

AN EMPIRICAL RESEARCH ON STRATEGIC MANAGEMENT SENSITIVITIES AND DIGITALIZATION PROCESSES OF BUSINESSES

İŞLETMELERİN STRATEJİK YÖNETİM DUYARLILIKLARI VE DİJİTALLEŞME SÜREÇLERİ ÜZERİNE AMPİRİK BİR ARAŞTIRMA

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ABSTRACT

Businesses must develop and successfully implement strategies compatible with the environment to gain and maintain competitive advantage. Today, the most important issue affecting the business in the environment is the disruptive technologies that occur in the field of information and communication technologies (ICT). Today, every business, large or small, has a digitalization strategy. In fact, the business itself is becoming a digital entity. For this reason, information technology (IT) and strategic management are becoming more and more related. The aim of this research is to examine the relationship between strategic management sensitivity, which is the primary and most important step of the strategic management process, and IT capability. The research is an empirical and explanatory field study. Data collection method is survey. The population of the research consists of companies operating in Istanbul and reaching a certain level of digitalization. The sample is 388 managers who agreed to participate in the research and confirmed that their firm has digitalization projects. A scale consisting of three sub-dimensions, namely planning sensitivity, process sensitivity and distribution, dissemination, and action sensitivity, is used to measure strategic management sensitivity of enterprises. To measure the IT capability variable, the IT capability scale consisting of IT infrastructure capability, IT business spanning capability and IT proactive stance sub-dimensions was used. Percentage and frequencies, normality analysis, reliability and validity analysis, analysis of variance, correlation and regression analysis were performed using the data obtained from the questionnaire. Analysis results show that there are statistically significant results between strategic management sensitivity and IT capability. It has been determined that the variables differ according to the sector, number of employees and digitalization levels.

Keywords: Strategic Management Sensitivity, IT Capability, Digitalization, Strategic Management

ÖZET

İşletmeler, rekabet avantajı elde etmek ve bunu sürdürmek için çevreyle uyumlu stratejiler geliştirmek ve bunu başarıyla uygulamak zorundadır. Günümüzde çevrede işletmeyi etkileyen en önemli konu bilgi ve iletişim teknolojileri (BİT) alanında meydana gelen yıkıcı teknolojilerdir. Günümüzde küçük veya büyük her işletmenin bir dijitalleşme stratejisi vardır. Aslında işletmenin kendisi bir dijital varlığa dönüşmektedir. Bu nedenle bilgi teknolojileri (BT) ve stratejik yönetim konusunu her geçen daha çok ilişkili hale getirmektedir. Bu araştırmanın amacı stratejik yönetim sürecinin birincil ve en önemli adımı olan stratejik yönetim duyarlılığı ile BT yeteneği arasındaki ilişkinin incelenmesidir. Araştırma ampirik ve açıklayıcı bir saha çalışmasıdır. Veri toplama yöntemi ankettir. Araştırmanın evrenini İstanbul'da faaliyet gösteren ve belirli bir dijitalleşme düzeyine ulaşmış şirketler oluşturmaktadır. Örnekleme, araştırmaya katılmayı kabul eden ve firmalarının dijitalleşme projeleri olduğunu onaylayan 388 yöneticidir. İşletmelerin stratejik yönetim duyarlılığını ölçmek için planlama duyarlılığı, süreç duyarlılığı ve dağıtım, yayma ve eylem duyarlılığı olmak üzere üç alt boyuttan oluşan bir ölçek kullanılmaktadır. BT yetenek değişkenini ölçmek için BT altyapı yeteneği, BT iş kapsamı yeteneği ve BT proaktif duruş alt boyutlarından oluşan BT yetenek ölçeği kullanılmıştır. Anketten elde edilen veriler kullanılarak yüzde ve frekanslar, normallik analizi, güvenilirlik ve geçerlilik analizleri, varyans analizi, korelasyon ve regresyon analizi yapılmıştır. Analiz sonuçları stratejik yönetim duyarlılığıyla BT kabiliyeti arasında istatistiksel olarak anlamlı sonuçlar olduğunu göstermektedir. Değişkenlerin sektör, çalışan sayısı ve dijitalleşme seviyelerine göre farklılaştığı tespit edilmiştir.

Anahtar Kelimeler: Stratejik Yönetim Duyarlılığı, BT Kabiliyeti, Dijitalleşme, Stratejik Yönetim

1. INTRODUCTION

The success of businesses highly relies on the effective and correct execution of management activities. In fact, businesses need a purpose of existence to be established. Then, the tasks that need to be performed to achieve the goals are determined and delegated to appropriate people according to their competencies. Thus, a business or a non-profit organization comes to life. It is the responsibility of managers and leaders to carry out the basic tasks necessary to establish business organizations and to maintain. Managers perform these duties and responsibilities at different management levels. Generally, there are three levels of management: top, middle and first line. While the top management level is responsible for strategic decisions and planning, middle managers manage the units of the organization (departments, districts, projects, division, stores, agents etc.). First line managers are responsible for directing the day-to-day activities of nonmaterial employees in the organization (Griffin, 2012; Northouse, 1998; Rahman, 2012; Robbins et al., 2014; Robbins & Coulter, 2002; Robbins & Judge, 2017; Yukl, 2008).

Three management levels must successfully carry out their duties for achieving determined goals and competitive advantage. However, the environment in which the organization is constantly changing, and the organization must keep up with this change. Organizations that cannot be aligned with the changes in the environment cannot survive. In fact, this fact became one of the vital management principles that open system approach management suggest (Bolman, L. G., & Deal, 1984; Kast & Rosenzweig, 1972; Papanek, 1973). The open systems approach, which argues that living organisms change and develop by adapting to the environment, appeared for the first time in the field of biology (von Bertalanffy, 1950). The idea of managing organizations from a macro perspective goes back to Henry Fayol's bureaucratic management approach. However, although the bureaucratic management approach is a macro approach, it focuses on the detailed analysis of the components of the organization including human relations, technology, and structural elements instead of the effects of the environment. (Fayol, 1949; Kast & Rosenzweig, 1972).

Successful managers apply the systems approach intuitively and indirectly. Although unfamiliar with organizational theories, they sense the change and can adjust their actions and decisions accordingly (Kast & Rosenzweig, 1972:459). The intuitive behavior of managers in is still important, however adapting to the environment is vital, and must be managed professionally in such competitive environment and rapidly changing environment. strategic management approach argues that adaptation of organizations to the environment and the management of this process must be carry out in harmony and without creating conflict with the environment (Lynch, 2015). Today, the most important change in the environment is in the field of technology. Particularly Information and communication technologies (ICT) has largest impact on the organizations and business firms. Organizations must monitor delicately the developments in ICT field and to consider these technologies as a leverage for gaining strategic competitive advantage and to develop strategic plans in accordance with this understanding (Bento et al., 2014). Correct and timely adaptation to the environment is related to the strategic sensitivity level of the organization (Lu & Ramamurthy, 2011). In this study, the relationship between the strategic sensitivities of organizations and their information technology capabilities will be examined and discussed.

2. THEORETICAL BACKGROUND

2.1. Strategic Management And Impact Of Technological Environment

Strategic management is the process of setting the organizational goals, devising policies and plans to achieve those goals, and allocating resources to implement these strategic plans (Parnell, 2014; Raduan et al., 2009). Strategic leadership is about adjusting strategic behavior to the opportunities and threats posed by the environment. Thus, it can be said that the strategic management process is a series of activities related to the environment. Today, the predictability of environmental change is gradually decreasing. The importance of predictive ability depends on the magnitude of the environmental impact and the speed with which the firm adapts to it. If the impact is small and the response is fast, predictability is not important. However, when the impact of change is significant, it is crucial to have awareness in advance of preparation and sufficient time for action. If a change is repetitive in the past, the organization will have the ability and experience to manage that process. On contrary, if the change is entirely new, none of the previous capabilities will be implemented and significant additional time will be needed to adapt (Ansoff, 2007).

Strategic management literature essentially focuses on the question of why one firm outperforms another firm and provides explanations on such as resource-based, opportunity-based, and competitive advantage (Porter, 1986; Raduan et al., 2009). However, the most important element of strategy today is the use of technology to create customer value. Because many companies' products, services, business models and competitive advantage are built on technology and depend on technology. Nowadays, it is impossible to develop a business strategy without considering technology, particularly information technology (Furr, 2021). Information technologies have become a strategic element with the value they add to the organization. In addition, it also assumes the role of a border scope, where the organization can monitor its environment and provides information flow from the environment to the environment (Laudon & Laudon, 2018). Information technology is generally regarded as an element that enables a firm's agility. However, the opposite can happen if information technology investment strategies are not devised correctly. While spending more on IT does not lead to greater agility, spending effectively and purposefully for improving IT capabilities aligned with business plan can enhance organizational agility. IT capability is a firm's ability to acquire, use and configure IT resources to support and improve business strategies and business processes. IT capability is critical for a firm to realize its business value and maintain its competitive advantage. We can define IT capability under three main headings: IT infrastructure capability, IT business spanning capability, and IT proactive stance. IT infrastructure capability is a company's ability to build sharing platforms. IT

infrastructure capability indicates how good the company is at managing data management and IT architecture, networking services, and portfolio of applications and IT services. IT business spanning capability is the ability of a firm's management to plan and use IT resources to support and improve business objectives. It is a capability that reflects the degree to which the firm has developed a clear IT strategic vision. And IT proactive stance is a firm's ability to proactively seek ways to adopt IT innovations or leverage existing IT resources to create business opportunities (Lu & Ramamurthy, 2011).

2.2. Strategic Management Sensitivity

Strategic agility requires to develop timely strategic options and make well-structure decisions, as required by rapidly changing competitive conditions, instead of being stuck with rigid strategic planning processes. Strategic agility demands a keen awareness of strategic conditions as well as the ability to conceptualize in general to identify and develop strategic alternatives (Brannen & Doz, 2012). Strategic agility emerges from the combination of strategic sensitivity, leadership unity and resource fluidity capabilities. Strategic sensitivity requires early and keen awareness of changes and the ability to combine that awareness with strategy. Additionally, it requires strong external orientation and a participatory strategy development process and rich, intense, and open internal communication environment. Leadership unity, the ability of senior executives to make decisions together, allows decisions to be made quickly when a strategic situation is perceived. Resource fluidity refers the existence of in-house processes to reconfigure business systems and redistribute resources quickly (Doz & Kosonen, 2008). Because strategic agility is to adapt the strategic change process continuously and timely according to the circumstances, this ability is directly related to being sensitive and alert to changes in the environment (Ofoegbu & Akanbi, 2012). In this respect, strategic sensitivity is a prerequisite for strategic agility.

The key steps in developing strategic sensitivity capability are taking time, being focused and curious, feeling restless and alert to act, but also taking time to engage in new relations, developing contextual awareness, and not making quick judgments. Strategic sensitivity capability contribute management to understand that new circumstances require new responses rather than repetitions of past successes. It also enables organizational elements to form a coherent picture of changing conditions, or to be constantly ready for extreme competition and to manage the evolving situation (Doz, 2020). An organization's strategic sensitivity depends on both the nature and quality of its social relationships. Developing the internal social links and the knowledge sharing in the organization is necessary to foster strategic sensitivity (Lehtimäki & Karintaus, 2012).

Strategic management sensitivity is a concept with three dimensions: Planning Sensitivity, Process Sensitivity, and distribution, dissemination, and action sensitivity. Planning sensitivity indicates that strategic planning activities are carried out with a collective mind in which internal and external stakeholders are included. Process sensitivity indicates the existence of defined processes related to strategic planning and implementation. Distribution, dissemination, and action sensitivity, on the other hand, refers to the activities of strategic planning that all stakeholders can understand and adopt, make proposals on issues that are deemed deficient, control the implementation, and determine the correction needs (Ataş & Kasımoğlu, 2018).

3. RESEARCH METHODOLOGY

His explanatory research study was conducted to examine the relationships between strategic management sensitivities and information technology capabilities of enterprises. In the hypothetical research model (Figure 1), strategic management sensitivity is included as a dependent variable and information technology capability is included as an independent variable.

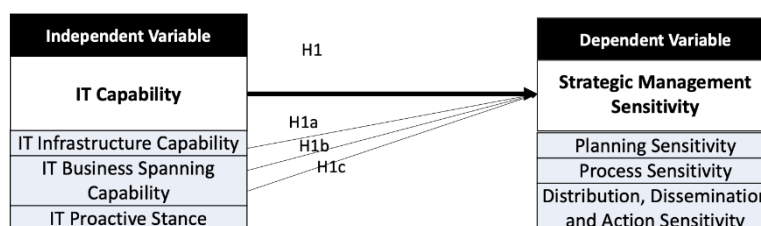


Figure 1: Hypothetical Research Model

Three hypotheses claiming that the independent variable effects the dependent variable are formulated based on research model. Information technology capability is the factor that provides the agility of the organization against changes in the environment. The organization needs to properly plan and develop its IT

infrastructure and processes to develop effective strategies (Lu & Ramamurthy, 2011). Information technologies have become a strategic element through which the organization can monitor its environment, and which facilitate information flow from the environment to the organization. (Laudon & Laudon, 2018). Strategic agility is the ability to instantly detect and respond to changes in the environment, and to achieve this, it is necessary to have strategic sensitivity (Ofoegbu & Akanbi, 2012). Based on this relationship between IT capability and strategic management sensitivity, the following hypotheses have been developed:

H1: IT capability positively effects strategic management sensitivity

H1a: IT infrastructure capability positively effects strategic management sensitivity

H1b: IT business spanning capability positively effects strategic management sensitivity

H1c: IT proactive stance capability positively effects strategic management sensitivity

3.1. Data Collection Method and Sample

The research population consists of companies that operate in Istanbul and have achieved a certain level of digitalization. The sample is 388 managers who agreed to participate in the research and approved that their firm has a digitalization project.

Data collection method is survey. A scale consisting of three sub-dimensions, planning sensitivity, process sensitivity, and distribution, dissemination, and action sensitivity, is used to measure the strategic sensitivity of businesses (Ataş & Kasımoğlu, 2018). IT capability scale, consisting of IT infrastructure capability, IT business spanning capability, and IT proactive stance sub-dimensions, was used to measure the information technology capability variable. (Lu & Ramamurthy, 2011). Reliability and validity tests for both scales were carried out by the developers (Ataş & Kasımoğlu, 2018; Lu & Ramamurthy, 2011). In addition, reliability and validity tests for this research sample will be carried out in the analysis section. Variance tests of dependent and independent variables will be performed in terms of categorical variables not shown in the research model. For this purpose, the sector, the number of employees and level of digitalization were asked to the participants. The sector question has two options as service and manufacturing, the number of employees question has 4 options as micro (1-9), small (10-49, medium (50-150) and large (150 and above), digitalization question has three options as low, medium, and high level in the questionnaire form.

3.2. Data Analysis and Findings

Percentage and frequencies, normality analysis, reliability (Cronbach's Alpha) and validity analyzes, variance analysis, correlation and regression analyze will be conducted using the data obtained from the questionnaire. SPSS 25 statistical package program is used for all statistical analysis (George & Mallery, 2016; Maravelakis, 2019; Tabachnick & Fidell, 2013).

3.2.1. Demographic Variables

The details of the demographic data of the companies are given in Table 1.

Table 1. Demographic Variable

Digitalization	N	%	Sector	N	%	Employee Number	N	%
Low	159	40,98%	Service	242	62,37%	1-10	69	17,78%
Middle	174	44,85%	Manufacturing	146	37,63%	10-49	163	42,01%
High	55	14,18%			50-150	112	28,87%	
					Over 150	44	11,34%	
Total	388	100,00%	Total	388	100,00%	Total	388	100,00%

40.98% of the participants evaluated the digitalization level of their companies as low, 44.85% as medium and 14.18% as high. 62.37% of the participants operate in the service sector and 37.63% operate in the manufacturing sector. 17.78% of the participants stated that their companies have 1-10 employees, 42.01% have 10-49, 28.87% have 50-150 and 11.34% have over 150 employees.

3.2.2. Normality, Reliability and Validity Tests

Kolmogorov Smirnov and Shapiro Wilk normality tests were performed to evaluate the suitability of the obtained data for predictive statistics techniques, and it was observed that the data were not normally distributed ($p < 0.05$). However, skewness and kurtosis values of data between -1.96 and +1.96 are considered sufficient in social science studies (Tabachnick & Fidell, 2013). For this reason, the skewness and kurtosis values of the variables were examined. It has been determined that all values are within the required limits. Data on normality analyzes are given in Table 2.

Table 2. Normality Tests

Variables/Subvariables	Kolmogorov-Smirnova			Shapiro-Wilk			Skewness	Kurtosis
	Statistic	df	Sig.	Statistic	df	Sig.		
Overall IT_Capability	0,1	388	0,000	0,953	388	0,000	-0,769	0,417
IT_Business_Spanning_Capability	0,137	388	0,000	0,946	388	0,000	-0,665	-0,062
IT_Infrastructure_Capability	0,136	388	0,000	0,929	388	0,000	-0,704	-0,118
IT_Proactive_Capability	0,178	388	0,000	0,904	388	0,000	-1,115	1,309
Overall Strategic_Sensitivity	0,069	388	0,000	0,972	388	0,000	-0,634	0,592
Planning_Sensitivity	0,062	388	0,000	0,982	388	0,000	-0,396	0,063
Process_Sensitivity	0,08	388	0,000	0,982	388	0,000	0,379	0,071
Distribution_Sensitivity	0,116	388	0,000	0,923	388	0,000	-0,789	0,217

Cronbach's Coefficient Alpha value was calculated to test the internal reliability of the variables. Cronbach's Coefficient Alpha values of all variables indicates that all the variables are reliable (>0.7) (Hamada et al., 2008). Factor analysis was performed for both variables within the scope of construct validity. Kaiser-Meyer-Olkin Measure of Sampling Adequacy value and Bartlett's Test of Sphericity value shows a good construct validity for both variables (Dziuban & Shirkey, 1974; Horn & Engstrom, 1979). Detailed reliability and validity test analysis results for the IT capability variable are in Table 3.

Table 3. Reliability and Validity Tests for IT Capability

Variables/ Subvariables	IT Infrastructure Capability	IT Proactive Stance	IT Business Spanning Capability	Cronbach's Coefficient Alpha	Kaiser- Meyer- Olkin	Bartlett's Test	Total Variance Explained
IT_Business1			0,78				
IT_Business2			0,68	0,829			
IT_Business3			0,75				
IT_Business4			0,75				
IT_Infrastructure1	0,81						
IT_Infrastructure2	0,80			0,919	0,919	0,000	72,305
IT_Infrastructure3	0,81						
IT_Infrastructure4	0,73						
IT_Proactive1		0,76					
IT_Proactive2		0,82		0,842			
IT_Proactive3		0,72					
IT_Proactive4		0,69					

Detailed reliability and validity test analysis results for strategy sensitivity variable are in Table 4.

Table 4. Reliability and Validity Tests for Strategic Sensitivity

Variables	Planning and Distribution Sensitivity	Process Sensitivity	Cronbach's Coefficient Alpha	Kaiser- Meyer- Olkin	Bartlett's Test	Total Variance Explained
Distribution_Sensitivity1	0,762					
Distribution_Sensitivity2	0,829					
Distribution_Sensitivity3	0,832					
Distribution_Sensitivity4	0,85					
Distribution_Sensitivity5	0,826					
Planning_Sensitivity1	0,774					
Planning_Sensitivity2	0,761		0,949			
Planning_Sensitivity3	0,718					
Planning_Sensitivity4	0,786					
Process_Sensitivity1	0,753			0,894	0,000 0	52,976
Process_Sensitivity2	0,751					
Process_Sensitivity3	0,802					
Process_Sensitivity4	0,669					
Process_Sensitivity5		0,775				
Process_Sensitivity6		0,754				
Process_Sensitivity7		0,783	0,847			
Process_Sensitivity8		0,829				
Process_Sensitivity9		0,639				
Process_Sensitivity10		0,641				

factor analysis findings indicate that variable factored differently from the original scale. Four scale items belonging to the planning sensitivity sub-dimension and one scale item belonging to the process sensitivity sub-dimension were excluded from the scale because their factor loads were less than 0.4. Scale items were

grouped under two factors different from original three factors. Specifically, distribution and planning sub-dimension items were grouped under the same factor. It is possible that the items of the scale are very close to each other and the characteristics of the research sample lead to different factorization from the original.

3.2.3. Variation Analysis of Groups

Statistical techniques for comparing means will be conducted to explore whether the variables of the research (strategic sensitivity, IT Capability) differ in terms of companies' sectors, size (number of employees) and digitalization levels. Since firm size (number of employees) and digitalization levels include more than two groups, analysis of variance will be performed. If there are significant differences between groups, Post hoc tests will be performed to examine groups differences in detail (Friston & Penny, 2011; Maravelakis, 2019). Independent sample t test will be applied since there are two groups in the sector (George & Mallery, 2016).

The results of the analysis showing the sector differences are in Table 5.

Table 5. Independent Sample T Test for Sectors

Variables	Sector	Mean	Mean Difference	t	Df	Sig. (2-tailed)
IT_Business_Spanning_Capability	Manufacturing	3,610	-0,262	-2,771	386	0,006
	Service	3,872				
IT_Infrastructure_Capability	Manufacturing	3,521	-0,382	-3,610	386	0,000
	Service	3,902				
IT_Proactive_Stance	Manufacturing	3,765	-0,253	-2,755	386	0,006
	Service	4,019				
Overall IT_Capability	Manufacturing	3,632	-0,299	-3,527	386	0,000
	Service	3,931				
Planning_and_Distribution	Manufacturing	3,634	-0,215	-2,418	386	0,016
	Service	3,849				
Process_Sensitivity	Manufacturing	2,718	-0,041	-0,397	386	0,692
	Service	2,759				
Overall Strategic_Sensitivity	Manufacturing	3,176	-0,128	-1,769	386	0,078
	Service	3,304				

Table 5 shows that there is a significant difference between the sectors in terms of IT capability and its sub-dimensions. While there is no significant difference in terms of Strategic sensitivity and process sensitivity, but there is a significant difference in terms of planning and distribution sensitivity. And the service sector has significantly high values compared to the manufacturing sector for all variables.

The analysis results showing the differences of the variables in terms of digitalization levels are in Table 6. The Process Sensitivity variable differs significantly according to the sectors.

Table 6: Analysis of Variance for Digitalization

Tukey HSD Dependent Variable	(I) Digitalization Level	(J) Digitalization Level	Mean Difference (I-J)	Sig.	F	Sig.
IT_Business_Spanning_Capability	Low_digital	Mid_Digital	-,44369*	0,000	15,460	0,000
		High_Digital	-,63019*	0,000		
IT_Infrastructure_Capability	Low_digital	Mid_Digital	-,81888*	0,000	42,069	0,000
		High_Digital	-,103087*	0,000		
IT_Proactive_Stance	Low_digital	Mid_Digital	-,40338*	0,000	19,824	0,000
		High_Digital	-,77015*	0,000		
Overall IT_Capability	Low_digital	Mid_Digital	-,36677*	0,000	33,228	0,000
		High_Digital	-,55532*	0,000		
Planning_and_Distribution	Low_digital	Mid_Digital	-,48871*	0,034	26,145	0,000
		High_Digital	-,80102*	0,000		
Process_Sensitivity	Mid_Digital	High_Digital	-,31231*	0,000	0,819	0,441
		High_Digital	-,29368*	0,000		
Overall Strategic_Sensitivity	Low_digital	Mid_Digital	-,36253*	0,002	10,052	0,000

Only significant differences are shown in Table 6. IT Business Spanning Capability, IT Infrastructure Capability and IT Planning Stance scores are higher in medium and high digitalized companies than in low level digitalized companies. In addition, IT planning stance scores are higher in top digitalized companies than in mid-level digitalized companies. Overall IT capability scores are higher in medium and high digitalized firms than in low level digitalized firms. Planning and distribution sensitivity scores are higher in medium and high digitalized companies than in low level digitalized companies. In addition, planning and distribution Sensitivity scores are higher in top digitalized companies than in medium-level digitalized

companies. Overall strategic sensitivity scores are higher for mid- and high-digitalized companies than low-digitalized companies.

The results of the analysis showing the differences of the variables in terms of firm sizes are in Table 7.

Table 7. Analysis of Variance for Employee Numbers

Tukey HSD Dependent Variable	(I) Employee Number	(J) Employee Number	Mean Difference (I-J)	Sig.	F	Sig.		
IT_Business_Spanning_Capability	1-9	10-49	-.74064*	0,000	25,753	0,000		
		50-150	-1,05131*	0,000				
	Over 150	-1,08012*	0,000					
10-49	50-150	-.31066*	0,014					
	10-49	-1,44787*	0,000					
IT_Infrastructure_Capability	1-9	50-150	-1,91997*	0,000			97,148	0,000
		Over 150	-1,86924*	0,000				
	50-150	-.47209*	0,000					
10-49	Over 150	-.42136*	0,008					
	10-49	-.85265*	0,000					
IT_Proactive_Stance	1-9	50-150	-1,04303*	0,000	33,970	0,000		
		Over 150	-1,32996*	0,000				
	10-49	Over 150	-.47731*	0,002				
10-49	10-49	-1,01372*	0,000					
	50-150	-1,33810*	0,000					
Overall IT_Capability	1-9	Over 150	-1,42644*	0,000			66,943	0,000
		50-150	-.32438*	0,001				
	10-49	Over 150	-.41272*	0,002				
10-49		-.82670*	0,000					
Planning_and_Distribution	1-9	50-150	-1,17973*	0,000	42,420	0,000		
		Over 150	-1,29062*	0,000				
	10-49	50-150	-.35303*	0,001				
10-49	Over 150	-.46392*	0,002					
	Over 150	-.53111*	0,012					
Process_Sensitivity	Over 150	10-49	-.47821*	0,000			3,930	0,009
Overall Strategic_Sensitivity	1-9	50-150	-.77044*	0,000	20,445	0,000		
		Over 150	-.56033*	0,000				
	10-49	50-150	-.29223*	0,001				

Only significant differences are shown in Table 7. IT business spanning capability, IT infrastructure capability and IT planning stance scores of companies with 1-9 employees are significantly lower than all other categories. Similarly, it is lower in companies with 10-49 employees compared to companies with 5-150 and over 150 employees. Overall IT capability scores of companies with both 1-9 and 10-49 employees are lower than other categories. Planning and distribution scores of companies with both 1-9 and 10-49 employees are lower than other categories. Process Sensitivity scores of companies with 50—150 employees are higher than companies with Over 150 employees. Overall Strategic Sensitivity scores of companies with both 1-9 and 10-49 employees are lower than other categories.

3.2.4. Correlation and Regression Analysis

The correlations between the main variables and sub-dimensions in the research model are given in Table 8.

Table 8. Correlation Analysis Findings

Variables	1	2	3	4	5	6	7
IT Business Spanning Capability	1						
IT Infrastructur Capability	,655**	1					
IT Proactive Stance	,580**	,688**	1				
Overall IT Capability	,851**	,905**	,860**	1			
Planning and Distribution	,680**	,766**	,658**	,807**	1		
Process Sensitivity	,149**	,132**	,043	,125*	,136**	1	
Overall Strategic Sensitivity	,525**	,566**	,437**	,587**	,714**	,791**	1

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

There is a low significant ($p < 0.01$) relationship between the IT business spanning capability variable and the Process Sensitivity variable, and a moderately significant relationship ($p < 0.01$) between the planning and distribution variable and the overall strategic sensitivity variables. There is a low significant ($p < 0.01$) relationship between the IT infrastructure capability variable and the process sensitivity variable. There is a strong significant ($p < 0.01$) relationship with the planning and distribution variable, and there is a moderately significant ($p < 0.01$) relationship with the overall strategic sensitivity variable. There is a moderately

significant ($p < 0.01$) relationship between the IT proactive stance variable and the planning and distribution variable and the overall strategic sensitivity variables. There was a low significant ($p < 0.01$) relationship between the overall IT capability variable and the process sensitivity variable, there is a strong significant ($p < 0.01$) relationship with the planning and distribution variable, and there is a moderately significant ($p < 0.01$) relationship with the overall strategic sensitivity variable.

Table 9 shows the details about findings of simple regression analysis of Overall IT capability (independent variable) and overall strategic sensitivity (dependent variable), and the findings of multiple regression analysis of overall strategic sensitivity (dependent variable) and IT Capability sub-dimensions (independent variables). See Figure 1.

Table 9. Regression Analyzes Findings

No	Independent Variable(s)	Dependent Variable	R Square	F	Sig.	B	t	Sig.
Model 1	(Constant)	Strategic Sensitivity	0,344	202,496	,000 ^b	1,370	10,267	0,000
	Overall IT Capability					0,495	14,230	0,000
Model 2	(Constant)		1,471	10,715	0,000			
	IT Business Spanning		0,201	4,769	0,000			
	IT Infrastructure		0,254	6,036	0,000			
	IT Proactive Stance		0,019	0,425	0,671			

According to the Model 1 simple regression analysis, overall IT capability significantly ($p < 0.05$) increases the strategic sensitivity level (B:0.495), and 34.4% of the variance in the strategic Sensitivity level was explained by the overall IT capability level. Therefore, Hypothesis 1 (H1) is confirmed. Model 2, which is multiple regression, does not have multiple collinearity problems (Tolerance > 0.20 and VIF < 10). Model 2 created for the second (H1a), third (H1b) and fourth (H1c) hypothesis is significant ($p < 0.05$) and 36.3% of the change in Strategic Sensitivity is explained by the independent variables. Two of independent variables in Model 2, IT Business Spanning (B:0.201) and IT Infrastructure (B:0.254) variables, have a significant ($p < 0.05$) contribution in explaining the dependent variable. On the contrary, IT Proactive Stance (B:0.019) variable did not contribute significantly to the model ($p > 0.05$). According to these findings, the H1a and H1b hypotheses are confirmed, while the H1c hypothesis is rejected.

4. DISCUSSION AND CONCLUSION

In the technology age we live in, we encounter a new technological discovery that directly affects businesses almost every day. Rapidly changing dynamic environmental conditions pose a tough challenge for managers. Considering the dependence of companies on their environment, such a changing environmental structure makes management activities difficult. Every change in the environment is important. However, especially in recent years, the developments in the field of information technologies, which are described as disruptive technologies, have the characteristics of a game changer. Ensuring the adaptation of businesses to the environment is among the duties of the strategic management level. It is vital to foresee the future and take steps accordingly. Therefore, perceiving the change in the environment very quickly and including it in strategic planning is defined as strategic agility. The prerequisite for strategic agility is to have strategic sensitivity capabilities. Besides, information technologies were an element that supports strategies, activities in the past, today it takes place at the center of the strategy. Currently every business has a digitalization projects and strategies for gaining competitive advantage. Information technologies enhance not only the internal processes of the enterprise, but also provides its integration with the environment. Thus, strategic sensitivity capability of organizations increases in an integrated environment where internal and external actors find effective communication opportunities with each other.

This research examines the relationships between IT capability and strategic sensitivity, which are directly related to each other. Findings of analyzes suggest that IT capability increases strategic sensitivity. Particularly, IT business spanning capabilities and a well planned and designed IT infrastructure increase strategic sensitivity capability of organizations. Furthermore, this relationship is getting stronger as companies' digitalization levels increase. Because increase in digitalization level refers increased relationship between IT capability and strategic sensitivity levels. Strategic sensitivity capability of micro and small firms was found to be relatively weak in the research. This may be because micro and small firms are often reactive, and their strategic management and planning capabilities are limited. On the sectoral basis, both the IT capability and strategic sensitivities of the service sector are stronger than the manufacturing sector. The reason for that can be comparatively higher level of digitalization of the service sector. Strategic Managers should analyze IT investments according to business needs in order to gain and maintain competitive

advantage in the future. IT investments must be considered as part of strategic planning and management process.

REFERENCES

- Ansoff, H. I. (2007). *Strategic Management* (Classic Edition). Palgrave Macmillan.
- Ataş, M., & Kasımoğlu, M. (2018). Strategic Management Sensitivity Scale Development and Validity Scale Development. In *International Journal of Commerce and Finance* (Vol. 4, Issue 2).
- Bento, A., Bento, R., White, L., & Bento, A. (2014). Strategic Information Systems and Business Outcomes. *International Journal of Human Capital and Information Technology Professionals*, 5(1), 15–25. <https://doi.org/10.4018/ijhcritp.2014010102>
- Bolman, L. G., & Deal, T. E. (1984). *Modern approaches to understanding and managing organizations*. Jossey-Bass.
- Brannen, M. Y., & Doz, Y. L. (2012). Corporate languages and strategic agility: Trapped in your jargon or lost in translation? In *California Management Review* (Vol. 54, Issue 3, pp. 77–97). <https://doi.org/10.1525/cmr.2012.54.3.77>
- Doz, Y. (2020). Fostering strategic agility: How individual executives and human resource practices contribute. *Human Resource Management Review*, 30(1). <https://doi.org/10.1016/j.hrmmr.2019.100693>
- Doz, Y., & Kosonen, M. (2008). The Dynamics of Strategic Agility: Nokia's Rollercoaster Experience. *Source: California Management Review*, 50(3), 95–118.
- Dziuban, C. D., & Shirkey, E. C. (1974). When is a correlation matrix appropriate for factor analysis? Some decision rules. *Psychological Bulletin*, 81(6), 358–361. <https://doi.org/10.1037/H0036316>
- Fayol, H. (1949). *General and Industrial Management*. Pitman&Sons Ltd.
- Friston, K., & Penny, W. (2011). Post hoc Bayesian model selection. *NeuroImage*, 56(4), 2089–2099. <https://doi.org/10.1016/J.NEUROIMAGE.2011.03.062>
- Furr, N. R. (2021). Technology Entrepreneurship, Technology Strategy, and Uncertainty. In I. M. Duhaime, M. A. Hitt, & M. A. Lyles (Eds.), *Strategic Management: State of the Field and Its Future* (pp. 1–785). Oxford University Press.
- George, D., & Mallery, P. (2016). *IBM SPSS Statistics 23 Step by Step: A Simple Guide and Reference*. Routledge.
- Griffin, R. W. (2012). *Management*. Cengage Learning.
- Hamada, M. S., Wilson, A. G., Reese, C. S., & Martz, H. F. (2008). *Bayesian Reliability*. <https://doi.org/10.1007/978-0-387-77950-8>
- Horn, J. L., & Engstrom, R. (1979). Cattell's Scree Test In Relation To Bartlett's Chi-Square Test And Other Observations On The Number Of Factors Problem. *Multivariate Behavioral Research*, 14(3), 283–300. https://doi.org/10.1207/S15327906MBR1403_1
- Kast, F. E., & Rosenzweig, J. E. (1972). General systems theory: Applications for organization and management. *Academy of Management Journal*, December, 447–465. <https://doi.org/10.5465/255141>
- Laudon, K. C., & Laudon, J. P. (2018). *Management Information Systems Managing the Digital Firm* (15th ed.). Pearson Education Limited.
- Lehtimäki, H., & Karintaus, K. (2012). Social Capital for Strategic Sensitivity in Global Business. *South Asian Journal of Business and Management Cases*, 1(2), 91–104. <https://doi.org/10.1177/2277977912459443>
- Lu, Y., & Ramamurthy, R. (2011). Understanding the Link Between Information Technology Capability and Organizational Agility: An Empirical Examination. *MIS Quarterly*, 35(4), 931–954.
- Lynch, R. (2015). *Strategic Management Seventh Edition*. Pearson.
- Maravelakis, P. (2019). The use of statistics in social sciences. *Journal of Humanities and Applied Social Sciences*, 1(2), 87–97. <https://doi.org/10.1108/jhass-08-2019-0038>

- Northouse, P. G. (1998). *Leadership: Theory and practice*. SAGE.
- Ofoegbu, O. E., & Akanbi, P. A. (2012). The Influence Of Strategic Agility On The Perceived Performance Of Manufacturing Firms In Nigeria. *International Business & Economics Research Journal-February, 11(2)*.
- Papanek, M. L. (1973). Kurt Lewin and His Contributions To Modern Management Theory. *Academy of Management Proceedings, 1973(1)*, 317–322. <https://doi.org/10.5465/ambpp.1973.4981410>
- Parnell, J. A. (2014). *Strategic Management: Theory and Practice (4th Edition)*. SAGE.
- Porter, M. E. (1986). Changing Patterns of International Competition. *California Management Review, 28(2)*, 9–40. <https://doi.org/10.2307/41165182>
- Raduan, C. R., Jegak, & Haslinda. (2009). Management, Strategic Management Theories and the Linkage with Organizational Competitive Advantage from the Resource-Based View. *European Journal of Social Sciences, 11(3)*.
- Rahman, Md. H. (2012). Henry Fayol and Frederick Winslow Taylor's Contribution to Management Thought: An Overview. *ABC Journal of Advanced Research, 1(2)*, 94–103. <https://doi.org/10.18034/abcjar.v1i2.10>
- Robbins, S. P., & Coulter, M. (2002). *Management*. Pearson Prentice Hall.
- Robbins, S. P., Decenzo, D. A., & Coulter, M. (2014). *Fundamentals of Management: Essentials Concepts and Applications (Global Edition)*. Pearson Education Limited.
- Robbins, S. P., & Judge, T. A. (2017). *Organizational Behavior, Global Edition*.
- Tabachnick, B. G., & Fidell, L. S. (2013). *Using Multivariate Statistics*. Pearson Education Limited.
- von Bertalanffy, L. (1950). The Theory of Open Systems in Physics and Biology. *Science, 111(2872)*, 23–29. <http://www.jstor.org/stable/1676073>
- Yukl, G. (2008). *Leadership in Organizations, Seventh Edition*. Pearson Prentice Hall.