The Mediating Role of Employee Loyalty between Employee Empowerment and Employee Innovative Behavior: A Study from Teknopark Istanbul

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Abstract
This study investigates the mediating role of employee loyalty on the relationship between employee empowerment and employee innovative behavior. According to literature review, there is a dearth of studies investigating employee empowerment, employee loyalty and its effect on employee innovative behavior. Thus, this study will fill in the gap in the literature. There are two reasons why Teknopark Istanbul is selected for the research. First, Technopark is a new sector in Turkey, and there is a scarce of studies related to the firms operating within technoparks. Second, the firms operating in technoparks have mainly entrepreneurial, technological and innovative nature. In this study, data were collected from 219 employees in technology firms within Teknopark Istanbul, Turkey. The findings of this study indicate that employee loyalty has a mediating role on the relationship between employee empowerment and employee innovative behavior.

Keywords: Employee Empowerment, Employee Innovative Behavior, Employee Loyalty, Technoparks.

JEL Classification Codes: O3, M10, M19

Çalışan Sadakatinin, Personel Güçlendirme ve Çalışanın İnovasyona Yönelik Davranışı Arasındaki Aracılık Rolü: Teknopark İstanbul Örneği

Öz

Anahtar Kelimeler: Personel Güçlendirme, Çalışan Sadakati, Çalışanın İnovasyona Yönelik Davranışı, Teknoparklar.

JEL Sınıflandırma Kodları: O3, M10, M19

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1. Introduction

As a result of globalization, competition has dramatically increased in the world. In this highly competitive, turbulent, and complex environment, organizations must find ways to survive and remain competitive. Customer needs and desires are changing ever so fast and the organizations must be responsive enough to keep up with these demands and compete with the other organizations striving to have a bigger share of the pie.

Organizations must be creative in differentiating from the competitors. Innovativeness here becomes the critical point because innovation is the key for surviving, competing, and succeeding. It is widely acknowledged that human factor is the most significant one in the success of organizations. Humans make up an organization and they need to be motivated, and encouraged to operate successfully and remain within the organization. Innovativeness requires creative, self-determined, and self-directed people with high morale, willing to take risks and initiatives to invent and produce new ideas, products, methods, systems and so on.

People to be innovative on the other hand, need to be empowered; need flexibility within the organization, a setting in which authority, resources, and information is shared, allowing the employees to participate in decision-making, which enhance learning, trust and taking initiatives in contrast to old bureaucratic system with too many layers of hierarchy, strict and concise job descriptions blocking the way for innovative thinking.

An employee to be innovative therefore needs to have appropriate and convenient conditions, and reasons to be loyal towards the organization he or she works to demonstrate innovative behaviors. Thus, realizing the influence of employee empowerment and employee loyalty on employee innovative behavior becomes critical especially for those firms operating in turbulent environments. In other words, especially for the technology firms which aim to be innovative, being aware of the employee empowerment and employee loyalty is critical.

Hence in this study, the mediating role of employee loyalty on the relationship between employee empowerment and innovative behavior is investigated. The study is conducted in five firms within Teknopark Istanbul, innovation hub of Turkey.
2. Literature Review

2.1. Employee Empowerment

The basic assumption in the traditional management was that humans inherently avoid taking responsibility, do not wish to work without receiving constant directives and instructions, and are continuously in need of being managed and controlled strictly. However, as the people’s level of education and expectations have been increasing, employees no longer see this as an appropriate approach to begin with and demand more power, control, and independency within the organization so to keep motivated and perform better (Honold, 1997, pp. 202-203).

The term of empowerment is a concept that is used in many fields, therefore its definition depends on the context. The dictionary defines the verb ‘empower’ in two ways. The first definition is “to give someone more control over their own life or situation”. The second definition is “to give a person or organization the legal right to do something” (Richards, Platt and Weber, 1985, p. 554).

Employee empowerment having multiple dimensions as a concept is very difficult to define and there is not an agreed-upon definition of it (Honold, 1997, p. 202). In the context of organizations, empowerment is defined as a process in which employees at all levels of the organizational hierarchy are given authority for making important decisions and are assigned the responsibility for the consequences of their decisions and actions (Conger and Kanungo, 1988, p. 472; Page and Czuba, 1999, p. 2; Jones, 2010, p.164). Bandura’s (1986) definition of employee empowerment is that employees having a sense of contributing to the organization, and knowing that their work makes sense.

Especially, in today’s rapidly changing, highly turbulent environment with a high degree of innovativeness, employee empowerment becomes a crucial concept in human resources. Employee empowerment is considered as a process of allowing employees to a position whereby they can take active role in decision-making. This makes overall organizational decision-making faster and increases the responsiveness of the organization to the changing situations of the macro-environment and makes the organization readier to cope with the uncertainties the environment involves (Ignore, 2009, p.9).

Employee empowerment is not meant to form a setting in which employees can act independently and freely without being responsible or accountable of their actions, rather employee empowerment provides a setting in which managers and employees cooperate in decision-making and everyone acts as a member of a team in the process (Tuğ, 2010, p.7).
Employee empowerment can be defined simply a motivational tool used to improve employee performance through delegating power to lower levels to enable them making decisions, a shift from a top-down management approach, which is related to building trust and breaking the barriers between managers and employees, and encouraging employees to take responsibility (Yehuda, 1998, p. 82; Jones, 2010, p.421; Hamed, 2010, p. 68; Fernandez and Moldogaziev, 2015, p. 376).

The concept of employee empowerment is viewed from two distinct perspectives by the practitioners and theorists, namely behavioral and psychological perspectives (Niehoff, Moorman, Blakely and Fuller, 2001, p. 96). In the psychological perspective, employee empowerment is addressed from the subordinate’s point of view and how the empowerment process is perceived by them (Spreitzer, 1995, p. 484). On the other hand, in this study, the behavioral perspective is embarked on. Behavioral perspective, basically focuses on the management’s practices of empowering employees through reward systems, encouragement to take initiation and responsibility, emotional support in order to increase success of the employees (Niehoff et al., 2001, p. 96). Another definition of employee empowerment in behavioral perspective is sharing of power with subordinates; delegating power from top managers to middle management, from middle managers until the frontline employees (Psinois, Kern and Smithson 2000, p. 212).

There are three important factors in behavioral employee empowerment perspective; power, resources, and information. Firstly, power is empowering the employee through giving them the necessary autonomy for fulfilling the duties. Secondly, resources, giving the access of necessary resources to the employee in fulfillment of the duties. And lastly information, informing the employee about the changing internal and external environment of the organization (Bolat, 2003, pp. 201-202). At the same time, employee empowerment process requires a flexible and flat structure rather than a traditional hierarchy, and an open system in which communication and information flows in all directions (Potterfield, 1999, pp. 52-53).

Employee empowerment is also used as a key element to reduce resistance in the process of organizational change by involving employees in the change process, as practiced in the most total quality management programs. When the responsibility and decision-making is delegated to work-groups, the number of middle managers will decrease and their task will shift to serving as a facilitator, mentor, instructor, and a sponsor of the empowered. Eventually, this will make them the “new non-manager managers” employees (Jones, 2010, pp. 315-316). When employees are given the authority to make task related decisions they will have the chance to become more self-regulating and self-directing (Niehoff et al., 2001, 94).
Besides, employee empowerment increases drive for taking initiatives, creativeness and innovation through allowing employees to actively participate in the decision-making process which contributes to improve organization’s overall effectiveness (Honold, 1997, p. 203; Psinos et al., 2000, p. 213; Doğan, 2006, p. 153).

Employee empowerment has also been linked with job satisfaction positively in numerous studies (Pelit, Öztürk and Arslantürk, 2011; Sarwar and Khalid 2011; Fernandez and Moldogaziev, 2015). Likewise, organizational culture factors, namely collectivism, doing-orientation and power distance is found to increase employee empowerment perception levels. It is stated that employee empowerment increases organizational commitment (Sigler and Pearson, 2000, p. 27).

In addition to above mentioned advantages, employee empowerment brings about some numerous benefits as following: increased quality, high doses of team work and collaboration, top managers having more time to invest in creating vision, forming strategies, and taking decisions that will differentiate the firm and make it more competitive in the market, cost saving, increased competitiveness, improved customer services, increased span of control, increase in employees’ skills and abilities, employees use talents upmost, becoming a learning organization and increased loyalty (Baird and Wang, 2009, p. 574; Doğan, 2006, pp. 154-166; Hamed, 2010, p. 66; Özbek, 2008, p. 8; Baltaş, 2015, p. 165; Fernandez and Moldogaziev, 2015, pp. 376-377).

Doğan (2003, p. 195) states that besides the above-mentioned benefits previously, there are some pitfalls of employee empowerment as well which should be considered. These concerns are as following: time-consuming, no more strict-control, training costs, informing and convincing the employees, employees’ not accepting responsibility, information technology being costly. At the same time, employee empowerment is criticized to be usually an unsuccessful effort and mostly a myth by some authors, as senior managers tend to show strong resistance because of the old traditional management thought. However, employee empowerment should be seen as a goal that organization work towards in an extended period of time, and not quickly reached (Psinos et al., 2000, p. 213).

In order to encourage employees to use their full potential in their job, it is of need to increase the number of formally assigned tasks, namely job enlargement, in which they will have the opportunity to express a broader range of abilities (Potterfield, 1999, p. 21). According to Niehoff et. al’s work (2001), it is found that, job enlargement and job empowerment is significantly related to employee loyalty. Thereby employees will start to feel more self-determined, competent, and confident. Also in this way, employees will be more productive and satisfied and overall organizational efficiency will increase (Potterfield, 1999, p. 21).
2.2. Employee Innovative Behavior

Continuously changing market dynamics has risen the interest in innovation management and its processes. Changing customer lifestyles and demands forces organizations to be innovative in order to respond better and quicker to the customer needs, and innovation is acknowledged as a central factor for value creation and competitive advantage sustenance (Baregheh, Rowley and Sambrook, 2009, pp. 1323-1324). As the competence and survival of the organizations depend on the innovation today, it becomes much of an emphasis for organizations to encourage innovative behavior of employees (Abdullah, Omar and Panatik, 2016). Therefore, innovative behavior is a critical field of study, since the foundation for high-performance in organizations is innovation (Carmeli, Meitar and Weisberg, 2006, p. 76), which depends on innovative behavior of employees who will develop ideas (Scott and Bruce, 1994, p. 580).

Employees are increasingly seen as the most important source of innovation; therefore, employee innovative behavior is dwelled upon in the recent years as a field of study. In other words, if the employee is contributing significantly in developing new ideas related to products, services, and the processes, he or she is seen as a source of innovation (Jain, 2015, p. 2). In the literature, employee innovative behavior is referred as workforce innovation, employee innovation, employee-led innovation, employee innovative behavior, employee innovation behavior and so on, which are all similar concepts. Employee innovation behavior could be defined as finding easier ways of doing the task at hand, improving the service provided to the customer, finding new ways of solution, or changing the routines in order to provide the customers with new possibilities (Pekdemir, Koçoğlu and Gürkan, 2014, p. 334).

Employee innovative behavior can also be simply defined as the development, adaptation and, implementation of new product or work method ideas in an organization (Shi, 2012, p. 8890). In other words, employee innovative behavior is defined as a process containing three steps explaining how the employee innovates. The first step is the identification of a problem and solving that problem through an already existent solution or idea, an adopted one or a completely new solution. In the second phase, the employee seeks support and sponsorship for his or her innovative idea within or outside the organization. Last is the implementation stage, in which employee prototypes the idea that can be put into production (Scott and Bruce, 1994, pp. 581-582; Carmeli et al., 2006, pp. 78-79).

From another point of view, employee innovative behavior includes multiple facets composing different personality traits, behaviors, and behavior clusters. An employee to be innovative needs to have qualitative personality traits such as being risk-taking, behaviors such as championing, internal coalition building. The basis of employee innovative behavior, though, is individual creativity, and the
actual idea generation or searching for new ideas as aspects of the employee creativity, which are two valid paths towards entrepreneurship. The second important item in employee innovative behavior is acting upon and implementation of the idea. For the implementation, the idea is communicated to the colleagues and managers, and a feedback is required. The approved idea then is put into implementation. In the implementation stage, keeping the enthusiasm for obtaining necessary resources such as time, people and money, organizing them, communicating, overcoming obstacles until reaching an output is required (Lukes and Stephan, 2017, p. 139).

Employee innovative behavior is influenced by perceived work environment, and perceived cultural support towards innovation. Cultural norms, leaders’ and managers’ support explain the organizational cultural support for innovation (Lukes and Stephan, 2017, p. 148). In order to promote innovation, a compatible organizational culture is required. To create an innovation culture, there are several important factors. These are; hiring creative and open-minded people, establishing a system in which property rights are protected, and setting an appropriate structure. The organizational structure affects the employee behavior. Therefore, to speed up innovation, and decision-making, organizational size should be decreased and too many hierarchical levels should be avoided since a bureaucratic system might chase away the creative people or cause conservativeness and risk-avoidance. Intrapreneurs need a certain level of authority and access to resources over their projects to accomplish. Hence, a structure that gives the employees authority and encourages to use the resources in the way to make better use of their skills should be adopted which will facilitate on-going development of new processes, and products. Another way to speed up innovation is use of IT (information technology) which enables timely knowledge and information share with lower levels, whereby increased communication decision-making can be decentralized causing a decrease in hierarchy. IT comes to mean fewer levels of management in dealing with decision-making and problem solving. As well IT helps establishing a proper culture for innovation, as it facilitates sharing of cultural values and norms (Jones, 2010, pp. 401-406).

On the other hand, Scott and Bruce (1994, pp. 582-587) view innovative behavior as an outcome of four factors which are work climate for innovation, leadership, work groups and individual problem-solving style. They pointed out that a flexible climate and a reward based on performance system is related with research and development and innovation. Characteristic of an innovative organization is being creativity oriented, open to change through innovation, in which the employees are encouraged and supported to pursue new ideas through an independent functioning. They also argued that leadership is a critical factor in the process of innovation, especially collaborative and participative leadership is required for the emergence of creativity. The leader-member exchange (LMX) theory that is the degree to which the employee is allowed to greater authority,
decision latitude, and influence on their work, characterized by a mutual trust and respect between the subordinate and supervisor, has an influence on innovative behavior. They argued that the collaborative strive between work groups is the foundation block to idea generation. Besides, when the employee feels that he or she is supported by his or her work group in a cooperative and collaborative way, then that will give him or her a sense of support and encouragement for innovation by the overall organization. Likewise, they suggested that a fit between individual’s style of problem solving, and work environment is required for a high individual performance and also an intuitive style of problem-solving positively influences the innovative behavior.

2.3. Employee Loyalty

In the knowledge economy, employee loyalty is seen as another critical issue. The knowledge is stored and carried in the heads of employees and success of developed countries depend on the supply of knowledge-employees. Therefore, it is very significant to be able to attract and keep employees with high qualifications, and high-level performance for organizations through employee loyalty (Matzler and Renzl, 2006, p. 1263).

Hart and Thompson (2007, p. 300) define loyalty based on cognition in the following way: “An individual’s perception that both parties to a relationship have fulfilled reciprocal expectations that (1) denote enduring attachment between two parties that (2) involve self-sacrifice in the face of alternatives that (3) are laden with obligations of duty.”

Loyalty in its fundamental sense, has an emotional nature of attachment and reaction to the objects. A loyal individual stays through tough times and does not run away when he or she realizes the situation will keep on being tough in the future. A loyal employee is one that is willing to do more than simply what assigned. However, loyalty cannot be referred to as the opposite of disloyalty as it is an emotional attachment not a legal obligatory (Ewin, 1993, pp. 388-389).

Employee loyalty is defined as employee’s attachment to the organization, organizational goals, objectives, and values. It is acknowledged that higher employee loyalty increases the retention possibility of the employees (Chen, Chen, Tsui, and Chiang, 2016, p. 108). Employee loyalty concept means that the employee strives for organizational interest rather than his or her own individual interest, and demonstrates behaviors of attachment and psychological belongingness towards these organizational interest (Koç, 2009, p. 203). The concept includes, supporting and endorsing organizational objectives and staying with the organization even under hard and tough conditions as well (Podsakoff, MacKenzie, Paine and, Bachrach, 2000, p.517).
In other words, employee loyalty is a bond towards a person, a group or organization and it includes the feelings of belongingness; an intense desire to be a part of something, willing to contribute even through personal sacrifice, and trust; volunteering to work with the group, and following the organizational leader and rules (Ceylan and Özbal, 2008, p. 88).

Graham (1991, p. 255) defines employee loyalty as allegiance employees to their leaders and organization showing representative behaviors in which they shield the organization from threats, work in cooperation with colleagues for the organizational interest, and enhance the organizational reputation.

Employee loyalty and employee commitment is often confused. There is a common point between loyalty and commitment which is that they both signify a belongingness towards a being or an organization. The differentiating point, however, is that loyalty is stronger than commitment and is unilateral. It is noted that employee loyalty is a consequence of organizational commitment. Loyalty is individuals’ willingness of a continuous identification with the organizational goals and objectives, believing in organization’s values and principles without questioning. It may not always have a logical reasoning as in organizational commitment (Koç, 2009, p. 205).

The level of feeling loyal towards an organization may be high, medium, or low. In low level of organizational loyalty, the individual is not keen to adopt the organization’s goals and objectives, striving towards those and continuing being a member of the organization. And in high level of employee loyalty, the individual’s belief in organization is high, strives and shows effort, and desires to stay as a member of the organization in the future. In medium level these are moderate (Koç, 2009, p. 207).

Most of the studies about loyalty in the management science and economics take Hirschmann’s work (1970) as basis and the concept is interpreted as attitudes that encourage to voice, to express and that discourage to leave the organization. Looking at it from the psychological perspective, it is a psychological feeling regarded as commitment, attachment to, or identification of oneself. Loyalty might have either of a moral or an emotional nature, and a direct observation of it might not be so easy. In the behavioral perspective, though, loyalty can be observed as it is an obvious materialization within the relationship of employee and the organization. In spite of some sources of dissatisfaction, employee shows loyalty by preferring to stay in the organization and adopts constructive behaviors. However, it is argued that this behavior that seems like loyalty from outside might have a different intention. Therefore, a mixed approach of psychological and behavioral perspectives is adopted by a number of researchers. In this approach loyalty is defined in three ways: (1) a relation of trust, resisting to adopt an opportunistic behavior a job offer is received from outside, (2) a strong sense of belongingness, serving the company for a long period of time, weak tendency in
searching or considering job offers from outside, (3) willingness of staying within the organization for a significant length of time coupled with a sense of belonging. Summing up all the above definitions it is concluded that employee loyalty is a multidimensional construct (Guillon and Cezanne, 2014, pp. 840-842).

In a recent study (Ionaid et al., 2016), the factors that increase employee loyalty are found to be human resources applications such as transparent rewards systems, holiday packages, tasks assigned corresponding to the employee’s education level, private medical assurance, gym membership packages, distance to office, and the factors that cause disloyalty are working under pressure with too many tasks, inequality occurring at the workplace, inflexible work hours, and dress codes.

Aquila (2007, p. 22) states that “without clients we would not have a firm, but without employees we would not have clients” arguing that it is more important to make employees loyal and satisfied first, as the employees are the foundation for the success and the profitability of the organization. If the employees are loyal, customers will be loyal too.

Employee loyalty is based on a relation of trust, a strong sense of belongingness, and willingness of staying within the organization (Guillon and Cezanne, 2014, pp. 840-842). Interpersonal trust and employee satisfaction is argued to be a crucial determinant of employee loyalty (Matzler and Renzl, 2006, p. 1264). Also employee loyalty is argued to have correlation with service quality, customer satisfaction, customer loyalty which ultimately increases the organization profitability (Yee, Yeung and Cheng, 2009). Engaged employees that are loyal play important role in increasing the competitive advantage of the organizations (Bhatnagar, 2007, 645).

As the employees are the main assets in survival and well-being of an organization, it is crucial to keep employees’ motivation and loyalty high. Loyal and motivated employees will work for the interest of the organization and contribute to the improvement of overall organizational performance (Jauch, Glueck and Osborn, 1978, p. 84; Bloemer and Schröder, 2006, p. 260; Narteh and Odoom, 2015, p. 116).

2.4. Studies Related to Employee Empowerment, Employee Innovative Behavior and Employee Loyalty

In this part, the studies from literature review regarding employee empowerment, employee innovative behavior and employee loyalty are mentioned.

Niehoff et al. (2001) studied how behavioral employee empowerment and job enrichment impact loyalty behaviors of the employees in a downsizing organization context through 145 surveys collected. The findings reveal that employee empowerment has an indirect impact on employee loyalty through job
enrichment. Another study reached the same result which is made by Narteh and Odoom (2015) in their study conducted in Ghanaian retail banking sector, it is found that employee empowerment is the main driver of employee loyalty. Other internal marketing activities such as, rewards systems, effective communications system, training and compensation have also been found to increase employee loyalty.

Çavuş and Akgemci (2008) investigated how employee empowerment influences organizational creativity and innovativeness, in 25 firms operating in Turkish manufacturing industry with a sample size of 280. The findings of the study suggested that employee empowerment has significant impact on organizational innovativeness and creativity. Another research made by Fernandez and Moldogaziev (2012) also reached the same results. In their empirical study, it was found that employee empowerment as a managerial approach increases encouragement to innovate. The study included, 154,793 federal government employees, in public sector. The study also done by Wu and Le (2012) supported the studies above. In their research, they studied the effects of employee empowerment on individual innovative behavior with a sample number of 185 in companies from various sectors in China. The findings suggested that, there is a positive effect of employee empowerment on individual innovative behavior.

Uzunbacak (2013), in his doctorate thesis investigated how employee empowerment effects employee innovative behavior. The scope of research consisted of 444 surveys collected from employees at Burdur and Isparta Suleyman Demirel Organized Industrial Zone. In the research, it is found that strengthening employee empowerment positively influences the employee innovative behavior. The same conclusion reached by the study done in Korea by Rhee, Dae Seog, Bozorov and Dedahanov (2017) with a sample number for 750 among high-skilled employees in manufacturing sector. They investigated the relationship between organizational structure and employee innovative behavior, with employee empowerment as a mediating factor. The findings suggested that centralization and formalization negatively affect employee empowerment, and employee empowerment is associated with innovative behavior positively.

3. Research Methodology

3.1. Purpose and Importance of the Research

This study aims to focus on the relationship between employee empowerment, employee innovative behavior and employee loyalty. According to literature review, there is a dearth of studies investigating employee empowerment, employee loyalty and its effect on employee innovative behavior. Thus, this study will fill in the gap in the literature.
There are several reasons why Teknopark Istanbul is selected for this research. First, Technopark is a new sector in Turkey, and there is a scarce of studies related to the firms operating within technoparks. Second, the firms operating in technoparks have mainly entrepreneurial, technological, and innovative nature. A literature review shows that it is critical for this kind of firms to keep employee innovative behavior and employee loyalty high to succeed. It is also seen in the literature that employee empowerment is required to achieve employee innovative behavior and employee loyalty. Therefore, this research is expected to contribute to the related literature body and to overall success of technology firms in strive for innovation.

In this research, the purpose is to investigate the mediating role of employee loyalty on the relationship between employee empowerment and employee innovative behavior.

3.2. Participants and Sampling of the Research

This research includes employees working in R&D firms within Teknopark Istanbul. There are 3500 employees in total, and 220 firms in Teknopark Istanbul. All firms have been reached via e-mail and face-to-face contacts. As Teknopark Istanbul’s focus areas are mainly defense, for strategical and confidential reasons most of the firms disagreed participating in the research. Only 5 R&D firms have agreed to participate in this study. These 5 firms have 457 employees in total. For various reasons, the names of these firms are kept confidential. The surveys were distributed by hand and collected by the researcher. The sample size has been determined as 209 employees for a population of 457 employees, at a 95% confidence interval and 5% significance level. Convenience sampling method was used. The data were obtained from 250 respondents. Because of missing or wrong data 31 surveys were eliminated. The research has been conducted with 219 surveys left.

3.3. Research Model, Variables and Hypothesis of the Study

In this research there are three variables. The variables that have been dealt with in this study are as below:

- **Independent variable**: employee empowerment
- **Dependent variable**: employee innovative behavior
- **Mediating variable**: employee loyalty
In Figure 1, the research model is as given. It has been demonstrated that there is mediating effect of employee loyalty on the relationship between employee empowerment and employee innovative behavior.

![Figure 1: Research Model](image)

For the purpose of this study, the research hypothesis is determined as:

$H_1$: Employee loyalty significantly mediates the relationship between employee empowerment and employee innovative behavior.

3.4. Measurement Instrument of the Research Variables

In this research, surveys are used as a means of data collection. The questionnaire used in this research consists of 4 main parts. In the first part, there are questions determining the demographic features of the respondents (gender, age, marital status, education, years of experience in work life, and in the current job).

In the second part of the questionnaire, there are statements determining the employees’ perception about how empowered they are by their manager. The employee empowerment scale has been formed by Niehoff (2001) and consists of 15 items and has one dimension. There are not any reverse statements in the scale. The researcher has benefited from Pelit’s (2011) study for the English to Turkish translation of employee empowerment scale.

In the third part of the questionnaire, there are statements determining the level of employees’ tendency towards innovativeness. The employee innovativeness behavior was measured using the employee innovative behavior scale developed by Subramaniam and Moslehi (2013). The scale consists of 6 items and has one dimension. There are not any reverse statements in the scale. English to Turkish translation of the employee innovative behavior scale was obtained from Pekdemir et al. (2014) study.

In the fourth part of the questionnaire, there are statements determining the loyalty level of the employee towards the organization. The employee loyalty scale was measured using the scale obtained from Matzler and Rentz’s (2006) study. The
scale consists of 5 items and has one dimension. There are not any reverse statements in the scale. The original scale was developed by Homburg and Stock-Homburg (2001), in German language. The researcher has benefited from Matzler and Rentzl’s (2006) translation from German to English of the scale. The scale was translated from English to Turkish by the researcher and validated by an English linguist which is a native speaker.

The items in all three scales, have been measured by using a 5-point Likert type scale. Likert type scale 5 corresponds to, “Strongly Agree” (5), “Agree” (4), “Neither Agree nor Disagree” (3), “Disagree” (2), “Strongly Disagree” (1).

4. Findings

4.1. Descriptive Statistics

The frequency distribution and percentages regarding the demographic features of the 219 employees are given at Table 1.

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<th>Table 1: Demographic Features of the Respondents</th>
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<td><strong>Gender</strong></td>
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The percentages regarding the respondents’ demographic features are as below:

77.2 % of the respondents are men, and 22.8% of the respondents are women. According to responses, 10.5% are at ages between 20-24, 37.0% are between 25-
29, 27.4% are between 30-34, 17.8% are between 35-39, 7.3% are 40 or more. 52.1% of the respondents indicated they are married, and 47.9% are single. Most of the respondents hold a Bachelor degree (64.8%), or a Masters’ Degree (30.6%), 1.4% of respondents hold a high school degree and 3.2% hold a doctorate degree. The years of work life experience of the respondents concentrate on more than 6 years with 41%, 19.2% have 5-6 years’ experience, 19.2% have 3-4 years’ experience, 11.9% have 1-2 years’ experience, and 8.7% have 1 or less than 1-year experience in their work life. Experience years of respondents at the current job percentage concentrates on 0-1 years with 28.8%. 19.6% of the respondents have 1-2 years’ experience, 26.5% have 3-4 years’ experience, 11% have 5-6 years’ experience and 14.1% have 6 or more years of experience at their current job.

4.2. Factor and Reliability Analysis

4.2.1. Employee Empowerment Factor and Reliability Analysis

In the factor analysis of employee empowerment scale the KMO value is found 0.94. This test was found significant at 0.000 level. This shows an excellent value, and data gathered through respondents is suitable for factor analysis (Durmuş, Yurtkoru and Çinko, 2012, p.80). According to the factor analysis, all 15 items of the scale loaded strongly and distinctively on separate factor as in the original scale.

According to the result of reliability analysis regarding the employee empowerment scale, Cronbach Alpha is 0.95. This indicates a high reliability value (Sekaran, 1992, p.633). As a result, after the factor and reliability analysis, the latest situation of the employee empowerment scale is same as in original one, which means it consists of one dimension and 15 items.

4.2.2. Employee Innovative Behavior Factor and Reliability Analysis

In the factor analysis of employee innovative behavior scale the KMO value is found 0.87. This test was found significant at 0.000 level. This indicates an excellent value and data gathered through respondents is suitable for factor analysis (Durmuş et al., 2012, p.80). According to the factor analysis, all 6 items of the scale loaded strongly and distinctively on separate factor as in the original scale.

According to the results of reliability analysis regarding the employee innovative behavior scale Cronbach Alpha is 0.90. This indicates a high reliability value (Sekeran, 1992, p.633). As a result, after the factor and reliability analysis, the latest situation of the employee innovative behavior scale is sa
4.2.3. Employee Loyalty Factor and Reliability Analysis

In the factor analysis of employee loyalty scale the KMO value is found 0.84. This test was found significant at <0.05 level. This indicates an excellent value and data gathered through respondents is suitable for factor analysis (Durmuş et al., 2012, p.80). According to the factor analysis, all 5 items of the scale loaded strongly and distinctively on separate factors as in the original scale.

According to the results of the reliability analysis regarding the employee loyalty scale Cronbach Alpha is 0.92. This indicates a high reliability value (Sekaran 1992, p.633). Therefore, none of the items from the 5-items scale were eliminated. As a result, after the factor and reliability analysis, the latest situation of the employee loyalty scale is same as in original one, which means it consists of one dimension and 5 items.

4.3. Descriptive Analysis of Variables

In this part, the mean values of each scale are provided. Table 2 demonstrates mean, and standard deviation values regarding employee empowerment which consists of 15 items and ranging form of 5-point likert scale.

<table>
<thead>
<tr>
<th>Employee Empowerment</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>My immediate supervisor;</td>
<td>3.93</td>
<td>0.99</td>
</tr>
<tr>
<td>EE1 “Encourages me to believe in myself.”</td>
<td>3.91</td>
<td>0.99</td>
</tr>
<tr>
<td>EE2 “Gives me freedom and flexibility to experiment.”</td>
<td>3.93</td>
<td>1.05</td>
</tr>
<tr>
<td>EE3 “Wants me to get involved when I see a need and not wait to be told or given permission.”</td>
<td>3.99</td>
<td>0.98</td>
</tr>
<tr>
<td>EE4 “Helps remove roadblocks.”</td>
<td>3.79</td>
<td>1.00</td>
</tr>
<tr>
<td>EE5 “Inspires me to do more than I thought I could.”</td>
<td>3.86</td>
<td>1.06</td>
</tr>
<tr>
<td>EE6 “Establishes trust and credibility when relating to me.”</td>
<td>3.83</td>
<td>0.99</td>
</tr>
<tr>
<td>EE7 “Encourages me to openly express my feelings.”</td>
<td>3.59</td>
<td>1.07</td>
</tr>
<tr>
<td>EE8 “Helps me set meaningful goals.”</td>
<td>3.68</td>
<td>1.15</td>
</tr>
<tr>
<td>EE9 “Encourages me to focus on what can be done rather than what has always been done.”</td>
<td>3.79</td>
<td>1.01</td>
</tr>
<tr>
<td>EE10 “Recognizes that the betterment of the team is as valuable as the results achieved.”</td>
<td>3.79</td>
<td>1.04</td>
</tr>
<tr>
<td>EE11 “Conveys ownership by talking in terms of our customer, our budget, our business.”</td>
<td>3.60</td>
<td>1.16</td>
</tr>
<tr>
<td>EE12 “Encourages a long-run, patient, disciplined approach versus a ‘flash in the pan’ approach.”</td>
<td>4.21</td>
<td>1.01</td>
</tr>
<tr>
<td>EE13 “Is willing to give his or her time when I need it.”</td>
<td>3.94</td>
<td>1.07</td>
</tr>
<tr>
<td>EE14 “Develops trusting relationship by sharing information.”</td>
<td>3.70</td>
<td>1.11</td>
</tr>
<tr>
<td>Employee Empowerment Average</td>
<td>3.84</td>
<td>1.04</td>
</tr>
</tbody>
</table>

EE: Employee Empowerment
According to descriptive analysis, the mean values of employee empowerment is between 3.59 and 4.21. The average mean value of employee empowerment is 3.84. The average standard deviation is 1.04. When looked at average values, it can be stated that participants have moderately high employee empowerment perception.

Table 3 demonstrates mean, and standard deviation values regarding employee innovative behavior which consists of 6 items and ranging form of 5-point likert scale.

Table 3: Mean Values of Employee Innovative Behavior

<table>
<thead>
<tr>
<th>Employee Innovative Behavior</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>EIB1 “My suggestions to improve current products or services increased.”</td>
<td>3.61</td>
<td>1.06</td>
</tr>
<tr>
<td>EIB2 “My suggestions to improve current work practices have increased.”</td>
<td>3.71</td>
<td>1.03</td>
</tr>
<tr>
<td>EIB3 “I have increased my acquisition of new knowledge.”</td>
<td>4.01</td>
<td>1.02</td>
</tr>
<tr>
<td>EIB4 “In my job, I have actively contributed to changing the work organization.”</td>
<td>3.77</td>
<td>1.04</td>
</tr>
<tr>
<td>EIB5 “I have found new approaches to execute my job tasks.”</td>
<td>3.71</td>
<td>1.02</td>
</tr>
<tr>
<td>EIB6 “I constantly search out new working methods, techniques or instruments.”</td>
<td>3.78</td>
<td>0.99</td>
</tr>
</tbody>
</table>

EIB: Employee Innovative Behavior Average 3.77 1.02

According to descriptive analysis, the mean value of employee innovative behavior is between 3.61 and 4.01. The average mean value of employee innovative behavior is 3.77. The average standard deviation value is 1.02. When looked at average values, it can be stated that participants have moderately high employee innovative behavior perception.

Table 4 demonstrates mean, and standard deviation values regarding employee loyalty which consists of 5 items and ranging form of 5-point likert scale. According to descriptive analysis, the mean value of employee loyalty is between 3.77 and 4.18. The average mean value of employee loyalty is 4.00. The average standard deviation value is 1.12. When looked at the average values, it can be stated that employees have a high loyalty perception.
Table 4: Mean Values of Employee Loyalty

<table>
<thead>
<tr>
<th>Employee Loyalty</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>EL1 &quot;I speak positively about my company when talking to customers.&quot;</td>
<td>4.18</td>
<td>0.93</td>
</tr>
<tr>
<td>EL2 &quot;I speak positively about my company when talking to friends and relatives.&quot;</td>
<td>4.09</td>
<td>1.04</td>
</tr>
<tr>
<td>EL3 &quot;I can recommend the products and services of my company to others.&quot;</td>
<td>4.10</td>
<td>1.02</td>
</tr>
<tr>
<td>EL4 &quot;I would like to stay with this company also in the future.&quot;</td>
<td>3.85</td>
<td>1.50</td>
</tr>
<tr>
<td>EL5 &quot;I would not change immediately to another company if I got a job offer.&quot;</td>
<td>3.77</td>
<td>1.14</td>
</tr>
<tr>
<td><strong>Employee Loyalty Average</strong></td>
<td><strong>4.00</strong></td>
<td><strong>1.12</strong></td>
</tr>
</tbody>
</table>

4.4. Hypothesis Testing

In this research, it is expected to find a mediating effect of employee loyalty on the relationship between employee empowerment and employee innovative behavior. The so called mediating variable, refers to the variable which mediates on the relationship between two variables, or the influence of an independent variable on a dependent variable (Saruhan and Özdemirci, 2011, p.129).

For the purpose of the research, the hypothesis is determined as below:

1. $H_1$: Employee loyalty significantly mediates the relationship between employee empowerment and employee innovative behavior.

With the information given above, hypothesis testing is as following:

In the first phase of hypothesis test, the regression analysis which explains the effects of independent variable; employee empowerment ($x$) on dependent variable; employee innovative behavior ($y$) is demonstrated on Table 5.

Table 5: First Step Regression Analysis

<table>
<thead>
<tr>
<th>Dependent Variable: Employee Innovative Behavior</th>
<th>Independent Variable: Employee Empowerment</th>
<th>Beta</th>
<th>t value</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>R=0.706; Adjusted $R^2=0.496$; F value=215.668; p value=0.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As seen on Table 5, in the first step of regression analysis employee empowerment and employee innovative behavior is added to the model. According to regression analysis findings, there is a significant effect of employee empowerment on employee innovative behavior ($p=0.000<0.05$). Changes in employee innovative behavior is explained by employee empowerment at 50% (Adjusted $R^2$). Also, as seen on Table 5, when one unit increases in employee

72
empowerment, employee innovativeness increases by 0.706 (β). Thus, it can be stated that when employee empowerment increases, employee innovative behavior rises.

In the second step of hypothesis, the effects of independent variable; employee empowerment (x) on mediating variable; employee loyalty (m) is examined.

**Table 6: Second Step Regression Analysis**

<table>
<thead>
<tr>
<th>Dependent Variable: Employee Loyalty</th>
<th>Independent Variable:</th>
<th>Beta</th>
<th>t value</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employee Loyalty</td>
<td>Employee Empowerment</td>
<td>0.783</td>
<td>18.513</td>
<td>0.000</td>
</tr>
</tbody>
</table>

R=0.783;  Adjusted R²=0.611;  F value=343.742;  p value=0.000

As seen on Table 6, according to regression analysis findings, there is a significant effect of employee empowerment on employee loyalty (p=0.000<0.05). Changes in employee loyalty is explained by employee empowerment at 61% (Adjusted R²). Also, as seen on Table 6, when one unit increases in employee empowerment, employee loyalty increases by 0.783 (β). Thus, it can be stated that when employee empowerment increases, employee loyalty rises.

In third and last step of hypothesis testing, the effect of independent variable; employee empowerment (x) together with mediating variable; employee loyalty (m) on independent variable; employee innovative behavior (y) is examined. The result of the analysis is demonstrated on Table 7.

**Table 7: Third Step Regression Analysis**

<table>
<thead>
<tr>
<th>Dependent Variable: Employee Innovative Behavior</th>
<th>Independent Variables:</th>
<th>Beta</th>
<th>t value</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employee Innovative Behavior</td>
<td>Employee Empowerment</td>
<td>0.275</td>
<td>4.060</td>
<td>0.000</td>
</tr>
<tr>
<td>Employee Innovative Behavior</td>
<td>Employee Loyalty</td>
<td>0.551</td>
<td>8.138</td>
<td>0.000</td>
</tr>
</tbody>
</table>

R=0.785;  Adjusted R²=0.613;  F value=173.366;  p value=0.000

As seen on Table 7, in order to determine the mediating role of employee loyalty on the relationship between employee empowerment and employee innovative behavior both steps were examined. The effect of employee loyalty (m) on employee innovative behavior is positive and significant (p=0.000<0.05). The result explained that employee loyalty significantly affects employee innovative behavior. And also the effect of employee empowerment on employee innovative behavior when controlling for employee loyalty is still significant and reduced. (β
for employee empowerment in step three is 0.275 which is less than \( \beta \) for employee empowerment in step one 0.706). It can be stated that there is a partial mediating effect. Therefore, 1\( H_1 \) is accepted.

Accordingly, it can be concluded that there is a partial mediating effect of employee loyalty on the relationship between employee empowerment and employee innovative behavior. Also, it can be stated that the more empowered and loyal employees are, the more innovative behavior they would demonstrate. Thus, this reveals that 1\( H_1 \) is supported.

5. Conclusion

This research aims to investigate the mediating effect of employee loyalty on the relationship between employee empowerment and employee innovative behavior. For this purpose, this research was conducted with 219 employees working in Research and Development (R&D) firms located in Teknopark Istanbul.

In today’s world, innovation is acknowledged as a central factor in value creation and competitive advantage sustenance. Also, since survival of the organizations depend on the innovation today, it becomes much of an emphasis for organizations to encourage innovative behavior of employees. Employee innovative behavior refers to developing, adapting and, implementing of new product or work method ideas in an organization. Innovative behavior is a critical factor, because the foundation for high-performance in organizations is innovation. In other words, the performance of organizations depends on innovative behavior of employees. Therefore, employees are seen as the most important source of innovation.

To achieve above mentioned innovative behavior in employees, employees need to be allowed to act innovatively. In turn, employees need authority and space to get creative, innovative, and initiative. All this can be achieved by an empowerment which breaks the traditional barriers between managers and employees. Employee empowerment is a modern approach of management, which means more flexibility, an atmosphere of trust and encouragement within the organization.

Another critical issue in the success of technology firms is employee loyalty. Since the knowledge is stored and carried in the heads of employees, success of organizations depends on the supply of knowledge-employees. Therefore, it is very significant to be able to attract and retain employees with high qualifications and high-level performance through employee loyalty. Employees are most vital assets for the organizations. Motivating, nurturing, and supervising them become of important activities in attaining organizational objectives. Engaged employees that are loyal play important role in increasing the competitive advantage of the organizations as the human factor, especially loyal employees are difficult to
emulate by the competitor organizations. Employee loyalty is the employee’s attachment to the organization, organizational goals, objectives, and values. Because, loyal employees work aligned with organizational goals, protect, and enhance the reputation of the organization, and willing to stay with the organization through hardships. Thus, loyal employees are motivated and demonstrate high performance.

Relatedly, results of this study indicate that, there is a relationship between employee empowerment and employee innovative behavior. According to findings of this study, the higher employees are empowered, the more they behave innovatively. This means, for employees to behave innovatively they need to be empowered; given the necessary power and authority within the organization. The reason why employee empowerment and employee innovative behavior have positive relationship in this study, lies in the fact that the participants of the research, work at Research and Development (R&D) firms which exist to innovate, and the participating firms expect innovative ideas from the employees. As mentioned before, in order to be able to create innovative ideas and implement, employees should have the necessary authority, power, information and resources to make decisions and take action. In other words, employees need to be empowered to be able to innovate.

Another finding of this study is that there is a positive relationship between employee empowerment and employee loyalty. This means, the more empowered employees are the more loyal they become. When employees are allowed to make their own decisions while performing their tasks and are given the necessary support, power, authority, and resources they will feel more loyal. In such case employees will stay with the organization. In other words, their loyalty will be increases.

Moreover, in this study it was found that loyal employees are more inclined to demonstrate innovative behavior within their workplaces. Loyal employees have the feeling of attachment, and belongingness, a feeling of owning the organization and that is why they are willing to improve and protect the organization. This leads employees to demonstrate more of innovative behavior which is in benefit for the success and sustainability of the organization.

To conclude, the findings of this research in the scope of R&D and technology firms are as following. Firstly, when employees are empowered, their innovative behavior levels will increase. Secondly, when employees are empowered, their loyalty levels towards the organization will increase. Thirdly, when employees’ loyalty increases their innovative behavior will increase. Lastly, according to findings, employee empowerment positively influences employee innovative behavior, and employee loyalty strengthens this relationship as a mediating factor.
Based on the findings of this research, the managerial recommendations are as following. In order to encourage employee innovative behavior in technology firms, managers should increase employee empowerment. Employees can be innovative when they are empowered. This means, employees should be provided with necessary support, encouragement, flexibility. They should be also given the power, authority, resources, information, and be allowed to make decisions regarding their tasks. In this way employees will have the opportunity to be more innovative.

Based on the findings, as employees are empowered, their loyalty levels increase. When employees are loyal, they act and work in line with the interests of organizational goals more eagerly and have higher motivation to innovate. There are various ways how employee loyalty can be increased. When employees are empowered they will be more loyal. Therefore, to make employees loyal, managers should empower them. In order to increase employee loyalty, it can be recommended to managers, to empower employees, to provide necessary trainings for skill developments, to provide career pathing support, to make frequent evaluations, to recognize the good performance, to offer a good salary, to offer challenging tasks to employees, to offer holiday packages, private medical insurance, gym membership packages, flexible work hours, and flexible dress code etc.

One of the limitations of this research is that, the sample of research consists of employees working in R&D firms within Teknopark Istanbul. Because of the time limitation and location convenience, the sample was limited with the employees working at R&D firms in Teknopark Istanbul for the research. Another limitation is that, employees might have responded in a subjective manner when filling in the surveys. Moreover, even though there might be many other variables effecting both employee empowerment and employee innovative behavior and employee loyalty separately, in this research the focus is on the mediating effect of employee loyalty on the relationship between employee empowerment and employee innovative behavior. In other words, in this research only employee loyalty has been taken into consideration as a mediating factor between employee empowerment and employee innovative behavior. All other possible mediating factors were kept out of the scope of this research.

For further studies it can be recommended to consider other topics, such as employee commitment, intrinsic motivation, work context, job satisfaction, trust, leadership, organizational culture, organizational structure, sectoral features, demographic features, size of the firms, and other managerial approaches.
References


