

**Evaluation of Critical Success Factors Playing Roles In The Digital Transformation Process**Zeynep OZGUNER ¹¹ Hasan Kalyoncu University; zeynep.ozguner@hku.edu.tr; Orcid: 0000-0002-8694-7275

Abstract: The digital transformation process allows the development and progress by combining all business areas from supply chain to production with a fast and smart operation opportunity. Businesses are allowed to increase their transformative capabilities in information processing by integrating digital transformations into their business. In this respect, it is known that, although companies that have sufficient maturity in using digital technology have limited opportunities, other companies that have sufficient experience create innovation and value by offering digital-based strategies contributing to transformation. In this way, businesses, which increase their ability to produce digital solutions, are encouraged to create digital thinking systems. For this reason, knowing the factors, which play roles in the success of digital transformation, will guide businesses in an effective decision-making process. Based on this point, the purpose of the study was to determine the affecting and affected factors by analyzing the factors directly or indirectly affecting the process. In this direction, the weights of the success factors created based on the literature data, and their relations with each other were determined with the Dematel (The Decision Making Trial and Evaluation Laboratory) Method, which is one of the Multi-Criteria Decision Making (MCDM) approaches. The study was implemented in a company operating in the health sector in Istanbul. It was concluded according to the findings of the study that two of the six common success factors were affected factors, and four of them were affecting factors. The relations between the criteria are presented with the cause and effect diagram.

Keywords: Digital Transformation, Multi-Criteria Decision-Making, Dematel.

1. Introduction

Many businesses have made great efforts in recent years to uncover and make use of novel technologies. Especially with the use of digital technologies brought by Industry 4.0, there have been great changes from distribution channels to supply chains from organizational structures of the enterprises to business processes (Downes & Nunes, 2013: 45). Many digital technologies, including machine learning, cloud technology, augmented reality, and the Internet of Things, had disrupting effects on business models and processes, and new technology-based business models emerged in this respect. When faced with this situation, businesses had to adapt to digital transformation to maintain their competitiveness and market dominance (Vial, 2019: 119; Mohammed, 2019: 1).

Digital transformation, which is also known as the integration of digital technologies to all business areas, changed the competitive dynamics of businesses fundamentally in the last decade (Hirt & Willmott, 2016: 2). Technology-supported production systems that emerged with digital transformation, which is critical for almost all businesses, challenged the existing production practices (Castillo, 20108: 8). Digital transformation, which requires that changes are made in organizational processes or new business models are created, makes use of digital technologies such as analytics, artificial intelligence, machine learning, business intelligence, cloud computing, and the Internet of Things.

Digital transformation, which is a combination of advanced technologies and physical and digital systems, requires that values are added to business processes for businesses desiring to maintain their competitive positions and grow (Bharadwaj et al., 2013: 472). Adding value to business processes is possible once the organization adapts to digital transformation processes that aim to establish effective communication between production staff and to create flexible and dynamic production processes. With digital transformation, which aims to eliminate the use of insufficient resources, low transparency, and increasing costs, businesses have great productivity gains, which increases the innovation-based activities of organizations and makes sustainable competition possible.

Digital transformation means integrating new digital technologies into all processes of the business to develop new business models, increase efficiency in operations in the business, and increase competitiveness by covering customer expectations (Warner & Warner, 2019: 327). Digital

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transformation also means using digital technologies to change new business processes in line with culture and customer demands to cover changing business and market requirements (Guenzi & Habel, 2020: 58). Digital transformation refers to the cultural, organizational, and operational changes of a business, industry, or eco-system with the gradual integration of digital technologies in all processes and functions into a strategic vision (Souza-Somer & Neely, 2020: 1096). It is possible to examine digital transformation in three different dimensions as; 1) the digital transformation based on the use of new digital technologies such as technology - social media, mobile, or embedded devices; 2) digital transformation that requires changes or the development of new business models in organizational processes; 3) social - digital transformation as a phenomenon affecting all aspects of human life by improving customer experiences. For this reason, the main advantage of digital transformation is that it emerges as a transformation in the processes, activities, competencies, and models of an organization (Reis et al., 2018: 413).

The basic output of digital transformation is value, which involves operational efficiencies, improved customer experiences, improved business models, strategic differentiation, competitive advantage, improved stakeholder relations, and cost savings, etc. (Morakanyane et al., 2017: 429).

Digital transformation, which is referred to the use of advanced technologies to improve the performance of businesses radically, also allows businesses to improve their existing product portfolios and produce new products (Brynjolfsson & Hitt, 2000: 23). Businesses make use of the opportunities offered by digital technologies at the highest level, benefit from the opportunities offered by the environment, and increase their innovation capabilities with digital transformation. In this way, businesses, which develop customer-oriented business processes, transform their operations successfully (Wiles, 2019; Berman, 2012: 17). Digital transformation provides new strategic opportunities for businesses in terms of benefiting from greater customer engagement, bringing more flexibility and agility to standardized and centralized operational processes, enabling them to produce new products and services by restructuring their existing business models. Based on this viewpoint, it becomes possible for businesses to provide a sustainable competitive advantage with a successful digital transformation process (Loonam et al., 2018: 102).

Digital transformation also refers to an evolutionary process, which differs depending on the digital maturity of the transforming business as an indicator of the extent to which businesses adapt themselves to digital business environments (Cichosz, 2018: 75). Digital maturity refers to managerial characteristics such as leadership, culture, change management, and governance, which, altogether shape digital transformation. It is possible to speculate that businesses that have high digital maturity levels show superior performance, which, in return, plays important role in the success of digital transformation (Westerman et al., 2014: 2).

While digital technologies reshape the sector after industry dramatically, many businesses seek large-scale transformation to capture the benefits of these trends or simply keep up with their competitors. In the McKinsey Global Research, which had wide participation in terms of digital transformation, it was concluded that more than eight of ten people who participated in the survey said that their organizations were engaged in digital transformation efforts in the last five years. However, it is very difficult for transformation to achieve success. Studies conducted in recent years show that only one-third of digital transformation activities are successful (Martin, 2018: 2).

It is possible to argue that the success of the digital transformation is affected by changing requirements of consumers, the level of application of high technologies, the position of the leadership of the organization, and the size of the organization (Tarute et al., 2018: 374). Previous studies point to a few common features of today's digital transformations regardless of whether the digital transformation effort is successful or not. The first of these is the attitudes of the organizations when making such changes. Right at this point, organizations must include digitalization in their management models for digital transformations. The second important point is the adoption of a participative management model and technology with all business elements in the digital transformation process. These criteria play important roles in the success of digital transformation (Hess et al., 2016: 124).

The success of digital transformation can never be guaranteed especially because of the uncertainty and complexity brought with by intense technological developments. It is of great importance that businesses plan their digital transformation processes well and take the right steps. In this context, the factors, which may affect the digital transformation process, should be evaluated with a broad perspective. In this study, which aimed to evaluate the critical success factors playing roles in the digital transformation process in the textile industry, the foreign literature was reviewed in detail;

and as a result, some critical success factors effective on the digital transformation process were identified. It is possible to speculate that administrative, environmental, and technological factors are effective on the success of a highly complex digital transformation process (Vogelsang et al., 2019: 2; Jonathan et al., 2018: 2; Gil-García et al., 2005: 189).

In the second part of the study, a large literature review is given on the digital transformation and the factors playing roles in the success of this transformation along with critical success factors discussed in detail. In the third part, the Dematel Method, which is the method used in the present study, is explained in a detailed manner. However, the identified critical success factors were evaluated by the decision-makers; and in the light of these evaluations, the interaction levels of these critical success factors were uncovered by using the Dematel method.

2. Literature Review:

Determining the success criteria playing roles in the digital transformation process has great importance for the success of the change process (Williams & Ramaprasad, 1996: 255). When the literature on the success factors playing roles in the success of digital transformation was examined, it was found that different researchers concentrated on some common factors. According to (2018: 36) Kane et al., factors such as raising digital leaders, ensuring participation in decisions in the organization, an organizational structure open to changes, and the possibility of continuous experimentation are the criteria that can bring success to digital transformation. In this respect, in a study conducted by Vogelsang et al. (2019a: 4940) that the criteria playing roles in the success of digital transformation were listed as organizational success (pilot schemes, future-readiness, employee characteristics, management support, etc.), environment (strong connections, transparency, high cooperation, and standards), and technology (infrastructure levels, cybersecurity, readiness for change).

In their studies, Osmundsen et al. (2018) listed critical success factors of the digital transformation process as supportive organizational culture, well-managed transformation activities, high-level use of information, employee participation in processes, digital business strategies, and fast adaptation. Again, among the factors playing roles in the success of digital transformation, internal and external stakeholder participation, effective information management, business model innovation, and corporate agility can be listed (Holotiuk & Beimborn, 2017: 993). In this respect, in the study that was conducted by Legner et al. (2017: 303) that data-based agility, effective management of digital platforms, and the adaptation to changes in information technologies were listed to be critical for the success of the transformation process. Similarly, Loonam et al. (2018: 102) also reported that organizations that had strategic vision perform the digital transformation process successfully. Kanter and Bird (2009:11) reported in their study that effective leadership, focusing on change management, accepting changes, and having strong communication in the organization had critical importance for the success of the digital transformation.

Some studies conducted on the subject are as follows. In their studies, Ratna (2015) and Satish and Kumar (2015) uncovered the changes in business models and operational processes in the digital transformation process, and Kansara (2016) determined the critical success factors in the digital transformation process in the banking sector. Barthell (2021) identified the factors playing roles in the success of digital transformation and explained them in four dimensions and twenty factors. Osmundsen et al. (2018) revealed the success factors and effects of digital transformation in their study. Morakanyane et al. (2020) reported the success factors of digital transformation by using qualitative research methods.

As a result of the literature review and expert opinions, the critical success factors playing roles in the success of digital transformation were determined as follows;

1) Supportive and Participative Organizational Culture: The presence of an organizational culture encouraging employees to be supported by senior management and to participate in decisions to be made has great importance for the success of the digital transformation. The organizational culture adopts this transformation as a necessary effort to create corporate value in the minds of employees and managers. In this way, everyone in the organization is involved in the digital transformation process actively, making it possible to manage the process more effectively (Gil-García & Pardo, 2005: 191; Holotiuk & Beimborn, 2017: 198).

2) Strategic Vision: Organizations that consider digital transformation as a long-term business strategy concerning the entire organization rather than a technology investment, and successfully

create a vision aligning internal business process integration with external digital technology opportunities are in an advantageous position for the transformation process to succeed. Right at this point, a digital transformation vision compatible with business strategies must be created and implemented (Loonam et al., 2018: 102).

3) Digital Leaders and Digital Strengthening: The digital skills of employees, managers, and senior managers must be developed so that they can contribute to digital innovation and transformation (Legner et al., 2017: 303). Talented leaders and employees are always needed at all levels of digital transformation. Digital leaders, who provide digital technologies and ways of working, productivity improvement, and better customer experiences in the short term, also paves the way for new growth opportunities and business model innovation in the medium term. It was concluded in previous studies that businesses use leaders with high digital curiosity and ability in their digital transformation processes, and leaders who are familiar with digital technologies affect the success of the process (Berman, 2012: 18).

4) Agreement between Job Processes and Information Technologies: In our present world, where ever-evolving technologies are shaping new ways of doing business dynamically, information technologies are at the forefront of critical business units in all organizations. Organizations have become more dependent on information technologies, especially with digital transformation. The agreement between business and information technologies, which is ensured with the support of top managers, strong leadership, and correct prioritization, increases the coordination and effectiveness of the organization in the digital transformation processes (Vogelsang et al., 2019a: 4943).

5) Corporate Agility: This success factor involves two elements that were determined to be highly interrelated. Firstly, leadership must lead transformation with an agile mindset, which will allow for active guidance of decisions and priorities. Secondly, leaders direct their agility to the entire organization, which allows the organization to work in a task-oriented and highly coordinated manner, making the organization more flexible adapting to environmental changes more rapidly. This affects the success of the transformation process (Patrick et al., 2020).

6) Level of Use of Information and Technology: Technology is the prerequisite of digital transformation. Mobile applications, identity resolution, virtual and augmented reality, artificial intelligence and machine learning, personalized cloud computing, and wearable devices are new digital technologies. To keep pace with new technologies, it is vital to keep up with digital transformation. Right at this point, the high ability of organizations to use new information and technologies can contribute to the transformation process by facilitating their adaptation to the above-mentioned novel technologies (Vogelsang et al., 2019b: 17; Legner et al., 2017: 304). Effective use of information plays important roles in making employees more innovative and digital individuals, increasing their ability to use new technologies (Hildebrandt et al., 2015: 17).

3. Method

The Dematel method, which is one of the Multi-Criteria Decision-Making (MCDM) methods, was used in the study to determine the critical success factors that play roles in the digital transformation process.

3.1. Dematel Method

Dematel Method is used to detect complex relations and create a network relation map between decision criteria. The Dematel Method, which was developed by Geneva Batelle Memorial Institute Science and Human Affairs Program, is used to investigate complex and intertwined problem groups and to identify feasible solutions that have a hierarchical structure (Lopez-Ospina et al., 2017: 1806).

Dematel is a systematic method that is employed to create and analyze a complex network of causal relations between several factors with matrices or diagrams. This method, which is based on a pairwise comparison of options regarding the decision-making process such as alternatives and criteria, is very useful in the analysis of cause-effect relations between components of the system. Also, the Dematel Method is used to determine critical factors in complex and intertwined problems and to analyze these according to importance levels (Ranjan et al., 2015: 83).

The main stages of the Dematel Method are shown in Table 1, respectively (Falatoonitoosi, 2013: 3477; Uludağ & Doğan, 2021: 329-331);

Table 1. Application Steps of Dematel Method

| STEPS | DEMATEL |
|--------|---|
| Step 1 | Creating the Direct Relationship Matrix (D) $D = \begin{bmatrix} d_{11} & d_{1j} & \dots & d_{1s} \\ d_{i1} & d_{ij} & \dots & d_{is} \\ \vdots & \vdots & \dots & \vdots \\ d_{s1} & d_{sj} & \dots & d_{ss} \end{bmatrix} \quad (i,j=1,2,\dots,s)$ |
| Step 2 | Normalization of Decision Matrix $n = \frac{1}{\max_s \sum_{j=1}^s d_{ij}} \quad (i, j=1,2,\dots, s)$ $\tilde{D} = n(\cdot)D$ |
| Step 3 | Normalization of Decision Matrix $T = \tilde{D}(I - \tilde{D})^{-1}$ |
| Step 4 | Cause Creation of the result matrix $R = \left[\sum_{j=1}^s t_{ij} \right]_{s \times 1}$ $C = \left[\sum_{j=1}^s t_{ij} \right]_{1 \times s}$ Calculation of alpha (threshold value) $\alpha = \frac{\sum_{i=1}^s \sum_{j=1}^s [t_{ij}]}{S}$ |
| Step 5 | Obtaining the interdependence matrix and the diagram indicating the effect relationship $R_i + C_i, R_i - C_i$ $C_i = \sqrt{((R_i + C_i)^2 + (R_i - C_i)^2)}$ |
| Step 6 | Determination of criterion weights $w_i = \frac{C_i}{\sum_{i=1}^s C_i}$ |

When the literature was reviewed, no studies were detected addressing the critical success factors of the digital transformation process after determining them with the Dematel Method. On the other hand, it is possible to argue that this method is used to evaluate critical success factors in many fields. Han and Deng (2018) evaluated the critical success factors determining the performance of the healthcare systems; Bai and Sarkis (2013) evaluated the critical success factors of business process management, and Wu (2012) evaluated the critical success factors in data management processes by using the Dematel method. Also, Koçak and Diyadin (2018) used the Dematel method to evaluate the critical success factors in Industry 4.0 transition processes; Gandhi et al. (2016) to evaluate the success factors of green supply chain management in the Indian production sector; Jamali et al. (2010) to identify critical success factors of TQM applications, and Sumrit and Anuntavornich (2013) to identify the innovative capabilities of technology-based businesses operating in Thailand. Sun (2014) used the Dematel method to identify the critical success factors in the electronic design automation industry, Gedam et al. (2020) to evaluate critical success factors of

sustainable production, and finally, Ahmadzade et al. (2021) used the Dematel method to identify the critical success factors of Enterprise Resource Planning (ERP) applications.

The Dematel Approach is accepted as an effective method in determining factor weights. the critical success factors to which the Dematel method will be applied in the scope of the study, and the expressions of the factors are given in Table 2:

Table 2. Critical Success Factors Playing Roles in the Success of Digital Transformation

| | |
|--------------|--|
| SPOC | Supportive and Participative Organization Culture |
| SV | Strategical Vision |
| DLDS | Digital Leaders and Digital Strengthening |
| AJPIT | Agreement between Job Processes and Information Technologies |
| CA | Corporate Agility |
| LUIT | Level of Use of Information and Technology |

4. Findings

It is important to determine the effect expression and degree of effect of system elements firstly to be able to decide among the critical success factors in the study. Once success factors were identified, the scoring was made by the expert group within the range of 0-4 by using the pairwise comparison scale (Table 3).

Table 3. Pairwise Comparison Scale

| Numerical value | Definition |
|-----------------|------------------|
| 0 | Ineffective |
| 1 | Low Impact |
| 2 | Moderate Impact |
| 3 | High Impact |
| 4 | Very High Impact |

Reference: Nilashi et al. (2015)

The scoring, which was formed in accordance with expert opinions constituting the most important data in the weighting of the method, is given in Table 4.

Table 4. Evaluation Chart

| | SPOC | SV | DLDS | AJPIT | CA | LUIT |
|-------|------|----|------|-------|----|------|
| SPOC | 0 | 4 | 2 | 1 | 1 | 2 |
| SV | 4 | 0 | 3 | 2 | 3 | 2 |
| DLDS | 3 | 3 | 0 | 1 | 4 | 4 |
| AJPIT | 1 | 2 | 2 | 0 | 3 | 3 |
| CA | 3 | 3 | 3 | 4 | 0 | 4 |
| LUIT | 2 | 2 | 1 | 2 | 2 | 0 |

In the first step of the Dematel Method, the decision-makers must create the Direct Relationship Matrix obtained after the elements of the system are compared. The scoring in Table 4 was employed to create the Direct Relationship Matrix, which was formed in the light of the evaluations by taking the arithmetic averages of the scores given. Then, the Normalized Direct Relationship Matrix was obtained by applying the other stages of the Dematel Method. This stage constitutes the second step of the method.

Table 5. Normalized Direct Relationship Matrix

| | SPOC | SV | DLDS | AJPIT | CA | LUIT |
|-------|---------|---------|---------|---------|---------|---------|
| SPOC | 0,00000 | 0,23529 | 0,11765 | 0,05882 | 0,05882 | 0,11765 |
| SV | 0,23529 | 0,00000 | 0,17647 | 0,11765 | 0,17647 | 0,11765 |
| DLDS | 0,17647 | 0,17647 | 0,00000 | 0,05882 | 0,23529 | 0,23529 |
| AJPIT | 0,05882 | 0,11765 | 0,11765 | 0,00000 | 0,17647 | 0,17647 |
| CA | 0,17647 | 0,17647 | 0,17647 | 0,23529 | 0,00000 | 0,23529 |
| LUIT | 0,11765 | 0,11765 | 0,05882 | 0,11765 | 0,11765 | 0,00000 |

After the Direct Relationship Matrix was created, the Total Relationship Matrix, which is the 3rd Stage represented by T, was created in accordance with the Normalized Direct Relationship Matrix (Table 6.)

Table 6. Total Relationship Matrix (T)

| | SPOC | SV | DLDS | AJPIT | CA | LUIT |
|-------|---------|---------|---------|---------|---------|---------|
| SPOC | 0,32592 | 0,53073 | 0,37584 | 0,30106 | 0,36569 | 0,44604 |
| SV | 0,6255 | 0,45586 | 0,51457 | 0,43765 | 0,55965 | 0,57486 |
| DLDS | 0,60972 | 0,62976 | 0,3841 | 0,42087 | 0,62855 | 0,69366 |
| AJPIT | 0,40448 | 0,46544 | 0,39815 | 0,28012 | 0,48868 | 0,53691 |
| CA | 0,63847 | 0,66626 | 0,56555 | 0,58371 | 0,47795 | 0,73733 |
| LUIT | 0,38814 | 0,4039 | 0,29955 | 0,33094 | 0,37721 | 0,31082 |

The Affecting and Affected Factor Groups were obtained in accordance with the Normalized Direct Relationship Matrix together with the Total Relationship Matrix. At this stage (Stage 4), the relationship diagram showing the interactions between the factors is drawn.

Table 7. Total Relationship Matrix(T=Y*Inverse)

| | SPOC | SV | DLDS | AJPIT | CA | LUIT |
|-------|---------|---------|---------|---------|---------|---------|
| SPOC | 0,32592 | 0,53073 | 0,37584 | 0,30106 | 0,36569 | 0,44604 |
| SV | 0,62550 | 0,45586 | 0,51457 | 0,43765 | 0,55965 | 0,57486 |
| DLDS | 0,60972 | 0,62976 | 0,38410 | 0,42087 | 0,62855 | 0,69366 |
| AJPIT | 0,40448 | 0,46544 | 0,39815 | 0,28012 | 0,48868 | 0,53691 |
| CA | 0,63847 | 0,66626 | 0,56555 | 0,58371 | 0,47795 | 0,73733 |
| LUIT | 0,38814 | 0,40390 | 0,29955 | 0,33094 | 0,37721 | 0,31082 |

The Ci values are obtained by calculating the sum of the lines in the Total Relationship Matrix T with the formula (5th Stage). Then, the sum of the columns Ri is calculated by using the data in the T Matrix.

Although the cause-effect diagram divides it into groups as affecting and affected, it does not provide data on the strength of their relations with each other (Koçak & Diyardin, 2017: 117). The alpha (i.e. threshold value) is calculated with the formula to eliminate the small effects obtained in the dataset in Table 8 and to draw the relationship diagram (Alpha (Threshold Value) = 0.478712). Here, T refers to all the elements in the total matrix and explains how one factor affects other factors. The values greater than the threshold value are taken into account and are then shown in the relationship diagram (Uludağ & Doğan, 2021: 331).

Table 8. Relationship Matrix according to Alpha (Threshold Value)

| | SPOC | SV | DLDS | AJPIT | CA | LUIT |
|------|---------|---------|---------|---------|---------|---------|
| SPOC | 0,32592 | 0,53073 | 0,37584 | 0,30106 | 0,36569 | 0,44604 |

| | | | | | | |
|--------------|---------|---------|---------|---------|---------|---------|
| SV | 0,6255 | 0,45586 | 0,51457 | 0,43765 | 0,55965 | 0,57486 |
| DLDS | 0,60972 | 0,62976 | 0,3841 | 0,42087 | 0,62855 | 0,69366 |
| AJPIT | 0,40448 | 0,46544 | 0,39815 | 0,28012 | 0,48868 | 0,53691 |
| CA | 0,63847 | 0,66626 | 0,56555 | 0,58371 | 0,47795 | 0,73733 |
| LUIT | 0,38814 | 0,4039 | 0,29955 | 0,33094 | 0,37721 | 0,31082 |

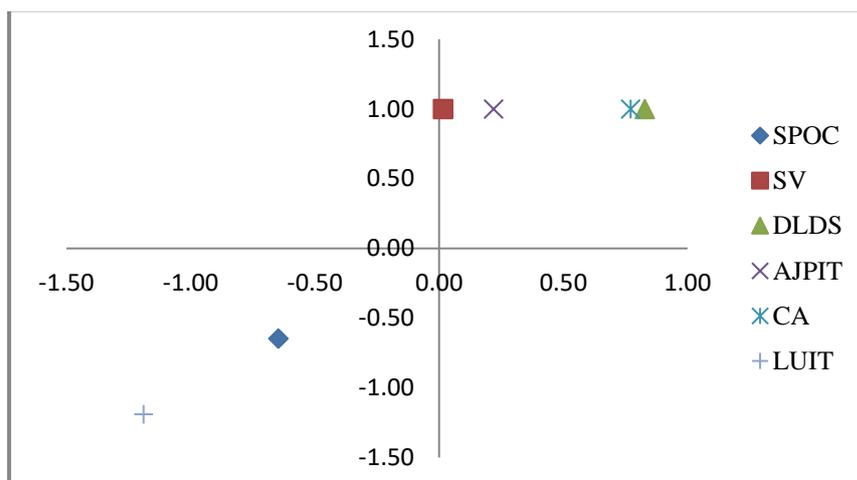
The sum of the vectors (Ri+Ci) constitutes the horizontal axis vector, which expresses how important the criteria are. Similarly, the vertical vector is obtained by taking the difference of the vectors (Ri-Ci). A negative vector shows that the criterion belongs to the cause; a positive vector shows that the criterion belongs to the effect group and is used to create the Ri+Ci and Ri-Ci dataset relation diagram (Uludağ & Doğan, 2021: 331). In the final step of the method, the criterion weights coefficients are normalized. In this way, the weights of each criterion, i.e., the w_i values, are calculated (Pamucar & Cirovic, 2015: 3019).

Table 9. Affecting (Cause) and Affected (Result) Factor Groups

| | Ri+Ci | Ri-Ci | Effect Type | | w_i | W | W (%) |
|--------------|--------------|--------------|--------------------|-----------|----------------------|----------|--------------|
| SPOC | 5,33751 | -0,64694 | Result/ | Affected | 5,376577 | 0,154751 | 15,47% |
| SV | 6,32005 | 0,01613 | Reason/ | Affecting | 6,320073 | 0,181907 | 18,19% |
| DLDS | 5,90441 | 0,82890 | Reason/ | Affecting | 5,962314 | 0,17161 | 17,16% |
| AGPIT | 4,92814 | 0,21942 | Reason/ | Affecting | 4,933018 | 0,141984 | 14,19% |
| CA | 6,56699 | 0,77153 | Reason/ | Affecting | 6,61216 | 0,190314 | 19,03% |
| LUIT | 5,41017 | -1,18905 | Result / | Affected | 5,539294 | 0,159434 | 15,94% |
| | | | Total | | 34,74344 | 1 | 100,00% |

According to the findings in Table 9, the Supportive and Participative Organizational Culture (SPOC) factor and the Level of Use of Information and Technology (LUIT) factor were the affected result factors, and Strategic Vision (SV), Digital Leaders and Digital Strengthening (DLDS), the Agreement between Job Processes and Information Technologies (AJPIT), and Organizational Agility (OA) were determined as the affecting factors. The affecting and affected factors in the digital transformation process are important to assist the decision-makers in evaluating the cause and effect relations.

Table 10. Cause and Effect Diagram



The Cause-Effect Diagram formed by the factor weights shows the distribution of the variables playing roles in the success of the digital transformation, as given in Table 10.

5. Conclusions:

The digital transformation process means more than applying new technology and upgrading existing systems. Organizations that aim for digital transformation must not only have digital assets, but also develop skills in digital agility, digital networking, and big data analytics. It is also important for businesses to develop their agile structures, and internalize information technologies along with their analytical functional skills. In the present study, since it is already known that the factors in the digital transformation process have critical importance for success, the relation levels of these factors were also identified. It can be argued that the factors discussed in the study constitute a concept widely accepted in the scope of the literature data and that businesses apply in their digital transformation processes. In the light of the data obtained here, according to the Ri-Ci values showing the relation levels of the factors, the Supportive and Participative Organizational Culture (SPOC) factor, and the Level of Use of Information and Technology (LUIT) were found to be the affected factors. On the other hand, Strategic Vision (SV), Digital Leaders and Digital Strengthening (DLDS), Agreement between Job Processes and Information Technologies (AJPIT), and Corporate Agility (QA) was determined as the affecting factors.

Although Supportive and Participative Organizational Culture (SPOC), which is one of the critical success factors playing roles in the success of digital transformation, is included in the affected factor group, it is seen that the “Wi” value has a lower weight than the Strategic Vision (SV) factor with 5.376577 (6.320073). Similarly, it was determined that the Level of Use of Information and Technology (LUIT) factor was in the affected factor group, and had a Wi value of 5.539294. On the other hand, Strategic Vision (SV), Digital Leaders and Digital Strengthening (DLDS), Agreement between Job Processes and Information Technologies (AJPIT), and finally, Corporate Agility (QC) factors are mentioned as the success factors regarding digital transformation. For this reason, improvements should be made in the digital transformation process to have an accurate workflow for the activities related to these factors. The sensitivities of businesses in developing their strategic visions will prepare the ground for the formation of a Supportive and Participative Organizational Culture. Similarly, the agreement of business processes and information technologies will become easier with digital strengthening.

Researchers are developing a conceptual framework for the key managerial actions needed to promote digital transformation initiatives. This framework poses a perspective on the factors management must deal with to have a successful digital transformation. The critical success factors of the digital transformation concept, which has become common in the literature recently, have been dealt with in this study. The importance of digital transformations will continue to increase in the coming years for businesses, and it will be a matter of curiosity how businesses will adapt to this transformation. The study was implemented in a company operating in the health sector in Istanbul. One of the company's digital transformation goals is to make its position in the global market sustainable. From this point of view, he wanted to take steps to realize his goals. It has become imperative to prioritize what can be done, especially during the Covid 19 pandemic, where digital innovations in the field of health gain importance. Also, the analysis of the critical

success factors created in the light of expert opinions and studies in the literature in the scope of the business where the implementation was conducted was achieved with the Dematel Method, which is one of the Multi-Criteria Decision-Making Methods. In this way, the effect levels of the relevant factors, and their level of impact on each other were investigated. It is seen that companies need more digitalization in process changes such as the Covid 19 pandemic. In the following process, the belief that such global events necessitate digital transformation has been reinforced. From now on, it is thought that companies, researchers or those working in the industry should maximize their ability to look at global changes from a digital perspective. And finally, this study is basic research in terms of considering the strategic and operational factors that play a role in the success of digital transformation for both researchers and businesses from a holistic perspective.

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