 of total participating companies have less than 10 employees with 38%; 31 of total

participating companies have between10 and 20 employees with 31% and 25 of total participating companies have more than 21 employees with 31%.

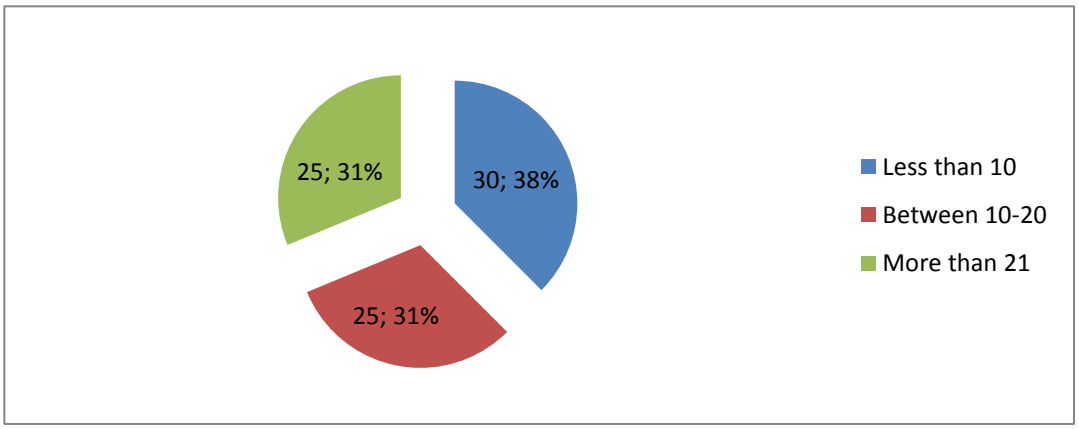

Figure 11: The Employees Number

As shown in figure (12); 36% of respondents work for the company for more than 4 years, 24% work for less than 2 years, and 27% work between 1 and 4 years.

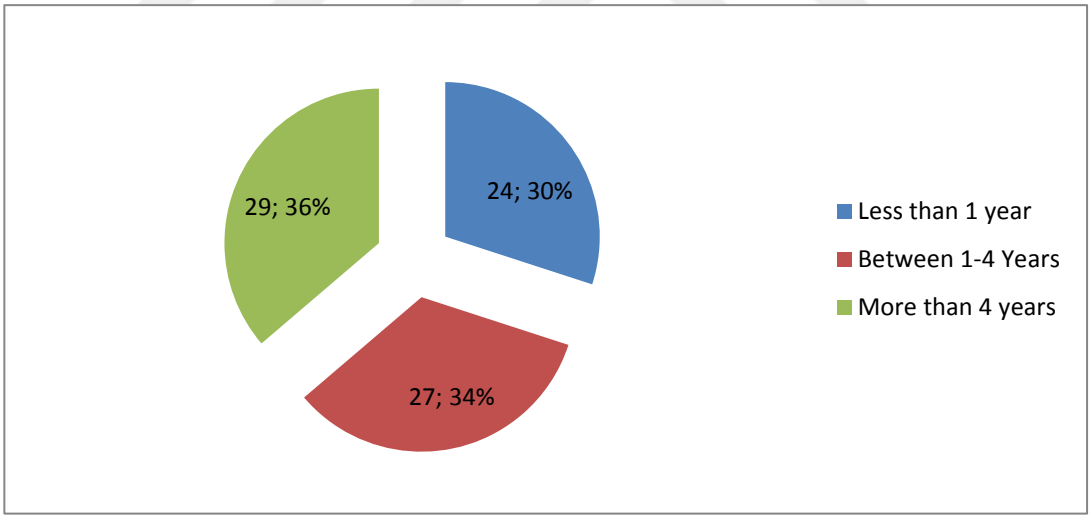

Figure 12: The Working Period

47 companies with 58,75%, mentioned that they don't have any operations abroad and 33 companies with 41,25%, are operating abroad. As shown in Figure (14); 28 companies are operating in Europe too, 24 companies have operations in the Middle East, 12 companies are operating in North America, 12 companies are operating in Middle Asia, 9 companies are operating in Far East, 4 companies are operating in West America and 6 companies are operating in other regions.

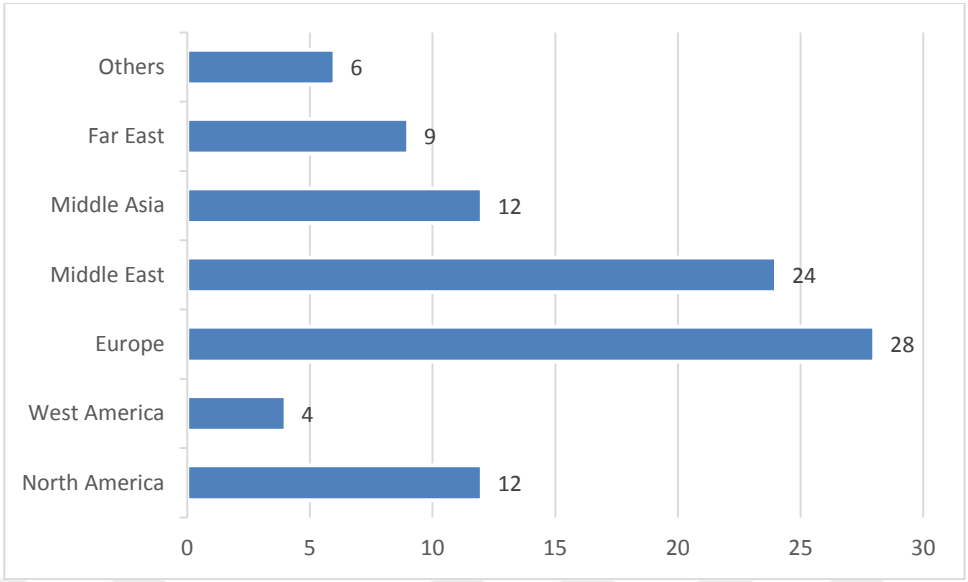

Figure 13: The Abroad Operations' Regions

45 respondents with 56%, have no experience abroad. While 26% of respondents were abroad for education, 15% were working abroad and only 3% were living abroad.

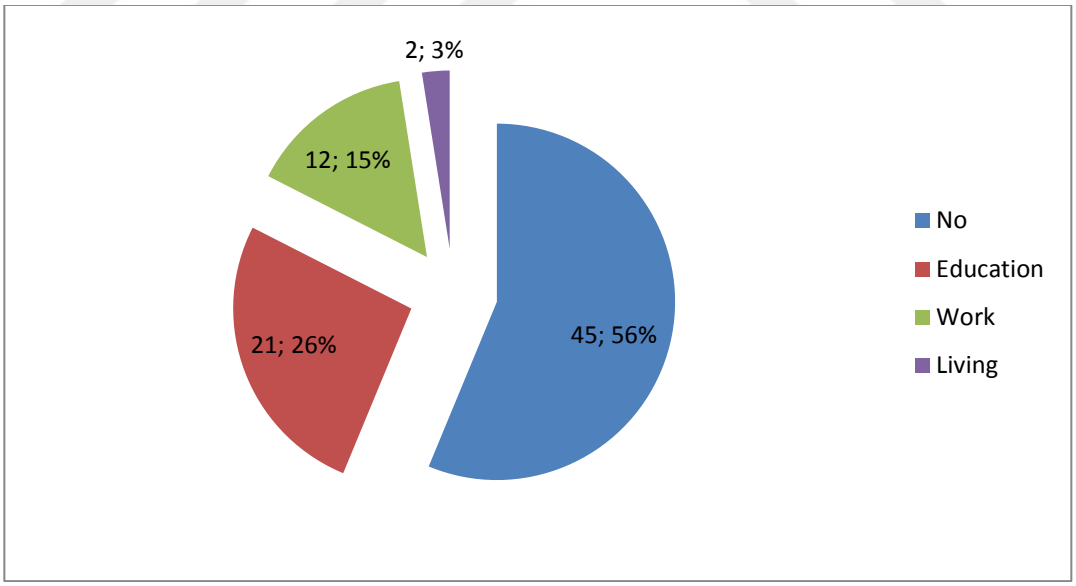

Figure 14: Participant's Abroad Experience

5.4.2 Sample's Management Models

After diagnosing the management models of each company participating in the research according to the framework proposed by Julian Birkinshaw, the results show that a large majority of the participating companies' management model 64 of total can be labelled as discovery model, 12 of total have a quest management model with 15%, 2 of total have a science management model with 2%, and 2 of total companies have the planning management model with 3%.

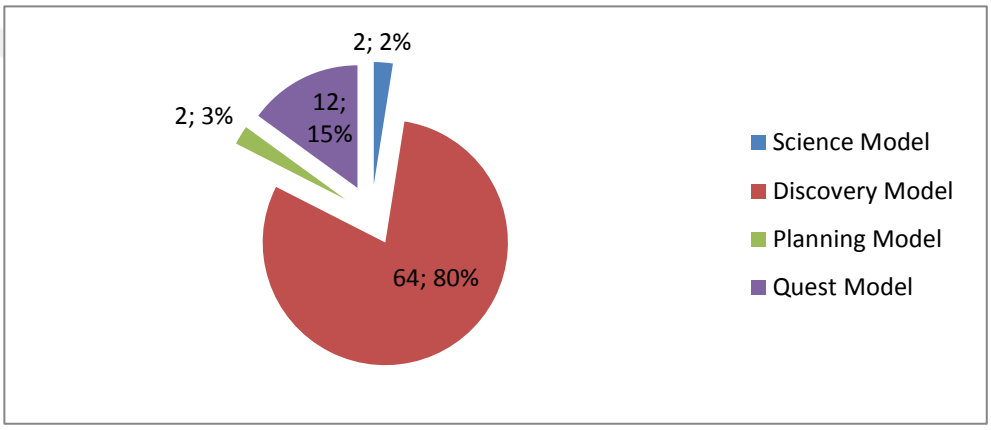

Figure 15: The Sample's Management Model

5.4.3 Statistical Methods used in Data Analysis

In this research, relationships between principles in Management Models and Organizational innovativeness are calculated by Pearson Correlation Coefficient Technique.

The effects of principles of Management Models on Organizational Innovativeness were examined by linear regression analysis. Before regression analysis was performed, it was tested whether the data set is appropriate for multivariate analyses. For multivariate analysis; it must be tested; (i) whether the data show multiple normality distribution, (ii) whether there is a linear relationship between the independent variables and dependents variables and (iii) whether there is a multicollinearity between the variables.

Firstly, Mahalanobis distance values were calculated and evaluated to determine whether there are outliers in the data set ($\chi^2_{(8)}$ =26.13; p<.001) and no outliers have been determined in the data set. In the next step, a scatter plot matrices were created. Ehen matrices were examined, it was seen that distributions were scattered close to the elliptic shape and linear relations were found between the data. According to the results obtained, it has been understood that the assumption of multiple normality and linearity is met.

Finally, the correlation between dependent and independents variables are calculated and the multicollinearity between variables is examined. Higher correlation values (r> 0.8) indicate that there may be multicollinearity between variables. (Büyüköztürk, Bökeoğlu, & Şekercioğlu) As shown in Table 3 the correlation values were examined and no high level correlations were found between the variables (-0.38<r<0.56).

After satisfying the necessary assumptions, regression analyses were performed. The method ($f^2 = R^2/ (1 – R^2)$) proposed by Cohen (1988) was used to calculate the effect sizes in the regression analysis ($0.02 \leq f^2 < 0.15$ small effect, $0.15 \leq f^2 < 0.35$ moderate effect and $0.35 \leq f^2$ large effect).

According to the results of correlation analysis, there are low and moderate significant and insignificant relations between Management Models and Organizational Innovativeness components. There is a positive and significant relationship between Behavioral innovativeness and Emergence, Collective wisdom and Intrinsic motivation. There is a positive and meaningful relationship between product innovativeness and Emergence, Collective wisdom, Obliquity, Extrinsic and Intrinsic motivation. There is a positive and significant relationship between process innovativeness and Bureaucracy, Hierarchy, Collective wisdom, Obliquity and Intrinsic motivation. There is a positive and meaningful relationship between market innovativeness and Bureaucracy and Extrinsic. Finally, there is a positive and meaningful relationship between Strategic innovativeness and Collective wisdom and Extrinsic Motivation.

Table 3: The Correlations between Principles in Management Models and Organizational Innovativeness

	Variables	Mean	Std. Deviation	V1	V2	V3	V4	V5	V6	V7	V8	V9	V10	V11	V12	V13
V1	Bureaucracy	8,34	2,22	1												
V2	Emergence	6,61	1,73	0,14	1											
V3	Hierarchy	8,79	2,21	0,43**	0,00	1										
V4	Collective wisdom	7,70	2,28	0,04	0,38**	-0,03	1									
V5	Alignment	7,29	2,15	0,15	0,23*	0,13	0,07	1								
V6	Obliquity	6,80	2,25	0,12	0,30**	0,23*	0,28*	-0,38**	1							
V7	Extrinsic Motivation	6,08	2,00	0,04	0,13	0,11	0,22*	0,14	0,09	1						
V8	Intrinsic Motivation	7,98	2,07	0,03	0,16	0,05	0,36**	0,22*	0,05	0,27*	1					
V9	Behavioral innovativeness	18,23	3,03	0,13	0,23*	0,17	0,36**	0,19	0,06	0,12	0,40**	1				
V10	Product innovativeness	14,74	2,68	0,15	0,31**	0,18	0,28*	0,02	0,51**	0,28*	0,30**	0,27*	1			
V11	Process innovativeness	17,76	3,00	0,33**	0,11	0,31**	0,24*	-0,02	0,40**	0,20	0,23*	0,56**	0,45**	1		
V12	Market innovativeness	14,44	2,91	0,23*	0,10	0,21	0,10	0,05	0,14	0,26*	0,21	0,28*	0,26*	0,41**	1	
V13	Strategic innovativeness	13,06	2,52	0,01	0,16	0,01	0,25*	0,03	0,05	0,32**	0,13	0,07	0,12	0,09	0,37**	1

N=80, **p<0,01, *p<0,05

5.4.4 The Effect of Principles of Quest Management Model on Organizational Innovativeness

H1: Quest management model, especially coordination and decision making related principles, fosters the emergence of behavioral innovativeness.

Table 4: : The Effect of Principles in Quest Management Model on Behavioral Innovativeness.

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	12,43	1,77		7,04	,00
Collective Wisdom	,42	,16	,32	2,74	***,01***
Emergence	,13	,21	,07	,62	,54
Extrinsic	,02	,17	,01	,13	,90
Alignment	,21	,15	,15	1,38	,17
R=0,40	R^2=0,16	f^2=0,19			
$F_{(4-75)}$=3,65	*p*=0,01				

Linear regression analysis was performed to examine the effect of the principles in quest management model on behavioral innovativeness (Table 3). According to the results of the analysis, Collective Wisdom, Emergence, Extrinsic motivation and Alignment together show a significant relationship with behavioral innovativeness, R=.40, R^2=.16, p<.05. These variables account for 16% of the total variance in behavioral innovativeness. According to the standardized β values, the relative order of importance of the principles in quest management model on behavioral innovativeness is Collective Wisdom, Alignment, Emergence and Extrinsic Motivation. On the other hand, when the results of the significance tests of the calculated coefficients are examined, it is understood that only the Collective Wisdom is a significant predictor of behavioral innovativeness. The principles in quest management have moderate effect on behavioral innovativeness.

H1 Hypothesis is partially supported, even though the principles suggested in the hypothesis have an effect on behavioral innovativeness, the impact order and intensity is not as expected.

H2: Quest management Model, especially coordination and decision making related principles, fosters the emergence of process innovativeness.

Table 5: The Effect of Principles in Quest Management Model on Process innovativeness.

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	14,59	1,83		7,99	,00
Collective Wisdom	,26	,16	,20	1,61	,11
Emergence	,06	,21	,03	,27	,79
Extrinsic	,25	,17	,16	1,44	,15
Alignment	-,09	,16	-,07	-,59	,56
R=0,29	R^2=0,09	f^2=0,10			
$F_{(4-75)}$=1,77	*p*=0,15				

Linear regression analysis was performed to examine the effect of the principles in quest management model, on process innovativeness (Table 4). The results of the analysis demonstrate that Collective Wisdom, Emergence, Extrinsic Motivation and Alignment together show no significant relationship with process innovativeness, R=.29, R^2=.09, p>.05.

Accordingly, H2 hypothesis is not supported.

H3: Quest management model, especially coordination and decision making related principles, fosters the emergence of strategic innovativeness.

Table 6: The Effect of Principles in Quest Management Model on Strategic Innovativeness.

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	9,13	1,49		6,13	,00
Collective Wisdom	,19	,13	,17	1,42	,16
Emergence	,10	,17	,07	,59	,55
Extrinsic	,35	,14	,28	2,48	,02
Alignment	-,04	,13	-,03	-,29	,77
R=0,37	R^2=0,14	f^2=0,16			
$F_{(4-75)}$=3,06	*p*=0,02				

Linear regression analysis was performed to examine the effect of the principles in quest management model, on strategic innovativeness (Table 5). According to the results of the analysis, Collective Wisdom, Emergence, Extrinsic Motivation and Alignment together show a significant relationship with strategic innovativeness, R=.37, R^2=.14, p<.05. These variables account for 14% of the total variance in strategic innovativeness. According to the standardized β values, the relative order of importance of the principles in quest management model on strategic innovativeness is Extrinsic Motivation, Collective Wisdom, Emergence and Alignment. On the other hand, when the results of the significance tests of the calculated coefficients are examined, it is understood that only the Extrinsic Motivation is a significant predictor of strategic innovativeness. The principles in quest management have moderate effect on strategic innovativeness.

H3 Hypothesis is partially supported, because the principles suggested in the hypothesis have an effect on strategic innovativeness but not with the impact order and intensity that is expected.

H4: Quest management model, especially coordination, decision making related principles, fosters the emergence of product innovativeness.

Table 7: The Effect of Principles in Quest Management Model on Product Innovativeness

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	9,86	1,55		6,37	,00
Collective Wisdom	,17	,14	,14	1,24	,22
Emergence	,38	,18	,24	2,09	,04
Extrinsic	,30	,14	,23	2,08	,04
Alignment	-,10	,14	-,08	-,75	,45
R=0,42	R^2=0,18	f^2=0,22			
$F_{(4-75)}$=4,02	*p*=0,01				

Linear regression analysis was performed to examine the effect of the principles in quest management model, on product innovativeness (Table 6). According to the results of the analysis, Collective Wisdom, Emergence, Extrinsic and Alignment together show a significant relationship with product innovativeness, R=.42, R^2=.18, *p*<.05. These variables account for 18% of the total variance in product innovativeness. According to the standardized β values, the relative order of importance of the principles in quest management model on product innovativeness is Emergence, Extrinsic, Collective Wisdom and Alignment. On the other hand, when the results of the significance tests of the calculated coefficients are examined, it is understood that only Emergence and Extrinsic are significant predictors of product innovativeness. The principles in quest management have moderate effect on product innovativeness.

H4 Hypothesis is partially supported, because the impact order and intensity of the principles suggested in the hypothesis have an effect on product innovativeness but not as expected.

5.4.5 The Effect of Principles of Planning Management Model on Organizational Innovativeness

H5: Planning management model, especially coordination, decision making and motivating employees related principles, fosters the emergence of process innovativeness.

Table 8: The Effect of Principles in Planning Management Model on Process Innovativeness

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	11,98	1,83		6,53	,00
Bureaucracy	,34	,16	,25	2,19	,03
Hierarchy	,27	,16	,20	1,69	,09
Alignment	-,16	,15	-,11	-1,04	,30
Extrinsic	,28	,16	,19	1,77	,08
R=0,43	R^2=0,19	f^2=0,23			
$F_{(4-75)}$=4,29	*p*=0,00				

Linear regression analysis was performed to examine the effect of the principles in planning management model, on process innovativeness (Table 8). According to the results of the analysis, Bureaucracy, Hierarchy, Alignment and Extrinsic together show a significant relationship with process innovativeness, R=.43, R^2=.19, p<.05. These variables account for 19% of the total variance in process innovativeness. According to the standardized β values, the relative order of importance of the principles in planning management model on process innovativeness is Bureaucracy, Extrinsic, Hierarchy and Alignment. On the other hand, when the results of the significance tests of the calculated coefficients are examined, it is understood that only the Bureaucracy is a significant predictor of process innovativeness. The principles in planning management have moderate effect on process innovativeness.

H5 hypothesis is fully supported.

H6: Planning management model, especially coordination and decision making related principles, fosters the emergence of product innovativeness.

Table 9: The Effect of Principles in Planning Management Model on Product Innovativeness

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	10,83	1,72		6,31	,00
Bureaucracy	,12	,15	,10	,81	,42
Hierarchy	,14	,15	,11	,93	,36
Alignment	-,06	,14	-,05	-,45	,65
Extrinsic	,36	,15	,27	2,42	,02
R=0,33	R^2=0,11	f^2=0,12			
$F_{(4-75)}$=2,27	*p*=0,07				

Linear regression analysis was performed to examine the effect of the principles in planning management model, on product innovativeness (Table 9). According to the results of the analysis, Bureaucracy, Hierarchy, Alignment and Extrinsic together show no significant relationship with product innovativeness, R=.33, R^2=.11, *p*>.05.

H6 hypothesis is not supported

5.4.6 The Effect of Principles of Science Management Model on Organizational Innovativeness

H7: Science management model, especially setting objectives and intrinsic motivation related principles, fosters the emergence of behavioral innovativeness.

Table 10: The Effect of Principles in Science Management Model on Behavioral Innovativeness

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	11,36	1,97		5,77	,00
Bureaucracy	,10	,16	,07	,63	,53
Hierarchy	,15	,16	,11	,95	,34
Obliquity	,01	,14	,01	,06	,95
Intrinsic	,58	,15	,40	3,80	,00
R=0,44	R^2=0,19	f^2=0,23			
$F_{(4-75)}$=4,37	*p*=0,00				

Linear regression analysis was performed to examine the effect of the principles in science management model, on behavioral innovativeness (Table 10). According to the results of the analysis, Bureaucracy, Hierarchy, Obliquity and Intrinsic together show a significant relationship with behavioral innovativeness, R=.44, R^2=.19, p<.05. These variables account for 19% of the total variance in behavioral innovativeness. According to the standardized β values, the relative order of importance of the principles in science management model on behavioral innovativeness is Intrinsic Motivation, Hierarchy, Bureaucracy and Obliquity. On the other hand, when the results of the significance tests of the calculated coefficients are examined, it is understood that only the Intrinsic is a significant predictor of behavioral innovativeness. The principles in science management have moderate effect on behavioral innovativeness.

H7 Hypothesis is partially supported, because the impact order expected of the principles is not followed.

H8: Science management model, especially setting objectives and intrinsic motivation related principles, fosters the emergence of product innovativeness.

Table 11:The Effect of Principles in Science Management Model on Product Innovativeness

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	7,06	1,57		4,50	,00
Bureaucracy	,09	,13	,07	,70	,48
Hierarchy	,03	,13	,02	,22	,83
Obliquity	,58	,11	,48	5,04	,00
Intrinsic	,35	,12	,27	2,85	,01
R=0,59	R^2=0,34	f^2=0,52			
$F_{(4-75)}$=9,77	*p*=0,00				

Linear regression analysis was performed to examine the effect of the principles in science management model, on product innovativeness (Table 11). According to the results of the analysis, Bureaucracy, Hierarchy, Obliquity and Intrinsic together show a significant relationship with product innovativeness, R=.59, R^2=.34, p<.05. These variables account for 34% of the total variance in product innovativeness. According to the standardized β values, the relative order of importance of the principles in science management model on product innovativeness is Obliquity, Intrinsic, Bureaucracy and Hierarchy. On the other hand, when the results of the significance tests of the calculated coefficients are examined, it is understood that only Obliquity and Intrinsic are significant predictors of product innovativeness. The principles in science management have large effect on product innovativeness.

H8 hypothesis is fully supported.

H9: Science management model, especially setting objectives and intrinsic motivation related principles, fosters the emergence of process innovativeness.

Table 12: The Effect of Principles in Science Management Model on Process Innovativeness

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	8,33	1,82		4,58	,00
Bureaucracy	,31	,15	,23	2,12	,04
Hierarchy	,18	,15	,13	1,18	,24
Obliquity	,45	,13	,33	3,35	,00
Intrinsic	,29	,14	,20	2,05	,04
R=0,54	R^2=0,30	f^2=0,43			
$F_{(4-75)}$=7,85	*p*=0,00				

Linear regression analysis was performed to examine the effect of the principles in science management model, on process innovativeness (Table 12). According to the results of the analysis, Bureaucracy, Hierarchy, Obliquity and Intrinsic together show a significant relationship with process innovativeness, R=.54, R^2=.30, p<.05. These variables account for 30% of the total variance in process innovativeness. According to the standardized β values, the relative order of importance of the principles in science management model on process innovativeness is Obliquity, Bureaucracy, Intrinsic and Hierarchy. On the other hand, when the results of the significance tests of the calculated coefficients are examined, it is understood that only Obliquity, Bureaucracy and Intrinsic Motivation are significant predictors of process innovativeness. The principles in science management have large effect on process innovativeness.

H9 Hypothesis is partially supported, because the impact order of the principles suggested in the hypothesis is not followed as it is expected.

H10: Science management model, especially setting objectives and intrinsic motivation related principles, fosters the emergence of strategic innovativeness.

Table 13: The Effect of Principles in Science Management Model on Strategic Innovativeness

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	11,54	1,80		6,40	,00
Bureaucracy	,00	,14	,00	,01	,99
Hierarchy	-,01	,15	-,01	-,04	,96
Obliquity	,05	,13	,04	,37	,71
Intrinsic	,15	,14	,13	1,11	,27
R=0,14	R^2=0,02	f^2=0,02			
$F_{(4-75)}$=,35	*p*=0,84				

Linear regression analysis was performed to examine the effect of the principles in science management model, on strategic innovativeness (Table 13). According to the results of the analysis, Bureaucracy, Hierarchy, Obliquity and Intrinsic together show no significant relationship with strategic innovativeness, R=.14, R^2=.02, *p*>.05.

H10 hypothesis is not supported

5.4.7 The Effect of Principles of Discovery Management Model on Organizational Innovativeness

H11: Discovery management model, especially coordination, decision making, setting objectives and intrinsic motivation related principles, fosters the emergence of behavioral innovativeness.

Table 14: The Effect of Principles in Discovery Management Model on Behavioral Innovativeness

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	11,52	1,70		6,76	,00
Emergence	,19	,20	,11	,98	,33
Collective Wisdom	,30	,16	,22	1,88	,06
Obliquity	-,07	,15	-,05	-,47	,64
Intrinsic	,45	,16	,31	2,84	,01
R=0,48	R^2=0,23	f^2=0,30			
$F_{(4-75)}$=5,55	*p*=0,00				

Linear regression analysis was performed to examine the effect of the principles in discovery management model, on behavioral innovativeness (Table 14). According to the results of the analysis, Emergence, Collective Wisdom, Obliquity and Intrinsic together show a significant relationship with behavioral innovativeness, R=.48, R^2=.23, p<.05. These variables account for 23% of the total variance in behavioral innovativeness. According to the standardized β values, the relative order of importance of the principles in discovery management model on behavioral innovativeness is Intrinsic, Collective Wisdom, Emergence and Obliquity. On the other hand, when the results of the significance tests of the calculated coefficients are examined, it is understood that only Intrinsic is a significant predictors of behavioral innovativeness. The principles in discovery management have moderate effect on behavioral innovativeness.

H11 hypothesis is fully supported

H12: Discovery management model, especially coordination, decision making, setting objectives and intrinsic motivation related principles, fosters the emergence of process innovativeness.

Table 15: The Effect of Principles in Discovery Management Model on Process Innovativeness

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	11,93	1,70		7,01	,00
Emergence	-,12	,20	-,07	-,59	,56
Collective Wisdom	,12	,16	,09	,76	,45
Obliquity	,51	,15	,39	3,52	***,00***
Intrinsic	,27	,16	,19	1,71	,09
R=0,46	R^2=0,21	f^2=0,27			
$F_{(4-75)}$=5,04	*p*=0,00				

Linear regression analysis was performed to examine the effect of the principles in discovery management model, on process innovativeness (Table 15). According to the results of the analysis, Emergence, Collective Wisdom, Obliquity and Intrinsic together show a significant relationship with process innovativeness, R=.46, R^2=.21, $p<.05$. These variables account for 21% of the total variance in process innovativeness. According to the standardized β values, the relative order of importance of the principles in discovery management model on process innovativeness is Obliquity, Intrinsic, Collective Wisdom and Emergence. On the other hand, when the results of the significance tests of the calculated coefficients are examined, it is understood that only Obliquity is a significant predictors of process innovativeness. The principles in discovery management have moderate effect on process innovativeness.

H12 hypothesis is fully supported

H13: Discovery management model, especially coordination, decision making, setting objectives and intrinsic motivation related principles, fosters the emergence of strategic innovativeness.

Table 16: The Effect of Principles in Discovery Management Model on Strategic Innovativeness

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	10,32	1,55		6,64	,00
Emergence	,12	,18	,08	,68	,50
Collective Wisdom	,24	,14	,22	1,69	,10
Obliquity	-,04	,13	-,04	-,33	,74
Intrinsic	,05	,15	,04	,32	,75
R=0,27	R^2=0,07	f^2=0,08			
$F_{(4-75)}$=1,46	*p*=0,22				

Linear regression analysis was performed to examine the effect of the principles in discovery management model, on strategic innovativeness (Table 16). According to the results of the analysis, Emergence, Collective Wisdom, Obliquity and Intrinsic together show no significant relationship with strategic innovativeness, R=.27, R^2=.07, *p*>.05.

H13 hypothesis is not supported (it is related to the nature strategic innovativeness, Sample characteristics Turkish culture of business conduct)

H14: Discovery management model, especially coordination, decision making, setting objectives and intrinsic motivation related principles, fosters the emergence of product innovativeness.

Table 17: The effect of principles in discovery management model on product Innovativeness

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	7,06	1,38		5,11	,00
Emergence	,19	,16	,12	1,21	,23
Collective Wisdom	,02	,13	,02	,14	,89
Obliquity	,55	,12	,46	4,61	,00
Intrinsic	,32	,13	,25	2,47	,02
R=0,59	R^2=0,35	f^2=0,54			
$F_{(4-75)}$=10,12	*p*=0,00				

Linear regression analysis was performed to examine the effect of the principles in discovery management model, on product innovativeness (Table 17). According to the results of the analysis, Emergence, Collective Wisdom, Obliquity and Intrinsic together show a significant relationship with product innovativeness, R=.59, R^2=.35, *p*<.05. These variables account for 35% of the total variance in product innovativeness. According to the standardized β values, the relative order of importance of the principles in discovery management model on product innovativeness is Obliquity, Intrinsic, Emergence and Collective Wisdom. On the other hand, when the results of the significance tests of the calculated coefficients are examined, it is understood that only Obliquity and Intrinsic are significant predictors of product innovativeness. The principles in discovery management have large effect on product innovativeness.

H14 hypothesis is fully supported.

6.DISCUSSION AND CONCLUSION

The study's aim is to examine management models and organizational innovativeness as main construct and discover the relationship between them. The underlying assumption of this stream of research is that organizational innovativeness is facilitated and influenced by practices and principles of the management model in terms of specific principles related to coordination, decision making, setting objectives and motivation principles. More specifically, which management model and which principles impact the emergence of certain innovativeness types is the main subject of interest. For this purpose, a quantitative study was carried out and 80 full surveys were collected. Table shows the summary of hypothesis testing.

Hypothesis testing was performed through a series of hierarchical regression analyses. The findings of these tests showed full support for some, partially support for other and lack of support for some other hypotheses. Findings also highlighted some effects that were not assumed in the suggested research model.

The quest management model, especially emergence as a coordination principle and collective wisdom in the decision making principle were expected to foster the emergence of behavioral, process, strategic, and product innovativeness and that emergence and collective wisdom have more impact on their emergence.

A significant relationship was found between quest management model and behavioral innovativeness, strategic innovativeness, and product innovativeness. But unlike the assumed hypothesis no significant relationship was found with process innovativeness. In fact, this no significant relationship between the quest management's emergence and collective wisdom principles and process innovativeness is totally supported by the finding of (H5) hypothesis

where hierarchy and bureaucracy principles (the left side of the coordinating and making decision dimensions) were found to have an effect on the emergence of process innovativeness. Thus, it can be claimed that hierarchy and bureaucracy principles fosters and facilitate the emergence of process innovativeness.

In the case of behavioral innovativeness, the hypothesis was partially supported because the impact order expected was not followed. It was suggested that the effect of collective wisdom and emergence is most important, the findings show that the relative order of importance of the principles in quest management model on behavioral innovativeness is Collective Wisdom, Alignment, Emergence and Extrinsic Motivation. Therefore, it is highlighted that setting objectives according to the alignment principle is also an important variable for the emergence of behavioral innovativeness.

Table 18:Summary of Hypothesis Testing

Hypotheses		Results
H1	Quest management model, especially coordination and decision making related principles, fosters the emergence of behavioral innovativeness.	Partially supported
H2	Quest management Model, especially coordination and decision making related principles, fosters the emergence of process innovativeness.	Not supported
H3	Quest management model, especially coordination and decision making related principles, fosters the emergence of strategic innovativeness.	Partially supported
H4	Quest management model, especially coordination, decision making related principles, fosters the emergence of product innovativeness.	Partially supported
H5	Planning management model, especially coordination and decision making related principles, fosters the emergence of process innovativeness.	Fully supported
H6	Planning management model, especially coordination and decision making related principles, fosters the emergence of product innovativeness.	Not supported

H7	Science management model, especially setting objectives and intrinsic motivation related principles, fosters the emergence of behavioral innovativeness.	Partially supported
H8	Science management model, especially setting objectives and intrinsic motivation related principles, fosters the emergence of product innovativeness.	Fully supported
H9	Science management model, especially setting objectives and intrinsic motivation related principles, fosters the emergence of process innovativeness.	Partially supported
H10	Science management model, especially setting objectives and intrinsic motivation related principles, fosters the emergence of strategic innovativeness.	Not supported
H11	Discovery management model, especially coordination, decision making, setting objectives and intrinsic motivation related principles, fosters the emergence of behavioral innovativeness.	Fully supported
H12	Discovery management model, especially coordination, decision making, setting objectives and intrinsic motivation related principles, fosters the emergence of process innovativeness.	Fully supported
H13	Discovery management model, especially coordination, decision making, setting objectives and intrinsic motivation related principles, fosters the emergence of strategic innovativeness.	Not supported
H14	Discovery management model, especially coordination, decision making, setting objectives and intrinsic motivation related principles, fosters the emergence of product innovativeness.	Fully supported

It was predicted that Quest management model, especially coordination and decision making related principles, fosters the emergence of strategic innovativeness but The findings unlike the assumed hypothesis and interestingly indicated that only the Extrinsic Motivation is a significant predictor of strategic innovativeness. Strategic

innovativeness is very difficult to be achieved this may be explained by the difficulty of taking the decision of the position changing.

For the product innovativeness it was expected that emergence and collective wisdom have the most important effect in fostering the emergence of product innovativeness. Findings show that emergence is in the first rank in the importance order and that extrinsic motivation has more effect on product innovativeness then collective wisdom. As a matter of fact, Extrinsic rewards should surely play a role in fostering innovativeness in general but they cannot be alone the only factor.

The findings show that the planning management model labelled as traditional, especially hierarchy and bureaucracy play a very important role in fostering the emergence of process innovativeness which support the finding of precedent researches i.e. (Harold, 2000); (Olson, Walker, Jr., & Ruekert, 1995) claiming the positive relationship between bureaucratic approaches and process innovations.

At the same time, the study results show that there is a significant relationship between science management model and behavioral innovativeness, product innovativeness, and process innovativeness. In other words, especially obliquity principle and Intrinsic motivation principle have a positive effect on them. This result is consistent with the literature suggesting a positive correlation between determining creative goals as a component of obliquity, intrinsic motivation and innovativeness (e.g., Shalley, 199; Amabile, 198; Gupta, 2009).

For behavioral innovativeness especially intrinsic motivation is an important predictor according to the relative order of importance of the principles in science management model on behavioral innovativeness. This result can be explained by the nature of behavioral innovativeness itself, which it is related to the organization's behavioral tendency to change and innovate and by implication related to the employees' willingness, proclivity and motivation.

According to findings, obliquity have an important effect on the emergence of product and process innovativeness, this may be due to the creativity freedom given to employees when objectives are set obliquely that enable them to innovate in the product and process level.

Unlike the assumed research model of this study the regression analysis results show that there is no significant relationship between strategic innovativeness and science management model or discovery management model. This finding can be due to the nature of strategic innovativeness itself, as Markides (1998) claimed; Strategic

innovativeness is considered to be the difficult innovativeness type to be achieved, it is a hard challenge for managers to create and design an innovative culture that promote a questioning attitude within the organization and it is difficult to take the risk of changing the established position. This finding should also be taken into consideration with regard to the sample characteristics and the Turkish business conduct.

The discovery management model is characterized with all the alternative principles; emergence, collective wisdom, obliquity, and intrinsic motivation that are suggested to be more supportive to organizational innovativeness. Except for the strategic innovativeness, the findings were in consistence with the literature and showed that the discovery management principles foster and facilitate the emergence of behavioral innovativeness, product innovativeness, and process innovativeness.

To summarize, the quest management model's emergence and collective wisdom fosters the emergence of the behavioral, strategic and product innovativeness. Moreover, the planning model's hierarchy and bureaucracy principle play a significant role in the emergence of process innovativeness. On the other hand, the science model's obliquity and intrinsic motivation principles were to have a significant effect on the emergence of behavioral, product and process innovativeness. Finally, the discovery model's all principles; emergence, collective wisdom, obliquity, and intrinsic motivation foster and facilitate the emergence of behavioral innovativeness, product innovativeness, and process innovativeness.

As a result of this study, it can be claimed that moving through the dimensions' spectrum from traditional principles to alternative principles should be a smart choice for companies aiming to achieve organizational innovativeness.

One of the objectives of this study is to define the new principles of managing that are increasingly opted by managers, and examine their relationship with organizational innovativeness in order to help managers make more conscious choices about their management model. Thus, managers aiming to achieve organizational innovativeness should point out their current situation, reinvent their management model through smartly choosing and combining the management principles in accordance with the company's organizational objectives to fit to the new competitive environment.

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APPENDICES

Appendix 1: Questionnaire (English)

A. Please Evaluate the following statements and mark the appropriate number.
1= Completely Disagree; 2= Disagree; 3= Almost Disagree; 4= Almost Agree; 5= Agree; 6= Completely agree

	1	2	3	4	5	6
Outputs are created through management processes, i.e. the formal coordination of inputs and structuring of effort						
Outputs are created through mutual adjustment, i.e. the informal and spontaneous coordination of effort by individuals acting in their own best interests						
Our default assumption is that information about internal processes (e.g. budget numbers, service levels achieved) is confidential and viewed on a need to know basis						
Our default assumption is that information about internal processes is available and open to the scrutiny of all employees						
Responsibility for making decisions (and accepting their consequences) is allocated to specific individuals						
Responsibility for making decisions (and accepting their consequences) is viewed as a collective responsibility of entire teams/groups						
Managers prefer to rely primarily on their own experience and deep knowledge of a situation						
Managers prefer to tap into and make use of the disparate knowledge of their subordinates and those outside the company						
There is a preference for narrow and always explicit objectives						
There is a preference for broad and sometimes implicit objectives						
There is a concern for short term achievement against objectives (i.e. Quarters/years)						
There is a concern for long term achievement objectives (i.e. Decades/generation						
We hire people by making the salary, benefits, and bonuses attractive						

We hire people by focusing on the sense of achievement they will feel and their contribution to society						
When people work long hours, it is because they are seeking to get ahead and/or to get a larger bonus						
When people work long hours, it is because they enjoy the work						

B. Please Evaluate the following statements and mark the appropriate number.
1= Completely Disagree; 2= Disagree; 3= Almost Disagree; 4= Almost Agree; 5= Agree; 6= Completely agree

	1	2	3	4	5	6
In new product and service introductions, our company is often first-to-market.						
Our new products and services are often perceived as very novel by customers.						
Our recent new products and services are only minor changes from our previous products and services(R).						
New products and services in our company often take us up against new competitors.						
In comparison with our competitors, our company has introduced more innovative products and services during the past five years.						
In comparison with our competitors our company is faster in bringing new products or services into the market.						
In comparison with our competitors, our company has a lower success rate in new products and services launch(R)						
In comparison with our competitors, our products most recent marketing programme is revolutionary in the market.						
Our company's most recent new product introduction required a new form of advertising and promotion, different from that used for our existing products.						
In new product and service introductions, our company is often at the cutting edge of technology.						
The technology of our main machinery in use is very up-to-date.						
Our future investments in new machinery and equipment are significant compared with our annual turnover.						
In comparison with our competitors, we are late in adoption of technological innovations (R)						
Our firm's R&D or product development resources are not adequate to handle the development need of new products and services(R).						
The nature of the manufacturing process in our company is new compared with that of our main competitors.						
We are constantly improving our business processes.						
Our company changes production methods at a great speed in comparison with our competitors.						

Our future investments in new methods of production are significant compared with our annual turnover.						
During the past five years, our company has developed many new management approaches.						
We get a lot of support from managers if we want to try new ways of doing things.						
Management is very cautious in adopting innovative ideas (R)						
Key executives of the firm are willing to take risks to seize and explore "chancy" growth opportunities.						
Management actively responds to the adoption of "new ways of doing things" by main competitors.						
Senior executives constantly seek unusual, novel solutions to problems via the use of "idea men".						
In our company, we tolerate individuals who do things in a different way.						
We are willing to try new ways of doing things and seek unusual, novel solutions.						
We encourage people to think and behave in original and novel ways.						
When we see new ways of doing things, we are last at adopting them (R).						
When we cannot solve a problem using conventional methods, we improvise on new methods.						

C. General Information:

1.Establishment year of the company: _____

2. What is the area of activity of your company?

( ) Software
( ) Hardware
( ) Digital Mobile Media
( ) Telecommunication Technologies
( ) Audio and Video Processing Technologies
( ) Others

3. How would you Characterize your company?

( ) A subsidiary of an international company
( ) An independent international company
( ) An independent domestic company

4. Which one best describes your position in the organization?

( ) Company Owner
( ) Manager
( ) Specialist / Engineer
( ) Administrative / Support Staff

5. How many employees do you have in your organization?_____

6. If you have any operations out Turkey, what is the market? (You can mark more than one option)

( ) North America
( ) South America
( ) Europe
( ) Middle East
( ) Middle Asia
( ) Far east
( ) Other. Please specify:
( ) We do not have operations outside markets outside Turkey

7. Years of experience working for this company:_____

8.Gender:

( ) Male
( ) Female

9. Education:

( ) Primary school
( ) Middle School
( ) High school
( ) University
( ) Master Degree
( ) Ph.D

10. Do you have any previous experience abroad?

( ) No
( ) Yes - Please specify (Education, work, living abroad): _____

Appendix 2: Turkish Questionnaire

A. Aşağıdaki ifadeleri firmanızın süreçleri ve iş yapma biçimine ilişkin değerlendirerek uygun olan kutucuğu işaretleyiniz.

1=Kesinlikle katılmıyorum, 2=Katılmıyorum, 3=Kısmen katılmıyorum, 4=Kısmen katılıyorum, 5=Katılıyorum, 6=Kesinlikle katılıyorum.

	1	2	3	4	5	6
1.Şirketimizde hedeflenen çıktıları formal(Yazılı kurallara dayalı) koordinasyona dayalı yönetim süreçleri yardımıyla oluşturulur.						
2. Şirketimizde hedeflenen çıktıları karşılıklı dayanışma ile oluşturulur; örneğin bireyler en iyi çıktıya ulaşmak için informal ve spontan koordinasyon çabası gösterirler.						
3. Içsel süreçler hakkındaki bilgiler (örneğin, bütçe rakamları) gizlidir ve ancak ihtiyaç halinde görülebilir.						
4. Içsel süreçler hakkındaki bilgiler (örneğin, bütçe rakamları) herkese açıktır.						
5. Karar verme yetkisi (ve sonuçlardan sorumluluk) belirli bireylerde toplanmıştır.						
6. Karar verme yetkisi (ve sonuçlardan sorumluluk) tüm ekiplerin/grupların toplu bir sorumluluğu olarak görülür.						
7. Yöneticiler öncelikle kendi deneyimlerine ve spesifik konularla ilgili kendi uzmanlık bilgilerine önem verirler.						
8. Yöneticiler astlarına ve şirket dışındaki kişilere ait farklı alanlarda bilgi edinmeyi ve bunları kullanmayı tercih ederler.						
9. Dar bir alana odaklanan ve tüm adımları açıkça belirtilmiş hedefler tercih edilir.						
10. Geniş bir alana odaklanan ve bazen örtük-genel hedefler tercih edilir.						
11. Hedeflerin başarılmasına yönelik kısa vadeli bir bakış belirlenmiştir. (Çeyrekler / Yıllık dönemler)						
12. Hedeflerin başarılmasına yönelik uzun vadeli bir bakış belirlenmiştir. (Onar yıllık dönemler/ jenerasyonlar)						
13. Cazip maaşlar , bonuslar ve teşvikler ile insanları işte tutarız.						
14. Hissedecekleri başarı duygusunun tatmini ve topluma katkıda bulundukları hissini yaratarak insanları işte tutarız.						
15. İnsanlar, iş yerinde uzun saatler çalıştıklarında bunu yönetimin gözünde öne çıkmak ve/ veya daha fazla bonus kazanmak için yaparlar.						
16. İnsanlar, iş yerinde uzun saatler çalıştıklarında bunu işten zevk aldıkları için yaparlar.						

B. Aşağıdaki ifadeleri şirketiniz için değerlendirerek uygun kutucuğu işaretleyiniz.

1=Kesinlikle katılmıyorum, 2=Katılmıyorum, 3=Kısmen katılmıyorum, 4=Kısmen katılıyorum, 5=Katılıyorum, 6=Kesinlikle katılıyorum.

	1	2	3	4	5	6
1. Piyasaya yeni ürün ve hizmetlerin sunulmasında, firmamız sıklıkla pazara ilk giren firma olur.						
2. Yeni ürün ve hizmetlerimiz müşterilerimiz tarafından çok yenilikçi olarak algılanır.						
3. Yeni ürün ve hizmetlerimiz, daha önceki ürün ve hizmetlerimizde gerçekleştirilen küçük değişikliklerden ibarettir.						
4. Firmamızın yeni ürün ve hizmetleri bizi sıklıkla yeni rakiplerle karşı karşıya bırakır.						
5. Rakiplerimize kıyasla, firmamız son beş yılda daha fazla yenilikçi ürün ve hizmeti pazara sunmuştur.						
6. Rakiplerimize kıyasla, firmamız pazara yeni ürün ve hizmet sunmakta daha hızlıdır.						
7. Rakiplerimize kıyasla, firmamızın sunduğu yeni ürün yeni ürün ve hizmetlerdeki başarı oranı daha düşüktür.						
8. Rakiplerimize kıyasla, ürünlerimizin son pazarlama kampanyası piyasada devrim yaratan niteliktedir.						
9. Firmamızın en son yeni ürün lansmanı, önceki ürünlerimizden daha farklı ve yeni bir reklam ve tanıtım şekli gerektirmiştir.						
10. Yeni ürün ve hizmetlerin sunulmasında, firmamız en son [illegible]						
11. Kullandığımız temel makine ve ekipman en son teknolojidir.						
12. İleriye dönük yeni makine ve ekipman yatırımlarımız yıllık satış ciromuza kıyasla ciddi miktardadır.						
13. Rakiplerimize kıyasla, teknolojik yenilikleri benimsemekte geç						
14. Firmamızın ar-ge ve ürün geliştirmeye yönelik kaynakları, yeni ürün ve hizmetler geliştirmeye yetecek seviyede değildir.						
15. Firmamızdaki üretim süreç ve yöntemleri ana rakiplerimizinkilere kıyasla daha yenidir.						
16. İş yapma süreçlerimizi daima iyileştirmekteyiz.						
17. Firmamız üretim yöntemlerini rakiplerimizden çok daha hızlı [illegible]						
18. Yeni üretim yöntemleri için yaptığımız ileriye dönük yatırımlarımız yıllık satış ciromuza kıyasla ciddi miktardadır.						
19. Son beş yılda firmamız pek çok yeni yönetim yaklaşımı [illegible]						
20. İşleri yapmanın yeni yollarını denemek istediğimizde yöneticilerden büyük destek görürüz.						
21. Yönetim, yenilikçi fikirleri kabul etme konusunda çok ihtiyatlı [illegible]						
22. Firmanın anahtar konumdaki yöneticileri, riskli büyüme fırsatlarını yakalama ve değerlendirme konusunda isteklidirler.						
23. Yönetim, ana rakiplerimiz yeni iş yapma yöntemleri benimsediğinde hızla karşılık verir.						

24. Üst düzey yöneticiler sürekli "fikir adamları" kullanarak meselelere alışılmamış yeni çözümler ararlar.						
25. Firmamızda işleri farklı şekilde yapmak isteyen kişiler hoş görülürler.						
26. İşleri yapmanın yeni yollarını denemeye ve alışılmamış yeni çözümler bulmaya istekliyiz.						
27. İnsanların özgün ve alışılmamış şekillerde düşünmelerini ve davranmalarını teşvik ederim.						
28. İş yapmanın yeni yöntemlerini gördüğümüzde, bunları en son benimseyen biz oluruz.						
29. Bir sorunu geleneksel yöntemlerle çözemeyince kendimiz yeni yöntemler üretiriz.						

C. Genel Bilgiler

1.Şirketin kuruluş yılı? Lütfen belirtiniz:_____

2. Hangisi şirketinizin faaliyet alanını tanımlamaktadır?(Birden fazla seçeneği işaretleyebilirsiniz)

(☐) Yazılım
(☐) Donanım
(☐) Dijital Mobil Medya
(☐) Telekomünikasyon Teknolojileri
(☐) Ses ve Görüntü İşleme Teknolojileri
(☐)Diğer, Belirtiniz: _____

3. Şirketinizi nasıl tanımlarsınız?

(☐) Uluslararası bir şirketin bağlı kuruluşu
(☐) Uluslararası sermayeli bağımsız bir şirket
(☐) Yerli sermayeli bağımsız bir şirket

4. Kurumdaki konumunuzu hangisi en iyi tanımlıyor?

(☐) Şirket sahibi
(☐) Birim müdürü
(☐) Uzman / Mühendis
(☐) İdari personeli
(☐) Destek personeli
(☐) Diğer, belirtiniz:_____

5. Kurumunuzun kaç çalışanı var? Lütfen belirtiniz:_____

6. Türkiye dışında operasyonlarınız var ise, hangi pazarlara hizmet veriyorsunuz? (Birden fazla seçeneği işaretleyebilirsiniz)

(☐) Kuzey Amerika
(☐) Güney Amerika
(☐) Avrupa
(☐) Ortadoğu

(☐) Orta Asya
(☐) Uzak doğu
(☐) Diğer. Belirtiniz:
(☐) Türkiye dışındaki pazarlarda operasyonlarımız yok

7. Kaç yıldır bu kurumda çalışıyorsunuz? Belirtiniz:

8. Cinsiyetiniz?

(☐) Kadın
(☐) Erkek

9. Eğitim seviyeniz?

(☐) İlk okul
(☐) Ortaokul
(☐) Lise
(☐) Üniversite
(☐)Yüksek Lisans
(☐) Doktora

10. Daha önce yurtdışı tecrübeniz oldu mu?

(☐) Hayır
(☐) Evet- Belirtiniz (Eğitim, iş, yurtdışında yaşamak):_____

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