Impact of IT Teams on Digital Transformation and Innovation

Authors

Samet Çulha[1*]

Affiliations

[1]Master's Program in Management Information Systems, Graduate School of Social Sciences Yeditepe University, Istanbul,34755, Turkey.

*To whom correspondence should be addressed; E-mail; samet.culha@yeditepe.edu.tr

Abstract

In today's rapidly evolving business landscape, digitization has become an essential aspect for companies across various industries. The integration of digitization has resulted in improved efficiency, productivity, and profitability for businesses. The transition towards digitization has allowed companies to streamline operations, reach new customers and markets, minimize costs, and increase their revenues. As the world becomes increasingly interconnected, companies that fail to embrace digital transformation may risk becoming irrelevant and missing out on opportunities for growth. Therefore, digitalization has become a crucial component for companies to remain competitive in today's market. The aim of this study is to determine the criteria required for IT teams to be more effective in their digital transformation and innovation projects. The thesis evaluates the topics of digital transformation and innovation, risk tolerance, digital governance, corporate entrepreneurship, and knowledge sharing by dividing them into sub-headings through a survey of 143 IT professionals from different sectors. As stated in our hypotheses, it was observed that these sub-headings positively influence each other. The thesis is prepared to assist organizations in achieving greater success in their digital transformation and innovation projects. It specifically focuses on the impact and contribution of IT teams and provides managerial recommendations.

Keywords: Digital transformation; innovation; it teams; project management

1.INTRODUCTION

Gartner's Glossary of Information technologies defines digitalization as applying digital technologies to alter a company model and create profit. Digital technology allows organizations to offer better, longer-lasting services. Digital transformation involves customer-value-added enhancements, digital technologies, and new business models. (Piccinini, 2015). Many firms think digital transformation means digitizing paper data. Digitalization is more. Digitalization improves information accessibility and transparency (Kuusisto, 2015). Digital transformation helps companies rethink their business models and procedures, making them more adaptable.Businesses are rethinking value chains due to digital revolution. Over half of the world's major firms have declined since 2000 due to their inability to adapt to digitalization. Businesses must adopt digital transformation to succeed (Baur and Wee, 2015). Businesses are now adapting their procedures to digitization. International organizations and governments are conducting digital transformation strategic foresight studies (Ebert and Duarte, 2018).

Researchers call digitalization the "second machine age" (Brynjolfsson and McAfee, 2014) or "computerization" (Bowles, 2014; Frey and Osborne, 2017), while Germany calls it "Industry 4.0." Project teams will include people and non-human systems as organizations adapt to the fourth industrial revolution (Marnewick&Marnewick, 2020).

In recent years, digitalization has impacted project management and most other corporate areas. Traditional project management techniques must be Industry 4.0-compatible (Thee and Kham, 2018). Industry 4.0-compatible project management methods boost productivity, save costs, and provide companies a competitive edge. Companies must include Industry 4.0's project management innovations into their operations while transitioning to Industry 4.0. Universities and training centers have developed digital transformation-based project management certification programmes to prepare workers for Industry 4.0 and improve human resources. Many firms are now creating digital transformation departments to organize their efforts.

Project completion requirements exist. At the outset of the project, Venczel et al. (2021) recommend identifying project success criteria, components, and models. Project failure rises with incorrect success model selection. Selecting a suitable success model promotes project success.

This report discusses how IT and business unit managers must digitise their teams and procedures to compete. Based on literature, the study will examine digital transformation and innovation project success criteria that may be used to digital project management procedures. The research will also offer practical suggestions for digitizing project management methods, addressing real-world IT project management difficulties.

1.2. Innovation

Innovation boosts prosperity and solves social issues (OECD, 2005). Product, process, marketing, and organization are defined (Gault, 2018). Since 2005, Oslo Manuak articles 146 and 150 have been used to establish business innovation statistics (OECD, 2005).

Par. 146. Innovation is the introduction of a new or considerably better product, process, marketing strategy, or organizational approach in business, workplace, or external connections.

Paragraph 150. Innovations are applied. Introduced products are deployed. When the business uses new procedures, marketing, or organizational approaches, they are implemented.

Gault states that product and process innovation must be "new or significantly improved," while two techniques must be "new." An innovation survey respondent evaluates the product, process, or methodology (Gault, 2018).

Innovation systems study these relationships and how cultural, organizational, and institutional factors affect innovation.

National innovation systems should incorporate all economic, social, political, organisational, institutional, and other factors that affect innovation generation, dissemination, and use, according to Boteltho (2020). Julia et al. categories innovations by many criteria. Product innovations include both new products and significant improvements to existing ones, according to the OECD. Process improvements alter manufacturing and delivery. New organizational techniques impact corporate operations, workplace organization, and external relationships. (Naranjo-Valencia, 2016).

1.3. Digitization and Industry 4.0

Industry 4.0 has prioritized digital technologies. Digital technologies were more than a technological transformation, as organizations and researchers realised (Henriette et al., 2015). Digital transformation has changed how firms do business and interact with customers,

suppliers, and other stakeholders (Matarazzo et al., 2021). Digitalization covers strategy, people, culture, talent development, and leadership as well as technology (Goran et al., 2017).

Digital transformation, according to Verhoef et al. (2021) and PwC (2013), is "a company's use of digital technologies to create more value or develop a new digital business model." Hess et al. (2016) define digital transformation as using technology to change company models, products, organizational structures, and processes. Digital transformation involves using new digital technologies to enhance customer experience, automate operations, and improve core business processes (Horlacher et al., 2016).

Digital transformation occurs when all sectors adopt new business models and digital technologies, changing how they operate and serve customers. Silvia et al. consider digital transformation and innovation, business process issues, and digital technology.

Digital innovation and change impact consumption and manufacturing. Every day, a new enterprise in a different field impacts our lives. A recent study of leading retailers found that 64% consider digital innovation vital to their business and 28% consider it at least very significant. New technology and better systems are the foundation of digital transformation. Although these stages are significant, this concept does not encompass digital change. If an organization wants to compete, it should innovate rather than just adapt. Companies must plan for this. Digital change begins here (Albukhitan, 2020).

To be competitive in the Digital Age, organizations need more than IT procedures (Gomes et al., 2019).

In the 2000s, IT managers focused on business process automation, according to Amy Van Looy. Digital business innovation is growing. Thus, many practitioners value business process management (BPM), which strategically aligns firm processes through methods, strategies, and management ideas to improve business outcomes, compliance, and long-term competitiveness. (Looy, 2021).

According to the 2018 World Economic Forum research, digitization of aviation, travel, and tourism will generate $1 trillion for business and society over the next decade. Digitalization saves customers money and time and reduces environmental impact.

1.4. Project Management in Industry 4.0

Lehmann (2010) summarised two project management approaches: classic and modern. Project management from a mechanical to an organic perspective distinguishes these two methods. Technological developments, globalisation, and consumer orientation, together with company emphasis shifts, cause this transition. Whyte et al. (2016) advocated a novel project management technique. In these research, emergent sectors including digitally connected organisations, consumer electronics, and software development have influenced project management.

Taner and Biçer (2020) examined how technology affects project management. Their research examined how technology advances affect project management factors (organisation, coordination, efficiency, standardisation, and constraints). Industry 4.0 has forced firms to analyse and adapt to new technologies that shape their growth and development. These developments have made project management essential for many firms' digital transition (Santos, 2018). Digitalization influences technology, organisation, and management across sectors and nations. Project management, a change management tool, drives and executes digital transformation. (Braun, 2020).

Classical initiatives have distinctive tasks, transitory organisations, and strategic building components. Project management technologies can help firms enhance processes with agility and quality in the fourth industrial revolution (Esteves et al., 2020). Industry 4.0 requires improved project management methods. Project managers in Industry 4.0 must handle the internet of things, system integration, autonomous systems, augmented reality, simulation, big data, cyber security, and cloud technology (Thee and Kham, 2018). Digital advancements must be used by companies to stay competitive (Morford, 2020).

Stoll, a construction and engineering business, used digital transformation in their social network application to improve project and collaboration. Klein, 2020. In 2013, Slovenian insurer Triglav Group began its customer-focused digital transformation initiative. The project established their own finance, payroll, and IT systems in their branches and shifted control to the project management offices. Triglav Group's project management office's digitization efforts increased online sales 160% and reduced operational expenses 15% (PMI, 2019).

After 2017, project management research on digitalization has accelerated. Khan (2020) studied Industry 4.0 principles in project management, monitoring, and control, whereas Morford (2020) examined digital transformation in project management offices. Simion et al. (2018)

define Industry 4.0 project management as digitalization, virtualization, internationality, professionalisation, agile project management, and project-organization connection.

Marnewick and Marnewick (2020) discuss Industry 4.0 project team expectations and skills. The study found that project team members will need critical thinking and problem-solving skills. The research also notes that adding AI-powered robots to project teams might change their structure. Feise and von Hatzfeldt (2019) examined how digitalization affects IT project teams. Bajwa and Deichmann (2018) examined project managers' cloud-based project management tool usage. Esteves et al. (2020) evaluated Industry 4.0 project management and its skills requirements. Blaskovics (2018) examined project managers and digitization. Barthel and Hess (2019) compared digital transformation initiatives to traditional project management using four quantitative case studies. Pinto et al. (2021) examined scenarios for analysing and selecting digital transformation projects and used the ground theory approach (GTM) to seven Brazilian telecoms providers. Kaya et al. (2014) showed that Sweden's "Digital Pulse Methodology" for managing product development deviations has been used to global company initiatives. Milin and Arsenijević (2012) examined how project management software affects project success. More than 70% of the research participants did not utilise any project management software, which negatively impacted the project and diminished its quality. Ribeiro et al. (2021) investigated Industry 4.0 project manager knowledge and competencies. Morford (2020) examined how project management offices use digitalization in project-based enterprises. Taner and Biçer (2020) examined how Industry 4.0 technologies affect project management. Marnewick&Marnewick (2020) examined which leadership style is best for introducing new technology. They helped determine the finest Industrial Revolution project team management methods.

Digitalization and quick improvements in information technology have also changed project tools and approaches to meet cost, time, and quality goals (Bajwa and Deichmann, 2018). Project management expertise changes too. Project management expertise includes inclusion, scope, time, cost, quality, resource, communication, procurement, stakeholder, and risk management. 2017 (PMBOK):

1) Project management identifies, defines, consolidates, unifies, and coordinates many processes and project management activities within process groupings.

2) Project scope management ensures that the project contains just the work needed to finish it.

3) Project Time Management involves scheduling and managing project completion.

4) Project cost management involves organising, foreseeing, planning, funding, managing, and regulating expenditures to execute the project within budget.

5) Project quality management involves planning, managing, and regulating the project to meet stakeholders' expectations and the organization's quality policy.

6) Project resource management involves finding, acquiring, and managing project resources.

7) Project communication management ensures timely and accurate gathering, development, shipment, storage, retrieval, management, control, monitoring, and disposal of project information.

8) Project risk management includes risk assessment, analysis, intervention planning, implementation, and monitoring.

9) Project supply management involves purchasing goods, services, or outcomes from outside the project team.

10) Project stakeholder management involves identifying individuals, groups, or organisations that may influence or be affected by the project, analysing stakeholder expectations and their impact, and developing appropriate management strategies to effectively include stakeholders in project decisions.

Simion et al. (2018) examined Industry 4.0 advancements in seven project management knowledge domains.

They characterise Industry 4.0 as eleven technologies. These technologies include intelligent manufacturing plants, cyber-physical systems, dimensional printers, big data, cloud computing systems, cyber security, system integration, autonomous robotics, augmented reality, and simulation. To keep up with digital change, the organisation must employ these technologies in harmony (Ömürgönülşen, 2019):

1) The Internet of Things is objects connecting, engaging, and finding data. Real-time data shows object communication. This allows real-time decision-making.

2) Smart factories limit employees and automatically collect production data. Smart factories will make production safer, cheaper, and greener. These factories combine machine learning, automation, and artificial intelligence into manufacturing.

3) Cyber-physical systems let smart items communicate. These real-time data acquisition and transmission technologies provide intelligent control and production systems. Sensors link cyber-physical systems to the real world.

4) Three-dimensional printers layer-print tangible objects. This approach uses three-dimensional digital sketches or models. This printer is used for limited-run unique items. After consumer needs are expressed, production and design adjustments become easier.

5) Big data is useful data from datasets. Big data has volume, speed, diversity, accuracy, and value. Big data storage is expensive due to its scale and variety. Data compression and size reduction solve this.

6) Cloud computing solves the huge data data storage dilemma. This technology lets companies store data online instead of in data centres. Thus, data is always accessible.

7) Cyber security: Big data and cloud computing provide advantages, but data security is a concern. This technique protects computer networks.

8) System integration increases system functionality by integrating various subsystems. Horizontal, vertical, and end-to-end digital integration exist. Vertical integration integrates hierarchical levels (production management and corporate planning), whereas horizontal integration integrates information technology into multiple company stages (procurement, logistics, production, etc.). Vertical and horizontal integration underpin end-to-end digital integration. End-to-end integration involves real-world and digital integration throughout the engineering process and between enterprises and product value chains.

9) Computer-programmed robots are autonomous. Factory robots speed up output. Labour productivity improves and human-induced mistakes decrease.

10) Computer-presented data affects people's senses in augmented reality. Education uses this technology.

11) Simulation is mathematically modelling a real system. Model inputs are changed to repeat the experiments. 5000 simulations and 5000 experiments resulted. It does not get the best outcome as this technological optimisation. Digital transformation advances companies. It

improves project management by enabling real-time decision-making and activity control (Silva, 2017).

1.5. Literature Review

This section discusses project success criteria and gathers relevant research. Digital transformation and project management will be compared.

1.5.1. Digitization Success Factors

Digital transformation generates value in consumer interactions and internal operations for all firms, regardless of industry (Zaoui and Souissi, 2020). Organizations cannot thrive just by being digital. Success depends on several technologies and circumstances (Zaoui and Souissi, 2020).

Years of digital transformation survey study by McKinsey culminated in 2018. The survey shows that fewer than 30% of organizations succeed in digital transformation, proving that it is harder than imagined. Sixteen percent said their organizations had enhanced digital transformation but have not adapted to maintain advances. Digital transformation processes fail in many organizations. Lack of information of Industry 4.0 technologies, leadership issues in a changing environment, and business executives' lack of time to promote awareness caused this failure (Fairoos et al., 2020).

Digitalization studies have success elements. Morakanyane et al. (2020) ask, "What do digital samples do to ensure that they are successful in their digital journey, and how do they do it?" Bolatan and Gözlü (2019) identified critical success factors for Industry 4.0 projects and surveyed 31 Turkish companies. Big data management was shown to be Industry 4.0's most crucial success element. Strategic vision ranks third after smart factories.

Moeuf et al. (2020) examined risks, opportunities, and critical success factors for SMEs implementing Industry 4.0. The analysis suggests prioritizing education and supporting SMEs with external specialists for Industry 4.0 project success. Jonathan (2020) examined public sector digital transformation success variables. Cichosz et al. (2020) examined logistics service provider digital transformation hurdles, success factors, and pioneering practices. Osmundsen et al. (2018) list seven success factors for digital transformation: an enabling and agile

organizational culture, well-managed transformation activities, information benefit, involving managers and staff, increasing capabilities in information systems, developing changing competencies, developing digital business strategy, and including information systems. Errays and Tourabi (2021) investigated company digital transformation success variables. The research showed that respondents supported digital transformation. Digital transformation success depends on internal elements (qualified employees, shortage of funding, leader support, technological acceptability, etc.) and external factors (government backing). 2018 McKinsey research shows how firms may use technology to transition digitally. Several elements have been shown to boost conversion rates.

The expense of technology developments, hazards of digital transformation, lack of a supportive corporate culture, lack of digital skills, data management issues, and standardization issues all hinder digital transformation. (Morford 2020).

Digital transformation success factor studies were reviewed. The investigation identified several success elements.

1) An accommodating corporate culture

2) Effective change

3)Information Use

4)Manager-employee involvement

5) Enhance information system capabilities

6)Dynamic competencies

7) Develop a digital business plan to integrate information systems.

8)Digital-minded leaders

9) Future Worker Skills

10) Encouraging innovative work.

11Digitising common tools

12) Frequent conventional and digital communication

13)Data management

1.5.2. Digitization and Innovation Project Success Factors

Capture (2021) calls project management digitalization a "accelerator of success." Many departments collaborate on digital transformation projects. Management tools help overcome complexity and strategically deploy digitalization across the firm, emphasizing the relevance of the following stages for professional project management in digital transformation.

1) Strategic foresight and operational excellence to integrate the company's digitalization strategy with project implementation.

2) Optimizing budgets and human resources

3) Communicating with numbers and facts to manage stakeholders

4) Building a high-performance project organization using best practices

1.5.3. Risk Tolerance

Risk in finance tolerance, a significant factor in financial decision-making, is the utmost degree of uncertainty people are ready to tolerate. Aren (2016). Financial risk attitudes affect savings, investments, diversification, insurance, and retirement planning. Thus, financial decisions based on risk tolerance affect people, financial markets, and the economy (Fisher and Yao, 2017). In unpredictable financial markets, financial risk tolerance is becoming increasingly crucial (Gilliam et al., 2010). Financial risk-takers can handle uncertainty and market fluctuations better (Fisher and Yao, 2017). For this reason, scholars, practitioners, and policymakers like portfolio managers and investment advisers have studied financial risk tolerance and its variables.

Demographic factors include age, gender, married status, education, and income. Economic aspects include wealth, work position, and property ownership. Personality, attitudes, and beliefs determine (Grable and Joo, 2004). Past financial actions, expectations for financial

markets, and culture also affect financial risk tolerance (Kourtidis et al., 2017). As shown, financial risk tolerance is multifaceted.

Financial choices should consider personality attributes and psychological biases (Jameel and Siddiqui, 2019). In addition, understanding how personality traits affect financial risk tolerance and financial decisions will help portfolio managers and investment advisors make better decisions for their clients or provide advice that better matches their financial goals and expectations.

The Turkish Language Association (TDK) Dictionary defines risk as the "possibility of incurring loss or decrease in economic benefit that may lead to damage." Different fields of science define risk differently. Financial risk is the chance of a transaction-related loss or a drop in economic advantage that may lead to a loss (Demireli, 2007). Financial risk tolerance is a person's willingness to take risks in perilous financial situations. Grable (2000). Financial risk tolerance opposes risk aversion (Hallahan et al., 2003). Thus, risk-averse people avoid danger.

Risk-takers behave differently. Financial risk-averse people strive to minimize their losses. They also shun high-uncertainty tasks to gain additional knowledge about them. However, those with high financial risk tolerance are more confident and willing to take risks (Anbar and Eker, 2009). Stocks and financial market trading are more common in high-risk investors. Risk-takers may priorities portfolio diversification less (Kourtidis et al., 2017).

Everyone perceives danger differently due to their habits, upbringing, and personalities. Since everyone perceives risk differently, their investing selections will vary. People who are low risk in one setting and high risk in another might see the same situation as more or less perilous. Thus, an individual may perceive the same danger level differently in various scenarios (Ceyhan, 2008). This shows that personality greatly affects risk perception.

Personality is a set of traits that make a person distinctive (İçerli and Arsu, 2019). Personality is a mix of temperament and situational traits (Horzum et al., 2017). Personality characteristics separate an individual's feelings, ideas, and behaviors under particular conditions (Roberts, 2009). Personality combines intrinsic biological and psychological traits and learned talents, motivations, attitudes, and temperament (Paksoy et al., 2019).

A thorough personality evaluation model has been developed from substantial personality research, even though there is no uniform definition of personality. Five-factor personality model (Golberg, 1990). Language theory underpins five-factor personality model. It suggests

that individual differences observed in people will be encoded as the common language of the world and reflected in the spoken language through these words, allowing a classification to cover the personality structure of the individual (Çelebi and Uğurlu, 2014). F suggested several words. Galton in 1884 and G. W.Allport and H. Odbert (1936). Using these studies, R. 1957 Cattell discovered 16 personality variables (İçerli and Arsu, 2019). W. In 1963, Norman factored a 20-scale grading system into five fundamental elements (Deniz and Erciş, 2008). Early 1980s, P. Costa, R. Studies by R. McCrae led to the five-factor personality model (Çelebi and Uğurlu, 2014).

The five-factor personality model, popular in psychology and sociology, divides personality into five aspects. These are extroversion, agreeableness, responsibility, emotional balance/imbalance (neuroticism), and openness to experience. The model sets these personality components, known as the "big five," at the top of the personality hierarchy and covers any smaller personality qualities where these factors are at lower levels (Dinç et al., 2013). The five-factor personality model comprises two components (Costa et al., 1991). The five-factor personality model is based on clear and conceptual ideals and can easily distinguish different persons.

1.5.4. Digital Governance

Nearly every sector is developing multidimensionally today. Transitioning from industrial society to information society, Fordist production to flexible production, nation states to globalisation, and modernist philosophy to post-modernism (Tekeli, 1996) is a picture. This multidimensional change process erodes the circumstances that make management legitimate and viable, resulting in new searches or the abolition of management. The state struggles to meet growing and complicated demands (Yüksel, 2000). This environment naturally impacts management. Due to this quick transition, "Public Administration" ruled in the 1970s, "Public Policy and Management" in the 1980s, and "Governance" in the 1990s (Dunsire, 1995).

The literature defines governance as "the structure or order formed by the outcomes obtained by the joint efforts of all relevant actors in a socio-political system," which is widely accepted. (Bozkurt, 1998). It shows how management styles have formed at the margins between public institutions and the private sector, where conceptions are muddled, and emphasises

restructuring management to manage better (Stoker, 1998). It organises network systems with interdependent positions and actors with conflicting and opposing objectives and envisions a heterarchical relationship and division of labour instead of hierarchical and vertical (Kuzgun, 2015). The concept, defined by the UN as "the use of economic, political and administrative authority in the management of a country's affairs at all levels (Habitat II, 2000)," has been seen as an effective tool for implementing neoliberal policies. In recent years, it has been linked to efficiency and effectiveness within the development paradigm.

In fact, the concept has long been used to describe the form of relationship between shareholders and company managers in the management process of private companies (Şaylan, 2000), envisaging a system that involves managing together with participation instead of a top-down unilateral management style. The participation of non-governmental organizations and the private sector in the management forms the basis of the concept, from decision making to supervision at every stage (Yılmaz, 2001). This confirms the fact that governance is a phenomenon inherent to self-governing networks of relationships. The actors and institutions involved in the process reach a certain behavioral capacity to nurture and develop their own resources, skills and goals for a long-term cooperation (Yüksel, 2000) as well as develop a system of roles, norms and values. In addition, they direct rights and powers as far as possible towards the general public interest (Kirlin, 2001) and contribute to the formation of an institutional perspective in this direction.

Governance in general in the literature is divided into three areas. The first one is the economic governance which includes the processes that affect a country's economic activities and relations with other economies (Habitat II, 2000) and has effects on equality, poverty and quality of life (Finance Minister, 2003). The second is the political governance which sets out the decision-making processes in policy-making. Finally, the third area is the administrative governance, which includes the policy implementation system (Habitat II, 2000). Furthermore, in terms of governance, a three-fold classification can be made based on the scale of cooperation between public institutions, the private sector, and civil society organizations, namely supranational, national, and local scales (Karaman, 2000). These are spatial differences that can arise in participation dimensions and be based on ideological foundations. In addition, common types of governance can be specified as global, public, and good governance. Today, digital governance is at the core of our work.

Global governance requires an environment in which international actors, as well as national actors, agree to achieve the goals set in the newly emerging world order (Karaman, 2000). In

addition, it goes beyond the capacity of nation states to govern and tries to formulate cooperation between governments and non-profit civil society organizations by implying the absence of a central authority (Özdek, 1999). As it is known, the most important meeting on global governance was held in Birmingham, England in May 1998. In this meeting, where the main points of the Kyoto Agreement signed in 1997 were discussed, developed countries made efforts to solve serious global problems. The global nature of these problems has made clear the necessity of international efforts to solve them. However, the lack of a world government necessitates interstate cooperation to ensure success in global governance (Faulk, 1999). Nevertheless, many states today still persist in using classical methods to solve problems and resist changing the structures of their management processes (Kettl, 2000). Public governance has also become increasingly crucial in this process. The notion encompasses the administration of networks comprised of national, regional, and local political, social, and economic pressure and interest groups, as well as social, private, and commercial organizations. (Kickert, 1997). It is subject to managing the complex structure formed by the network relations of many different actors. In this process, unlike the classical understanding, it envisages going beyond efficiency and effectiveness in the functioning of public administration (Kickert, 1997).

Good governance—global and public—ensures rule of law, citizens' security, an independent judiciary, fair and accurate public expenditure management, transparent governance that holds politicians accountable for their actions, and easy access to essential services (Yüksel, 2000).

Digital governance has been added to these types of governance in recent years, and efforts have been made to eliminate the lack of technological dimension in the process. Today, classical management systems are being restructured within the scope of digitalization and governance, just as "tectonic plates change valleys and hills". Who has the power? Who makes the decisions? How will multiple actors make their voices heard in the face of the current monopolization? Who will be held accountable and how? By asking such questions, the classical understanding is challenged, and it is intended to change these classical perspectives that lack information, distribute power, and redesign accountability and responsibility (Institute on Governance, 2016). In this process, technological developments are mostly utilized. Technological developments seen throughout the world also affect the understanding of public administration, and efforts are made to benefit from the opportunities provided by information and communication technologies in the service delivery of public institutions (Başa, 2012).

In this process, digital governance elements are rapidly spreading. In the past, citizens saw the state as an entity that stood between them and the information or service they needed. Today,

citizens have direct access to information and services through technology, and the new understanding sees citizens as partners in government affairs rather than.

1.5.5. Knowledge-Sharing

Since industrialized nations have now chosen a knowledge-driven growth system rather than capital-based development, knowledge has become a natural phenomenon as it is created and exchanged. Beyond just being a part of the system, knowledge is recognized as a critical component of the management system in businesses. Traditionally, businesses have efficiently managed three sorts of resources: financial, human, and material. Today, the availability of knowledge is the most significant organizational resource (Drucker, 1993). As Drucker (2000) points out, the foundation of 21st-century organizations is no longer money, capital, or technology; it is knowledge (Schwartz, 2006). When scientific studies are examined, many scientists (Grant, 1996) touched on the importance of knowledge in helping organizations gain competitive advantage. Nanda (1996) stated that knowledge is a potential source of competitive advantage due to its unique, rare and very difficult to imitate by others, and Bornemann and Sammer (2003) stated that knowledge is a source of value creation due to its characteristic.

Knowledge has become a product that can be produced continuously, transferred through communication, divided, shared and substituted with production factors (Güredin, 1994). In this respect, managers should support the production of knowledge instead of trying to control it. The production of knowledge here does not only mean the production of new knowledge. Taking an existing knowledge from another organization and using it in its own organization is also a production of knowledge (Erkan, 1998). It is through knowledge sharing that managers spread individual learning throughout the company and integrate it into practical applications (Yang, 2007). In addition, effective knowledge sharing helps organizations to manage their decision-making processes in a healthier way. Because the value of the knowledge shared will directly affect the decision of the organization. For this reason, it is important that the

knowledge is accurate, comprehensive, valid, applicable, complete, accessible at the right time, cost-effective, as well as being able to share in a healthy way within the organization.

In today's business world, the fact that businesses are only at a competitive level is not enough to continue their existence. Now, all businesses are striving to reach a competitive level through their employees and thus gain a competitive advantage. In this context, innovation is accepted as the most important phenomenon in providing competitive advantage today (Eren et al, 2013). The primary goal in innovative business behavior is to enable the willingness to come up with new ideas within the work role, group or enterprise. The aim here is, is to create benefit in role performance, group or organization. In this way, employees adapt to the requirements of the job by developing, encouraging, and improving their thoughts and they can also improve themselves and their organizations (Ceylan and Özbal, 2005). Therefore, it is necessary to focus on the ability of employees to assimilate, internalize and systematically use their innovative behaviors for the benefit of the organization (Beğenirbaş and Turgut, 2016).

In the past, the role of technology as a source of competitive advantage in banks was small. However, today, as soon as a new technology emerges in the banking sector, we live in an age where the adoption of this new technology by banks takes a very short time. When we examine the place and importance of knowledge sharing in the banking sector, we see that knowledge sharing has brought about a change in financial instruments and that this change has undergone a continuous evolution with technological progress. With the use of knowledge and the use of knowledge sharing in the banking sector, the efficiency and competitiveness of the institutions in this sector have increased. When the previous studies on knowledge sharing in our country are examined, it can be seen that this concept is addressed only in the banking sector in the research by Karavardar (2012), where the relationship between employee relations and knowledge sharing within the organization is examined. However, in this study, the factors affecting knowledge sharing processes were not mentioned. Therefore, it is understood that the concept is not adequately addressed in the banking sector, where knowledge is used and shared intensively. Therefore, in this research, individual, organizational and technological factors affecting knowledge sharing and the effect of knowledge sharing process on innovative business behavior were examined on bank employees.

Previous research in this field included Lee's (2001) knowledge sharing, Ipe's (2003) activity of transferring or disseminating knowledge from one person or organisation to another, and Bartol and Srivastava's (2002) process of transforming one person's knowledge into a form that can be understood, assimilated, and used by others. Hendriks (1999) referred to employees who

share organisational knowledge with other employees. Lin broadened knowledge sharing. Lin defines knowledge sharing as a culture of social engagement where people share information, experience, and abilities across an organisation. Knowledge sharing involves ensuring employees have access to relevant information and developing and utilising information networks inside the organisation (Lin, 2007). Knowledge sharing definitions emphasise voluntary exchange of organizational-related knowledge or help among employees, striving to build new abilities, and being positive (Karaaslan et al., 2015). Knowledge sharing requires a source and an aim. Knowledge sharing varies from knowledge transfer (Yençeri and Demirel, 2007). Knowledge transmission is how the recipient interprets the communication (Nonaka and Takeuchi, 1995). Knowledge is distributed without testing its success. Sharing knowledge requires a consenting recipient. Knowledge sharing is voluntary and based on reconciliation (Yençeri and Demirel, 2007).

Knowledge sharing between individuals and organisations helps organisations turn individual knowledge into economic and competitive value (Hendriks, 1999). information sharing relies on people who can explain, encode, and share information (King, 2005). Gurteen (1999) argued that knowledge sharing is synergistic and that a person's discussion with others helps them get new insights and improve their ideas. Sharing and building on others' expertise is the only way to take use of information. Employees who develop, exchange, and apply knowledge determine an organization's knowledge utilisation (Ipe, 2003). Employee knowledge sharing should benefit organisational assets and resources (Dawson, 2001). Employees exchanging knowledge creates fresh information (Lin, 2007). Knowledge-sharing behaviour includes explicit (written or encoded) and implicit (mental) forms (King, 2005). Davenport (1997) distinguished sharing from reporting. Reporting is systematic knowledge exchange. Sharing, on the other hand, is an intentional act of a person who freely shares information. Sharing helps coordinate operations, but information integration needs everyone to know each other's expertise (Grant, 1996).

Since knowledge's value and utility depend on social ties, power equations in organisations complicate knowledge sharing. Knowledge is communicated informally and depends on work culture (Ipe, 2003). However, workplace learning hurdles will inhibit management-employee team sharing of private knowledge (Argyris and Schon, 1978). Again, managers and workers' knowledge sharing, dedication to the organisation, and trust in working relationships affect organisational knowledge sharing (MacNeil, 2003). Due to uncertainty, some people are unwilling to share information for fear of being labelled uneducated and unfit for job progress. "Knowledge is power" (Hendriks, 1999). Employees may worry that revealing their own

expertise may reduce their edge (Bartol and Srivastava, 2002). Despite the "knowledge is power" attitude, retaining information instead than sharing it is common in competitive environments (Yang, 2008). People must realise that sharing knowledge benefits them. Because "knowledge is power" has turned to "knowledge sharing is power" today. If individuals realise that sharing their knowledge helps them do their work better, they will be able to maintain their employment and accelerate their personal and career development, which will lead to knowledge sharing (Gurteen 1999).

2.RESULTS

As investigated in this thesis, it was confirmed that there is a significant and linear relationship between the dimensions of intrapreneurship, knowledge sharing, digital governance and risk tolerance as confirmed by tested hypotheses.

It has been observed that gender and marital status differences have no effect on innovation and digital transformation within IT teams. For this reason, it can be concluded that IT managers do not to make a gender-based choice when appointing IT team members.

Age difference is significant only in the context of knowledge sharing. It was determined that the knowledge sharing average of the participants aged 18-25 was statistically higher than the knowledge sharing average of other age categories. This result shows that especially the Z generation is more willing to share knowledge. For this reason, IT managers are recommended to have Z generation personnel in their teams, especially in innovation and digital transformation projects.

3.DISCUSSION

Regarding the employment positions, the technicians, have overall higher averages in all categorical variables, which might be somewhat of an unexpected finding. On the other hand, this may be due to the fact that because technicians perform the most hands-on applied tasks,

they may be more inclined to be involved with a wider range of issues and search for solution alternatives, and therefore more directly exposed to the research variables in question.

In general, demographic and social status differences were found to have little or no significance on the explored dimensions. This unexpected result may be due to the homogeneous nature of the selected sample, in the sense that a more diverse range and higher number of participants could have provided more meaningful and useful findings.

4.CONCLUSION

Digitalization is a crucial issue for the success of contemporary businesses in most sectors. In this thesis, the major components of digitalization processes in the IT sector were investigated based on data gathered from IT teams. The levels of intrapreneurship and knowledge sharing of the participants included in the research positively predict their digital transformation and innovation levels. The findings point to significant facts and managerial implications with respect to the importance of the development of intrapreneurial capabilities of IT team members in digitalization processes. This can be achieved to some extent with an open minded organizational culture in which learning from mistakes is encouraged. This will also enhance the innovative mindset of the individuals.

The encouragement and facilitation of knowledge sharing among IT team members is also evidently crucial in the success of these processes. On the other hand, the investigations were made specifically for IT teams. It is recommended to conduct a similar study to investigate knowledge sharing dynamics in a cross-unit context where the relationships between IT teams and other departmental units are also taken into account to improve knowledge sharing capabilities of IT employees.

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