Anatolia Social Research Journal

journal homepage: www.anadolusosyal.com

Information Systems Success Model from The Perspective of Microenterprises

Sinem ÖZESKİLLİ[a], Serkan ADA[b]

[a] Bilim Uzmanı, Karamanoğlu Mehmetbey Üniversitesi, Sosyal Bilimler Enstitüsü, Yönetim Bilişim Sistemleri ABD, Karaman, Türkiye- ozeskillisinem@gmail.com - ORCID: 0000-0002-5093-0455

[b] Prof. Dr., Karamanoğlu Mehmetbey Üniversitesi, İktisadi ve İdari Bilimler Fakültesi, Uluslararası Ticaret ve İşletmecilik Bölümü, Karaman, Türkiye- serkanada@kmu.edu.tr - ORCID: 0000-0003-1654-024X

ABSTRACT

Microenterprises are defined as one of the enterprises classified according to their characteristics within small and medium-sized enterprises (SMEs). Microenterprises are generally established as traditional family businesses with low budgets and old technology products. Hence, their production is small-scale. Microenterprises have difficulties in competition because they produce on a small scale, with old technology, and a low budget. Information systems provide great advantages for all enterprises in terms of size. These advantages, some of which are growth in productivity, strengthening performance, increasing the revenue of the enterprise, assisting in decision-making, choosing the most appropriate one among the options, and so on, create benefits for enterprises in many aspects. In this study, the use of information systems by micro-enterprises operating in Türkiye was analyzed. Following the study, it was observed that the biggest factors why microenterprises used information systems within their small bodies were the educational background of the entrepreneurs and their skills and knowledge in this field.

Keywords: Microenterprises, Information Systems, IS Success Model

ÖZ

Mikro işletmeler, küçük ve orta ölçekli işletmeler (KOBİ'ler) içinde özelliklerine göre sınıflandırılan işletmelerden biri olarak tanımlanmaktadır. Mikro işletmeler genellikle düşük bütçelerle ve eski teknoloji ürünleriyle geleneksel aile işletmeleri olarak kurulmaktadır. Bu nedenle üretimleri küçük ölçeklidir. Küçük ölçekli üretim yapmaları, eski teknoloji kullanmaları ve düşük bütçeye sahip olmaları nedeniyle mikro işletmeler rekabet konusunda zorluklar yaşamaktadır. Bilgi sistemleri, işletmelerin büyüklüğünden bağımsız olarak tüm işletmelere büyük avantajlar sağlamaktadır. Bu avantajlar; verimliliği artırma, performansı güçlendirme, işletmenin gelirini artırma, karar alma süreçlerine yardımcı olma, seçenekler arasından en uygun olanı seçme gibi çeşitli yönlerden işletmelere fayda sağlamaktadır. Bu çalışmada, Türkiye'de faaliyet gösteren mikro işletmelerin bilgi sistemlerini kullanımı analiz edilmiştir. Yapılan inceleme sonucunda, mikro işletmelerin bilgi sistemlerini kullanmasında en büyük etkenlerin, girişimcilerin eğitim geçmişi ile bilgi sistemleri alanındaki beceri ve bilgi düzeyleri olduğu gözlemlenmiştir.

Anahtar kelimeler: Mikro İşletmeler, Bilişim Sistemleri, Bilişim Sistemleri Başarı Modeli

Received: *11.03.2025*
Accepted: *02.09.2025*
Published: *27.10.2025*

Cite as: Özeskilli, S. & Ada, S. (2025). Information systems success model from the perspective of microenterprises. *Anatolia Social Research Journal*, *4* (2), 5-23. https://doi.org/10.5281/zenodo.17462123

1. INTRODUCTION

Considering the impact of the last epidemic, the world has recently been undergoing a troubled economic period during which enterprises of various capacities are still carrying out their activities. All enterprises, small or large, have faced the negative effects of this uneasy financial period. Even microenterprises, which play an important role in economies, creating employment and contributing to the socio-economic development, have experienced the same kind of effect. (Papastathopoulos & Beneki, 2010). However, these microenterprises can maintain their existence if they gain a perspective based on innovation, digitalization, and automation. Therefore, the use of information systems has become increasingly important for such micro-enterprises (Sidło et al., 2020).

Systems that store, process, and distribute information are called information systems. These systems help enterprises in terms of controlling, analyzing, and decision-making. According to another definition, information systems are systems that analyze and update information by processing the data obtained from different sources with a specific target. With the development of technology, information systems are now employed more efficiently. Here, the support of computers having information systems perform their functions more effectively is unchallengeable (Tecim, 1999:2). Enterprises need information technologies in order not to encounter errors when using information systems. Therefore, for an efficient and reliable exchange of information, enterprises must have components of information technologies that accurately transmit information within their structures (Akolaş, 2004:32).

Information systems that make the data obtained usable and understandable by passing it through certain operations, play a major role in increasing the efficiency and ensuring the success of these smallest type of enterprises, known as micro-enterprises. When these systems are combined with technology, they provide great benefits for enterprises in making swift and correct decisions. They enable enterprises, particularly microenterprises, to stand steady in a competitive environment and give them the power to compete with larger companies. It is extremely important for microenterprises to be able to compete with larger companies, because these micro businesses are the smallest units in the economy, and so they are less recognized than bigger firms. Information systems and technologies play an important role in overcoming this disadvantage. By expanding the market opportunities for microenterprises, information systems and technologies offer the opportunity to face national and international markets without the need for large costs. In addition, these systems and technologies improve performance, efficiency, and productivity.

Considering these reasons, information systems are of great benefit and importance, particularly for microenterprises. Therefore, it is necessary to inform microenterprises about such systems, increase their utilization rate, and encourage the use of these systems. For this reason, the purpose of this study is to research the use of information systems within micro-enterprises. Throughout the research, the use of information systems in microenterprises was compared to *DeLone* and *McLean's* information systems success model. In this respect, the use of information systems of microenterprises has been evaluated in terms of factors such as information quality, system quality, service quality, system usage, user satisfaction, and net system benefit. In the context of the study, quantitative research methods were used and the data were collected from carpet cleaning businesses, a type of micro-enterprise, using the survey method. For the analysis of the data collected, the programs *SmartPLS 3.0* (Ringle et al., 2015) and *SPSS 22* were used, and the data obtained was evaluated in terms of the use of information systems within the businesses.

2. CONCEPTUAL FRAMEWORK

In this section, first of all, the definition and characteristics of microenterprises are presented. Then, the use of information systems in microenterprises is defined. The presentation of the related literature will follow. Finally, the information systems success model and the theoretical framework are discussed.

2.1. The Definition of Microenterprises

There are several different definitions stated for enterprises. This difference in defining a business leads to a general difference in the definition of business types, particularly SMEs (Mecek, 2020:55). There is no consensus on the definition of SMEs in Türkiye. There are different definitions related to SMEs. The

main criterion based on these definitions is the number of employees. After going through some other definitions, there seems to be a limitation on the fiscal structure as well as the number of employees. The points mentioned in the SME definitions are listed as: the location of the fiscal structure, the number of employees, the environment in which the enterprise is located, and the conditions of the time (Bedük et al., 2005:2).

Many elements are considered when defining SMEs. The number of employees, the capital, the amount of annual sales, and the annual net earnings are the key concepts in defining SMEs. The definitions of SMEs naturally vary according to the size of the economies of countries and the level of industrialization. Due to the difference in economic power, a company that is considered a large business in one country might be considered a small business in another. For this reason, SMEs explain and symbolize the economies of their countries. Still, when defining SMEs, the most important factor used globally is the number of employees (Akgemci, 2001:3).

According to the new regulation in Türkiye, enacted with the Official Gazette No. 11828 as of April 2018 and updated in March 2022, enterprises whose annual number of employees is less than 10 and annual net sales revenue not exceeding 5 million Turkish Liras are defined as microenterprises (Official Gazette, 2018). Microenterprises generally have the structure of artisan enterprises. In other words, they could be defined as traditional family companies. They are established on low-budget and old-technology products. Since the base capital of these organizations is limited within the wealth of the founder, the organizational tools and technology products might be outdated (Kanışlı, 2015:58).

Microenterprises strengthen both the local economy and the national economy in terms of international competition by providing entrepreneurship, employment, and social development (Bekci et al., 2021:116). They also contribute to the development and progress of the economy by operating on a low budget (Fetisovova, 2004). Through this support, national economies constantly remain dynamic. Thus, microenterprises cover a large and important portion of the economies of all countries (Ekşi, 2023:25). Ensuring that the development of such economies, especially those in developing countries, mostly relies on these micro-enterprises. On these grounds, governments should support and pass incentives to microenterprises (Hobohm, 2013, as cited in Olunuga, 2022:301).

2.2. Characteristics of Microenterprises

Microenterprises are the mainstay of the economy. This makes their most significant feature being able to overcome crises more easily and survive accordingly. This feature is also what distinguishes microenterprises from macro enterprises. While many businesses shut down in times of crises, small businesses both protect their assets and largely support the sustainability of production and employment by substituting for large enterprises. Thanks to the flexibility of their production lines, they can shape their business and easily meet ongoing demands (Özdemir et al., 2007:175). SMEs also have an important economic role by covering the sub-industry needs of large companies, helping the development and growth of the economy. The flexible production opportunities SMEs have give them the chance to perform activities that large companies cannot perform, such as responding to various demands in short times (Çatal, 2007:335).

When examined, microenterprises are seen to have a quite basic organizational and configurational pattern, with the business founder being the manager. The organizational structure is simple, and the management is based on a mentor system. The relationship between the business and the customers is based on sincere communication. The market share of such enterprises is limited within a certain region, causing the functional areas of activity to be generally at a regional level. These business classes are open to innovations and are able to provide production on a small scale. In addition, they are also capable of providing custom goods and services (Haskioğlu, 2019:8-9).

2.3. The Use of Information Systems by Microenterprises

The preferences and needs of customers are changing very quickly. For this reason, businesses that keep up with such changes, apply the right business tactics, and adapt to the developing technology are seen

to have maintained their performance with the necessary level of power to compete. Today, it has been determined that the success of enterprises is directly related to the quality of the information technologies used and the ability to use these technologies (Lipaj et al., 2013:39-42).

When the work of information management in enterprises was examined, it was determined that they put technology at the center. One factor needed for information sharing was seen as technological possibilities. Technology brings great advantages to storing information. Competition between enterprises has also changed depending on the ongoing development in the sector of information technologies (IT). An active management within enterprises requires information to be useful and timely. Also, access to accurate information is of great importance for future planning. (Bayrak, 2014:4).

To reach the desired information in the world through information systems has become much easier and more accessible today. Information systems also ensure that organizations with different time zones in different countries can work together. Thanks to this system, businesses can reach anywhere in the world and do business throughout the world. Business traditions have become globalized via the economy and competitive systems (Laudon & Laudon, 2018:16).

The purposes of using information systems in microenterprises are to keep up with innovations, speed up the process of decision-making, speed up the flow of information within the enterprise, ensure teamwork, obtain information quickly and at a low cost, make the external data flow fast and reliable, increase operational efficiency and competition, ensure proper communication with suppliers and finally speed up the course of order and supplies (Güleş et al., 2003:78).

While micro-enterprises generally consider information systems as costly components and difficult to integrate within their structures, they are also aware of the necessity of incorporating information systems into their business structures in order to keep up with the changing world order. Accordingly, adjusting businesses to conform with information systems has gained popularity, and those enterprises undergoing such a course of transformation realise that these systems are actually low in cost and apparently increase the efficiency of their activities (Çatak, 2021:25).

The main reason why microenterprises integrate information systems into their configurations is the increasing competition and customer population within the digital world following the development of information technologies (Verhoef et al., 2021:895). For this reason, digital transformation is an obligation for businesses. Enterprises undergoing such a digital transformation, that is, integrating information technologies and systems within their configurations, see that these transformations benefit the business by improving many processes such as production, distribution, communication with customers, and also among the employees (Koçyiğit, 2022:284).

Microenterprises do not prefer using these information systems because they think they are costly. It is clear that these systems are no longer at high costs due to the development of technology. Even small-capital enterprises have realized the advantage of taking advantage of such systems. Microenterprises that have experienced information systems say that they will invest more in these systems due to the benefits they have gained, believing that these systems will contribute more to their companies in the future.

2.4. Related Literature

There are various studies in the literature on the use of information systems in microenterprises. These studies have focused on the purposes of using information systems of microenterprises from many different angles. In this part of the research, the studies conducted on the use of information systems of microenterprises in the literature are included.

Yang et al. (2023) conducted a study on the adoption of information systems in micro, small, and medium-sized enterprises. Within the research, the solutions of information systems were compared with performance measurements to evaluate production systems. According to the results obtained, there stands a close relationship between the sustainability of the enterprises and the systems.

Trinugroho et al. (2022) conducted research to determine the use of information technologies for micro and small businesses. In the research, the obstacles of enterprises in using information technologies were discussed. According to the information obtained, it was seen that the company owner did not prefer technologies in a number of companies. In addition, during the COVID-19 pandemic, it was observed that companies with high sales and revenues used information technologies.

Palmer-Abbs et al. (2021) discussed the effects of information systems on microenterprises, besides the skills and methods of using information systems. Fast and advanced information systems provided access to a new generation of broadband connections that were suitable for the purposes of microenterprises.

Dizman & Özen (2017) conducted research on the awareness of decision support systems in small businesses. As a result of the analysis, it was revealed that microenterprises used decision support systems little or not at all. It was observed that small-sized enterprises used them moderately, and medium-sized enterprises used them more.

Oğrak et al. (2016) determined how information technologies, which were used in furniture manufacturing enterprises, affected competition within the sector. The effects of information technologies on the corporate image, brand security, and design were also revealed. As a result of the study, it was determined that enterprises that have integrated information technologies within their structures have competitive power.

Akbaba & Özdemir (2013) conducted studies on the use of information and communication technologies in marketing activities of small and medium-sized enterprises. 416 SMEs operating in Erzurum province participated in the survey. They said that more than half of the enterprises used information technologies and that the technologies provided benefits to their enterprises, such as new customers and sales. As a result of the analysis, they concluded that enterprises must establish closer relations with information and communication technologies in the future, and these technologies must receive the importance they deserve.

Ersoy (2011) aimed to measure the perspectives of small and medium-sized enterprises in the Aegean Region (Türkiye) on technologies, their investments in these technologies, and their utilization rates. As a result of the research, it was revealed that the utilization rate of information technology was low in the region. Enterprises said that they have learned the importance of information technologies in terms of competition and so, plan to invest in the field.

Qureshil et al. (2009) conducted an interpretive field study to investigate how microenterprises could use information and communication technologies to increase their competitiveness. It was observed that microenterprises did not have a business strategy and were not aware of how to get a high level of benefit from information technologies. Several microenterprises started trying to integrate information technologies with their business strategies in order to establish efficiency and improve relationships with suppliers and customers.

Muske et al. (2004) conducted research to understand how microenterprises used technology and suggested ways to increase their use. Microenterprises within the scope of the research were relatively active in using information and communication technologies. After the research-based training, they used the technology in various ways to improve their business. They stated that their preferred use was to keep financial records, follow customer service, apply marketing strategies, and retrieve any required details. This technology was accepted to benefit their business.

In the study conducted by Kesken & Eğit (2004), the aim was to measure how closely information management was recognized within enterprises and how much use was made of information management elements. According to this study, all enterprises were aware of the fact that information was the most powerful element of advantage in a competitive environment. It was revealed that there were three main reasons why knowledge was the most powerful element of advantage. It was found that 39.8% of the enterprises participating in the study considered information as an element of competition because it had the power to increase their income, and 33% of enterprises considered information as a competitive tool since it

increased the market value of the enterprise and strengthened its place in the sector. 27.2% of the enterprises participating in the research, on the other hand, saw that information was seen to improve overall performance and was therefore considered an important competitive tool.

Güleş et al. (2003) aimed to measure the effects of the use of information technologies on business performance in small and medium-sized industrial enterprises. The level of information technology use of the enterprises participating in the survey was at an average level. In terms of intensity, enterprises were at the initial level in the use of information systems. As a result of the analysis, it was concluded that the performance of enterprises using information technologies at a high level was actually higher.

Within this literature review, information systems in microenterprises were mostly discussed in terms of the companies' purposes, methods, and usage rates, and methods to increase their use of them. Information systems were not considered in terms of a success model. In this study, in the following section, information systems used by microenterprises are analyzed as a success model and thus, are planned to contribute to the literature.

2.5. Information Systems Success Model

The abovementioned literature review, which was conducted on the use of information systems of microenterprises, examined the use of information systems in microenterprises from many different viewpoints. However, in this section, the use of information systems in microenterprises is discussed within the framework of the information systems success model. The study in this section has also been preferred because the information systems success model developed by Delone and McLean is considered to be the most comprehensive and reliable evaluation model in assessing information systems.

Information systems success is a difficult concept because it is multidimensional and complex. The aim of DeLone and McLean was to determine the factors that affect the success of information systems and to make this complex structure understandable by developing a model within the framework of these factors. William H. DeLone and Ephraim R. McLean first mentioned the success model in an article they wrote in 1992. The model was named after the authors. The authors have improved and made it a more successful model by making optimizations over the years (Seker, 2014:2).

In the original version of the model, the factors affecting success were considered as system quality, information quality, usage, user satisfaction, personal impact, and organizational impact. The system quality factor was considered to measure the technical success of the system, and the information quality factor was considered to measure the semantic success. In order to measure efficiency, usage, user satisfaction, personal impact, and organizational impact, factors were used. These six elements that measure success interact with each other (Kale, 2019:28).

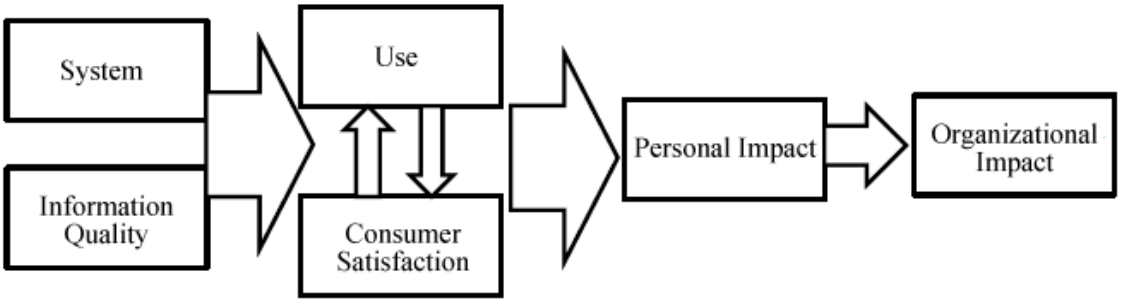

Figure 1. DeLone and McLean's Original Information Systems Success Model
Source: (DeLone & McLean, 1992:87)

The model found in Figure 1 is the original version of the success model, which was mentioned for the first time in 1992, and shows the functioning of the factors in the model. There are six factors related to each other. System and information quality affect usage and user satisfaction. Usage and user satisfaction

could affect each other in a positive or negative way. The relationship between these two factors is influenced by different participation conditions of users. Thus, probability variables should be considered when using the model. Usage and user satisfaction affect personal impact, and personal impact affects organizational impact (DeLone & McLean, 1992:87-88).

DeLone and McLean developed the model they created by revisiting it in 2003. In that year, service quality was added to the model, and individual and organizational impact were combined under the name of 'net benefits'. The current version of the model is based on six factors and is listed as follows:

- Information Quality
- System Quality
- Service Quality
- System Use/Purpose of Use
- User Satisfaction
- Net System Benefit

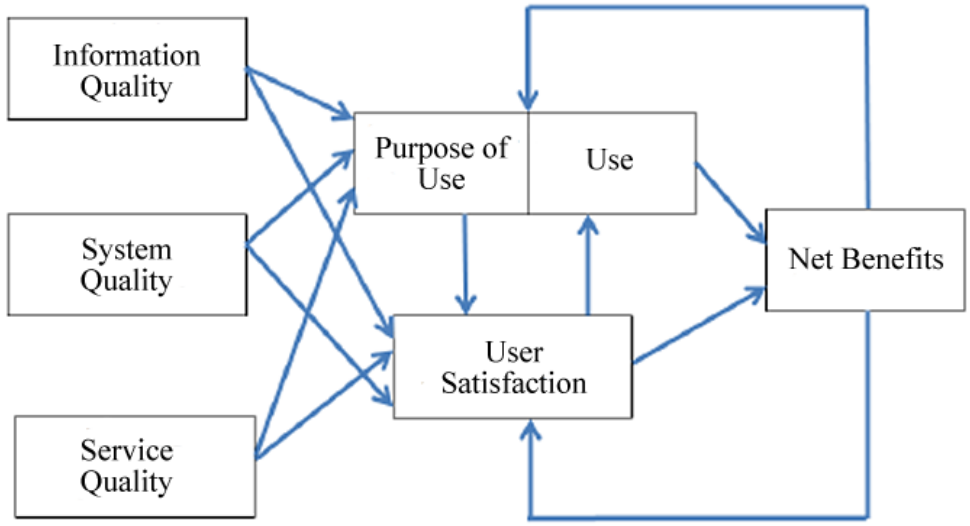

Figure 2. DeLone and McLean's Updated Information Systems Success Model
Source: (DeLone & McLean, 2003:18)

The current version of the success model, shown in Figure 2, consists of three levels. Information quality, system quality, and service quality. These are the basic criteria of the model and are at the first level. The factors originated from users, which are use, purpose of use, and user satisfaction, are at the middle level. The level at which the benefits of the model are seen as a result of the application is the last level; the net system benefit stands here. During the design and renovation of the model, the quality of the first level is revealed. The quality of the middle and final levels is related to the operation of the model and its sustainability. After the model is applied, the return and interaction between the factors in the model are normal (Seker, 2014:3).

System quality is related to the performance of the information system. Users' thoughts about the performance of the system are a condition that affects the quality of the system. A positive interaction occurs if the system quality meets the performance expected by users. System quality includes factors such as the ability to access the system, the compatibility of the system, the feedback speed of the system, the ability to meet user requests, the level of applicability of the system, the reliability of the system, and the difficulty degree of the system (Ultav, 2010:43).

Information quality is evaluated by the quality of information that the system can store, transmit, or create. Information quality is a factor that directly affects the interaction of users with the system and, therefore, it also affects the satisfaction of users and the purpose of users using it (Seker, 2014:4).

While service quality was not covered in the success model created in 1992, it was included as a new factor in the renewed model in 2003. Service quality is mostly measured by reliability, sensitivity, and altruism. The way users solve problems, the fast reactions offered by the system, the requirements of users, and the reliability of the system are the situations that concern the quality of service (Petter et al., 2008:238-239).

System usage and purpose of use play an effective role in determining the success of the system. The system utilization rate of users, the desire to reuse the system, and the purposes for which the system is used are the criteria that measure the success of the model. The increase and decrease in the use of the system is related to the fact that users see the system as useful and continue to use it or not (Kurt, 2016:142). In addition, many factors affect the use of the system, such as the degree to which it is necessary, non-substitutable, and compatible with the desires of users; also, whether the system is used voluntarily or compulsorily by users (Seker, 2014:4).

User satisfaction is the most common factor that measures the success of information systems. The opinions of users about the system appear in front of us in terms of user satisfaction. Users need information systems in accordance with certain requirements. Business processes could also change due to the changing economy and technology. Due to these changes, users' requests from the system might also change during the time they use the system. If the system meets the changing requests of users, it will achieve user satisfaction (Özcan, 2019:50).

Net benefits are the personal or organizational benefits provided by the system. The personal and organizational effects of the model in its original form in 1992 were replaced by net benefits with a revision in 2003. Net benefits are classified as the most valuable achievement dimension of the system. The reason, on the other hand, includes their positive or negative effects on buyers, employees, suppliers, organizations, markets, industries, economies, and even the environment (Yuthas & Young, 1998). The more useful, simple, understandable, non-substitutable, and indispensable the system is for users, the higher the usage rate increases. The more the usage rate increases, the more the benefit it will provide. The increase in the benefit shows the success rate of the model (Seker, 2014:5). As a result, net benefits are defined as *the benefit* the systems provide to users, employees, organizations, industries, and government (DeLone & McLean, 2003:10-12).

The reason for adopting the DeLone and McLean Information Systems Success Model as the main framework of this study is not limited to explaining the success level of information systems. The model analytically explains how information quality, system quality, and service quality are transformed into value creation at the business level by considering system use and user satisfaction as mediating variables. In this respect, the model provides an opportunity to examine the transformation of information technologies into organizational benefits not only in terms of technical performance but also through cognitive and behavioral mechanisms. Especially in explaining the effective use of information systems in micro and small enterprises, it offers a more holistic analytical framework for this research context than alternative models (such as the Technology Acceptance Model and the Task-Technology Fit Model), as it allows the evaluation of the indirect effects of user satisfaction and perceived benefits on the actual outcomes of the system.

3. METHODS

3.1. The Purpose and Significance of the Study

The aim of this study is to examine the success of information systems used by microenterprises. In this study, the success of information systems used by microenterprises is measured by the information systems success model developed by DeLone and McLean. The systems used by microenterprises have been evaluated by information quality, system quality, service quality, system usage, user satisfaction, and net system utility factors.

Businesses striving to survive and make a profit in the face of harsh competitive conditions are taking advantage of the opportunities of technology in order not to succumb during times of competition. Microenterprises benefit from information systems in order to protect their assets in this competitive

environment and keep pace in the world of technology. In this research, which is conducted in this direction, the aim is to contribute to the literature by analyzing the benefits of the systems that microenterprises use in order to increase their success and business performance by evaluating the opportunities provided by the world of technology.

3.2. Research Hypothesis

The relationships between the factors of the information systems success model are expressed with the following hypotheses:

Hypothesis 1: Information quality has a positive effect on system usage.
Hypothesis 2: Information quality has a positive effect on user satisfaction.
Hypothesis 3: System quality has a positive effect on system usage.
Hypothesis 4: System quality has a positive effect on user satisfaction
Hypothesis 5: Service quality has a positive impact on system usage.
Hypothesis 6: Service quality has a positive impact on user satisfaction.
Hypothesis 7: System use has a positive effect on user satisfaction.
Hypothesis 8: The system use has a positive effect on the net system benefit.
Hypothesis 9: User satisfaction has a positive effect on net system utility.

3.3. Population and Sample

The population of the research consists of employees and employers in Konya province (Türkiye) using information systems and working in carpet cleaning sector enterprises. Since it is not possible to reach all carpet cleaning enterprises operating in Konya due to time and cost difficulties, a sample group was formed, and a survey was carried out. In addition to the online survey forms, face-to-face survey applications were also carried out by contacting the companies.

In research, it is necessary to pay attention to factors such as individuals, time, and place when creating a sample group. Individuals and places need to be accessible. The individuals selected in the sample group should be sufficient in number and suitable to represent the purpose of the research. In this way, they will help the subject and the research problem to be understood (Yağar & Dökme, 2018:4).

In order to examine the use and success of information systems within the scope of the research, a carpet cleaning system software developed by a software company was selected. A survey application was conducted with a total of 210 employees and employers using this software in 25 carpet cleaning enterprises operating in Konya province. Since there were no problems with the surveys, all surveys were used in the final data analysis.

The two main criteria considered during the selection of the companies were that they be operating in Konya province and employ the same up-to-date software. The software we studied in our research was designed for the carpet cleaning sector. The content of the software serves in every field of the sector. The system records all activities carried out within the company. Customer contact information, past orders and services requested by customers, and appointment days of customers are all recorded in the system. Thanks to the electronic registration system, companies do not worry about any loss of customer records. The customer does not have to provide any contact details each time in order to receive service. In addition, both the company and the customers take advantage of the software's benefits with the help of this registration system. Notice messages about the products are sent to customers throughout the service, informing them during the process. Basic accounting operations of the company, such as price calculations, incomes, expenses, and reports issued daily, monthly, and annually, are also performed. This software, in total, provides great convenience and time savings to companies.

3.4. Limitations of the Study

There were a number of limitations during the research. In order to measure the use of information systems of microenterprises, the carpet cleaning sector was selected within the context of microenterprises. Due to constraints of time, transport, and cost, the field study was carried out on carpet cleaning enterprises

running only in Konya province. However, not every carpet cleaning enterprise uses an information system. For this reason, carpet cleaning enterprises operating merely in Konya and also using the information system were interviewed. The findings of the study are limited to the sample. The survey was conducted with the business owners, service employees, secretaries, accounting staff, and other personnel. The group of employees includes washing attendants, packaging attendants, hanging attendants, etc.

The survey was conducted between March and May 2022. Since the survey data collected covers a certain period of time, its validity or reliability is limited by the characteristics of the period during which the research was conducted.

Although the reliability coefficients of the scales were found to be quite high (above 0.97 for some constructs), this situation was interpreted with caution. Extremely high reliability values may indicate item redundancy or potential overfitting in social science research. Therefore, these results were evaluated by also examining the content validity of each construct, and it was confirmed that the items represent conceptually distinct but related aspects of the measured constructs. Nevertheless, this issue is acknowledged as a methodological limitation that should be considered in future studies.

3.5. Data Collection Method

In the research, primary data collection techniques were used as a scientific research method, and a survey study was conducted. Extensive literature research was performed in order to create a survey form. As a result of the literature research, variables and scales were examined. A number of the survey questions in the literature were adapted, and several of them were included directly in the survey. As a result of the research, a questionnaire form was prepared from the expressions used in different sources in the literature.

The survey consists of two parts. In the first part, demographic questions for carpet cleaning sector employees were asked. Demographic questions were prepared as multiple-choice questions. In this section, gender, marital status, age, educational level, position in the business, work experience in the current business, and total work experience were included.

In the second part of the questionnaire, there were statements aimed at measuring the variables of the research. The 5-point Likert scale was used in the expressions in this section. The scale was sorted as 1=Strongly Disagree, 2=Disagree, 3=Undecided, 4=Agree, 5=Strongly Agree. A literature search was conducted in order to create a survey form. Appropriate scales obtained as a result of the literature review were used. The scales used in the survey and the resources used are shown in Table 1; the expressions within the scales and the factor load, mean, and standard deviation values are shown in Table 2.

Table 1. Sources of Research Model Constructs and Items

Construct	Number of Items	Source
Information Quality	5	DeLone and McLean (2003), Gable et al. (2008)
System Quality	7	DeLone and McLean (2003), Gable et al. (2008)
Service Quality	5	Özcan (2019)
System Usage	5	Chiu, Hsu, Sun, Lin, Sun, (2005)
User Satisfaction	7	Hsu, Chiu, Ju (2004), Chiu, Hsu, Sun, Lin, Sun, (2005); Liao, Palvia, Chen, (2009)
Net Benefits	4	Hsu, Chiu, & Ju (2004), Chang (2013)

Table 2. Factor Loading, Mean, and Standard Deviation Values of Measures

Constructs / Items	Factor Load	Mean	S.D.
Information Quality (INQ)			
INQ1: The system produces accurate information.	0,946	4,89	0,33
INQ 2: The information received from the system is clear and understandable.	0,902	4,90	0,31
INQ 3: The reports produced by the system are reliable.	0,923	4,85	0,42
INQ 4: The information provided by the system is well-organized and regular.	0,926	4,85	0,40
INQ 5: The system provides the information on time.	0,932	4,85	0,42
System Quality (SYQ)			
SYQ1: The system is fast.	0,917	4,80	0,45
SYQ2: The system has the features and functions needed for my job.	0,935	4,86	0,35
SYQ3: The system has the flexibility to adapt to new demands and conditions.	0,940	4,80	0,45
SYQ4: The system increases productivity at work.	0,896	4,88	0,34
SYQ5: The system integrates information from different departments in the enterprise.	0,904	4,79	0,47
SYQ6: The system increases the ability of decision-making.	0,856	4,84	0,40
SYQ7: The system has the ability to integrate with other software.	0,773	4,73	0,58
Service Quality (SEQ)			
SEQ1: Technical support could be obtained in case of a need related to the system.	0,964	4,81	0,45
SEQ2: Sufficient support could be obtained for the system.	0,929	4,80	0,47
SEQ3: Brisk support could be obtained for the system.	0,973	4,79	0,50
SEQ4: Sufficient training could be obtained about the system.	0,925	4,80	0,45
SEQ5: Support could be obtained from competent and experienced people related to the system.	0,961	4,80	0,48
System Use (SYU)			
SYU1: It is very easy to learn to use the system.	0,940	4,90	0,32
SYU2: It is very easy to perform the desired operations in the system.	0,977	4,90	0,31
SYU3: The system is simple and accessible.	0,977	4,90	0,29
SYU4: The use of the system is flexible.	0,910	4,86	0,36
SYU5: The system is easy to use.	0,947	4,90	0,29
User Satisfaction (USS)			
USS1: The use of the system is helping the company be perceived as competent (knowledgeable/resourceful/professional).	0,961	4,86	0,36
USS2: The use of the system is increasing the company's sense of success.	0,915	4,86	0,38
USS3: I am glad to use the system.	0,929	4,87	0,34
USS4: I enjoy using the system.	0,963	4,86	0,35
USS5: I think the use of the system is useful.	0,931	4,87	0,34
USS6: It is smart to use the system.	0,953	4,88	0,33
USS7: The system should continue to be used.	0,942	4,87	0,35
Net System Benefits (NSB)			
NSB1: Using a system allows me to do my transactions faster.	0,968	4,90	0,30
NSB2: Using the system helps me to be faster.	0,976	4,90	0,31
NSB3: Using the system makes report tasks easier.	0,969	4,88	0,34
NSB4: Using the system is very useful when performing my report tasks.	0,957	4,88	0,34

3.6. Data Analysis

The data obtained via the survey method were digitally transferred to be analyzed. The data in the study were obtained by using SmartPLS 3.0 (Ringle et al., 2015) and were analyzed through the program. The Partial Least Squares Method (PLS) was used to analyze the validity and reliability of the research model variables and test the hypotheses indicating the relationships between the variables. The Partial Least Squares (PLS) approach was employed, as it is particularly appropriate for predictive and exploratory

research models. Moreover, this technique is advantageous when the dataset does not meet the assumption of normal distribution (Ringle et al., 2015). Frequency, percentage, mean, and standard deviation values were calculated using SPSS 22.0 statistical analysis software in the descriptive evaluation of the model variables.

4. FINDINGS

In this section, the results obtained by analyzing the data from the Information Systems Success Scale applied to the participants of the research are given. In the process of analyzing the data, percentage and frequency analysis, and PLS-SEM analysis were applied. The results obtained have been converted into tables and explained.

4.1. Findings Related to Demographic Variables

The demographic characteristics of those who participated in the study are shown in Table 3.

Table 3. Descriptive Statistics Related to Demographic Variables

Demographic Variable		**f**	**%**
Gender	Female	12	5,7
	Male	198	94,3
Marital Status	Married	140	66,7
	Single	70	33,3
Age	18-29 yrs.	81	38,6
	30-39 yrs.	94	44,8
	40+ yrs.	35	16,7
Educational Status	Secondary School	25	11,9
	High School	164	78,1
	Associate Degree and Bachelor's Degree	21	10,0
Position in the Business	Business Owner	25	11,9
	Bookkeeper	3	1,4
	Employee	87	41,4
	Service Employee	85	40,5
	Secretary	10	4,8
Duration of Experience in Business	Less Than 1 Year	18	8,6
	1-5 Years	61	29,0
	6-10 Years	101	48,1
	11-15 Years	30	14,3
Total Duration of Experience	Less Than 1 Year	2	1,0
	1-5 Years	34	16,2
	6-10 Years	54	25,7
	11-15 Years	89	42,4
	16-20 Years	21	10,0
	21+ Years	10	4,8

In Table 3, it is apparent that 5.7% of the participants in the study were women, and 94.3% were men; whereas 66.7% were married and 33.3% single. It is observed that 38.6% of the participants in the study were between the ages of 18 and 29, 44.8% between the ages of 30 and 39, and 16.7% 40 years and older; 11.9% were middle school graduates, 78.1% high school graduates, and 10.0% associate and undergraduate graduates. 11.9% of them were business owners, 1.4% accountants, 41.4% employees, 40.5% service employees and 4.8% secretaries; 8.6% had less than 1 year of experience in business, 29.0% 1-5 years of experience, 48.1% 6-10 years of experience and 14.3% 11-15 years of experience in business; 1.0% had 11-15 years of total work experience; and 1.0% had 11-15 years of experience in business. It is also clear that the total work experience of 16.2% of them was between 1-5 years, the total work experience of 25.7%

was between 6-10 years, 42.4% was between 11-15 years, 10.0% was between 16-20 years, and 4.8% was 21 years and over.

4.2. Findings from the Structural Equation Model

There are two different covariance-based and variance-based models for Structural Equation Modeling (SEM) (Hair et al., 2017). In the analysis of the relationship between the factors included in the research model, PLS-SEM, a variance-based structural equation modeling method, was used. The most important feature of the PLS-SEM method was that it could predict complex research problems simultaneously and in detail (Anderson & Gerbing, 1988:411).

4.2.1. Measurement Model

As the factor loads given in Table 2 are examined, it is seen that these values are between 0.773 and 0.977. In model or scale development studies, it is acceptable to place the factor load value in the range of 0.50-0.60 (Hulland, 1999:198-199). The factor load value of the model was determined to be above the specified range.

Cronbach's Alpha, Composite Reliability, and AVE values are given in Table 4. Cronbach's Alpha value gives internal consistency. The Cronbach Alpha value varies between "0" and "1". Alpha values are 'not reliable' if they are less than 0.50, they are considered as 'moderately reliable' if they are between 0.50-0.80, and 'highly reliable' if they are over 0.80 (Salvucci et al., 1997:115). It was found that the Cronbach Alpha value of the model was over 0.50, and the model had internal consistency and provided reliability.

Table 4. Cronbach's Alpha, Composite Reliability, and AVE Values

Construct	Cronbach's Alpha	Composite Reliability	AVE
Information Quality (INQ)	0,958	0,968	0,858
System Quality (SYQ)	0,956	0,964	0,793
Service Quality (SEQ)	0,973	0,979	0,904
System Use (SYU)	0,973	0,979	0,903
User Satisfaction (USS)	0,979	0,982	0,888
Net System Benefits (NSB)	0,969	0,980	0,942

Composite Reliability (CR) indicates the reliability of the model. Composite Reliability (CR) values should be 0.70 or greater than this value (Doğan, 2019). It was found that the Composite Reliability (CR) values for all factors were above 0.70, and so their expressions in the factors and the model structure were reliable.

The AVE (Average Variation Extracted) values of the model were checked for convergence validity. The AVE value must be greater than 0.50 (Doğan, 2019). In cases where the CR values of the factor are greater than 0.60, it is acceptable for the AVE to be less than 0.50 (Hair et al., 1998). It was found that the AVE value was higher than the specified value, and the model had convergence validity.

The discriminant validity values in the model showed that it had a suitable structure for the factor to be the largest value in the row and column values to which it belonged (Fornell & Larcker, 1981). Table 5 shows the discriminant validity values according to the Fornell-Larcker criterion. When Table 5 was examined, it was seen that the factor had the largest values in the row and column values to which it belonged, and that the model complied with the discriminant validity criteria.

Table 5. Fornell-Larcker Values for Discriminant Validity

Construct	INQ	SYQ	SEQ	SYU	USS	NSB
Information Quality (INQ)	**0,926**					
System Quality (SYQ)	0,847	**0,890**				
Service Quality (SEQ)	0,708	0,860	**0,951**			
System Use (SYU)	0,755	0,786	0,680	**0,950**		
User Satisfaction (USS)	0,843	0,869	0,778	0,793	**0,942**	
Net System Benefits (NSB)	0,771	0,779	0,665	0,874	0,886	**0,970**

4.2.2. Structural Model

After reaching the conclusion that the research model provided substance and structure reliability, and convergence and separation validity, the path analysis test was applied to test the hypotheses. The following are what were examined in the research: the relationship between information quality, system use, and user satisfaction; the relationship between system quality, system use and user satisfaction; the relationship between service quality, system usage and user satisfaction; the relationship between system usage and user satisfaction; and the relationship between system usage, user satisfaction and net system benefit.

The hypotheses developed based on the structural model of the research were tested, and the results are presented in Table 6.

Table 6. Results of Hypothesis Tests

Hypotheses	*β*	*t*	*p*	Supported
H1: Information Quality -> System Use	0,320	1,639	0,101	No
H2: Information Quality -> User Satisfaction	0,391	3,046	0,002	Yes
H3: System Quality -> System Use	0,482	1,643	0,100	No
H4: System Quality -> User Satisfaction	0,408	2,210	0,027	Yes
H5: Service Quality -> System Use	0,038	0,185	0,853	No
H6: Service Quality -> User Satisfaction	0,151	1,041	0,298	No
H7: System Use -> User Satisfaction	0,307	1,526	0,127	No
H8: System Use -> Net System Benefits	0,463	3,022	0,003	Yes
H9: User Satisfaction -> Net System Benefits	0,519	3,402	0,001	Yes

The path model results show whether the established relationships are also supported by the model. When Table 6 is examined, the t-values of the path coefficient values for other hypotheses except for the H1, H3, H5, H6, and H7 hypotheses are greater than 1.96, which is higher than the 95% T table value in the literature, and so are reliable. In addition, again, the *p* values of path coefficient values for other hypotheses except for the H1, H3, H5, H6, and H7 are also less than 0.05. It has been concluded that the hypotheses other than H1, H3, H5, H6, and H7 are supported. According to the results of the hypothesis tests, H2, H4, H8 and H9 were accepted, H1, H3, H5, H6 and H7 were rejected.

According to the results of the research, a positive correlation was found at a significance level of $p<0.01$ between the sub-factors of information quality and user satisfaction, and a significance level of $p<0.01$ between the sub-factors of system quality and user satisfaction. In this regard, it has been concluded that information quality and system quality increase user satisfaction. Also, a positive correlation was found at a significance level of $p<0.01$ between the sub-factors of system use and net system benefit, and a significance level of $p<0.01$ between the sub-factors of user satisfaction and net system benefits. Accordingly, it has been concluded that system use and user satisfaction increase net system benefit.

5. DISCUSSION AND CONCLUSION

The harsh competitive conditions that have lasted from the past to the present and will always continue in the future are of great importance for every business. Microenterprises, in particular, will be challenged in this competitive environment compared to other enterprises. Technology, on the other hand, continues to make it easier for businesses to carry on their jobs. Microenterprises could make it easier to survive in the sector by taking advantage of developing technologies.

The utilization rate of information systems in microenterprises is at a low level. However, these technologies provide minimal costs and maximum benefits to businesses. If microenterprises take these benefits into account and keep up with the technological era, they will take their success to higher levels. Thanks to this technology, microenterprises could expand their competitive class, introduce themselves to the world, and provide the opportunity to conduct international trade. Businesses that experience these systems even at a low level see that their benefits are quite high and think that these systems will provide even more gain in the future. Although information systems and technologies might seem expensive,

businesses that experience them could actually move their expenses to even lower levels by getting rid of small and piecemeal expenses and instead investing in a single aspect.

In this study, research on the use of information systems of microenterprises was carried out. In this regard, firstly, a literature review was conducted on information quality, system quality, service quality, system usage, user satisfaction, and net system utility factors on the success of information systems. After the literature review, in order to determine the success of information systems, the information systems success model discussed by Delone and McLean, which is widely used in the literature, was used.

The literature review revealed that past studies on business-related information systems were managed through various aspects, ranging from competition and business processes to marketing and information flow processes. Following the course of screening, all information systems in each study have clearly benefited the businesses. Extraordinary criteria, such as the Covid-19 pandemic, during which the world order moved towards digitalization, have also been addressed in several of the studies conducted. Throughout this period of digital transformation, information systems have provided a competitive advantage to such enterprises. Therefore, businesses not using information systems have progressed towards integrating similar systems within their companies.

The variables created within the research model are variables of information quality, system quality, service quality, system usage, user satisfaction, and net system utility. What have been determined in the research model are as follows: the relationship between information quality and system usage and user satisfaction; the relationship between system quality and system use and user satisfaction; the relationship between service quality and system usage and user satisfaction; the relationship between system usage and user satisfaction; and the results of the relationship between system usage and user satisfaction and net system benefit.

According to the findings obtained as a result of the analysis, information quality and system quality increase user satisfaction. It is apparent that system usage and user satisfaction increase the net system benefit. In this direction, what affects the extent of user satisfaction are information quality and system quality. The higher the information and system quality, the more satisfied the users are with the system. The following facts ensure that users are satisfied with the system. The first fact is that the system produces accurate information. The other facts are that the information received from the system is clear and understandable, the reports produced by the system are reliable, the information provided by the system is regular, and the system provides the information on time. Systems will encourage companies to use the system when they ensure the success of the extent of information quality. Another aspect that increases user satisfaction is system quality. The factors affecting user satisfaction are that the operation of the system is brisk, it has the necessary features and functions, adapts to demands, integrates information in different departments, and can be integrated with other software products.

The net system utility size increases the size of system usage and user satisfaction. The fact that the system is easy to learn, operations are easily performed in the system, the system is simple, accessible, flexible, and easy increases the benefits that users receive from the system. In addition to these factors, the performance of system operation, the success, satisfaction, utility, and feeling of enjoyment the system gives to users also increase the net system utility factors.

On the other hand, the hypotheses that are not supported in this study indicate that classical models of information systems success may not hold equally across all contexts. In particular, the lack of a direct effect of information quality and system quality on system use can be explained by the fact that information systems in micro-enterprises are often used within the framework of mandatory or routine tasks. Similarly, the absence of a significant effect of service quality on both system use and user satisfaction may result from the limited perception or availability of technical support services in such enterprises. Furthermore, the finding that system use does not directly influence user satisfaction suggests that users' satisfaction with the system depends more on perceived performance and usefulness than on the frequency of use. Therefore, these unsupported hypotheses reveal that the dynamics of information systems use in micro-enterprises are

closely related to contextual factors such as organizational structure, user profile, and the level of information technology maturity.

As a result of the evaluations, when the relationships between variables are analyzed, it is seen that micro businesses complete their transactions faster, easier, and more reliably with the benefits offered by the system they use. It is observed that microenterprises are satisfied with the service provided by the system; they find the system useful, their efficiency and success increase, thanks to the system. In line with these results, businesses that benefit from information systems both gain a great competitive advantage and their business processes progress more reliably.

In the carpet cleaning sector, all transactions such as customer information, income, and expenses are made via paper or notebooks. Customer information that constantly disappears prolongs and complicates business processes. Information systems offer great advantages to companies by collecting and storing all transactions in one place. It is of great importance that there are no disruptions in carpet cleaning enterprises, particularly in purchasing and distribution services. The systems accelerate the work of service employees by presenting customer information and the order list in a single panel. Thanks to the ease of use, access, and learning of the systems offered to carpet cleaning enterprises, companies could easily incorporate the systems into their structures. In addition, thanks to the adaptability of the systems to the demands and conditions, carpet cleaning enterprises could change the system according to their structures.

As a result, when all these findings and benefits are taken into consideration, it is seen that access to information systems and technologies has become easier and could be achieved with minimal expenses. In the literature review, many of the microenterprises have never attempted to experience these systems because they thought a large amount of capital and advanced technology were required to employ such systems. Microenterprises that have experienced information systems have actually found that they could integrate these systems into their structures without the need for a large amount of capital and advanced technology. In addition, microenterprises have observed that they could get great advantages with a minimum cost on their information systems. In the research, the individuals who participated in our survey work in the carpet cleaning sector and use information systems. They found out that the success of the systems was quite high.

Enterprises that want to integrate information systems into their configurations should first determine their priorities, as there are many kinds of information systems. They should prefer systems with appropriate content. The employees should be informed about these systems and guided to gain the required experience. These systems, which speed up business processes and prevent incorrect transactions, are always a great advantage for businesses and employees. Every company that incorporates this sum of advantages will increase its efficiency and earnings day by day, meaning that they should see and contemplate the worth of these systems, which are designed to benefit companies.

REFERENCES

Akbaba, A.İ., & Özdemir, A. (2013). The use of information and communication technologies in the marketing activities of small and medium-sized enterprises (SMEs) is an application. *International Scientific Conference of Young Researchers*, Qafqaz University, April 26-27, Baku, Azerbaijan.

Akgemci, T. (2001). "The main problems of SMEs and the support provided", Small and Medium-sized Industry Development and Support Administration, http://www.kobider.org.tr/pdf/kobi_sorunlar_destekler.pdf.

Akolaş, D. A. (2004). Bilişim sistemleri ve bilişim teknolojisinin küreselleşme olgusu ve girişimcilik üzerine yansımaları. *Selçuk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi. 12*, 29-43.

Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: a review and recommended two-step approach. *Psychological Bulletin. 103*(3), 411-423.

Bayrak, A. (2014). *İşletmelerde bilişim teknolojilerinin kullanımı ve etkilerine ilişkin telekomünikasyon sektöründe bir firma uygulaması*. (Yayınlanmamış yüksek lisans tezi) Ufuk Üniversitesi.

Bedük, A., Mete, O., & Usta, S. (2005). Avrupa Birliği sürecinde Türk KOBİ'lerinin temel sorunları: Karaman gıda sektörü örneği. *Selçuk Üniversitesi Sosyal Bilimler Meslek Yüksekokulu Dergisi 8*(1-2), 1-18. Retrieved from https://dergipark.org.tr/tr/pub/selcuksbmyd/issue/11296/134972

Bekci, İ., Apalı, A., & Özer, E. (2021). Mikro ve küçük işletmelerin muhasebe mesleğine karşı tutumlarının tanımlayıcı değişkenlere göre araştırılması: Isparta ili örneği. *Pamukkale Üniversitesi İşletme Araştırmaları Dergisi 8*(1), 115-130. Retrieved from https://dergipark.org.tr/tr/pub/piar/issue/63281/896566

Chang, C.C. (2013). Exploring the determinants of e-learning systems continuance intention in academic libraries. *Library Management, 34*(1/2), 40-55.

Chiu, C. M., Hsu, M. H., Sun, S. Y., Lin, T. C., & Sun, P. C. (2005). Usability, quality, value, and e-learning continuance decisions. *Computers and Education, 45*(4), 399–416.

Çatak, Ç. (2021). Küçük ve orta ölçekli işletmelerde dijitalleşme ve finansmana erişim. In M. Eryılmaz (Ed.), *Dijital dönüşümü işletme biliminin gözlükleriyle anlamak* (pp. 17–26). Nobel Publishing.

Çatal, M. F. (2007). Bölgesel kalkınmada küçük ve orta boy işletmelerin (KOBİ) rolü. *Atatürk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, *10(2)*333-352. Retrieved from https://dergipark.org.tr/tr/pub/ataunisosbil/issue/2820/38023

DeLone, W. H., & McLean, E. R. (1992). Information systems success: the quest for the dependent variable. *Information Systems Research*, *3*(1), 60-95.

Delone, W. H., & McLean, E. R. (2003). The DeLone and McLean model of ınformation system success: a ten-year update, *Journal of Management Information Systems*, *19*(4): 9-30.

Dizman, H., & Özen, E. (2017). Küçük işletmelerde karar destek sistemlerinin farkındalığı üzerine bir araştırma: yerel bir yaklaşım (Ege Bölgesi). *Finans Ekonomi ve Sosyal Araştırmalar Dergisi*, 2(3): 137-152.

Doğan, D. (2019). *SmartPLS ile veri analizi*. Ankara: Zet Yayınları.

Ekşi, G. (2023). Mikro işletmelerde finansal sorunlar ve çözüm önerileri. *Scientific Journal of Finance and Financial Law Studies,3*(1), 23-30. Retrieved from https://dergipark.org.tr/tr/pub/sjffls/issue/81010/1462324#article_cite

Ersoy, H. (2011). Ege Bölgesindeki küçük ve orta ölçekli işletmelerde enformasyon teknolojilerinin kullanımı ve işletmelerin enformasyon teknolojilerine bakışı. *Organizasyon ve Yönetim Bilimleri Dergisi, 3*(2), 141-153.

Fetisovova, E. (2004). Finance of small and medium-sized enterprises. *Iura Edition, 87*(4).

Fornell, C., & Larcker, D. F. (1981). Structural equation models with unobservable variables and measurement error. *Algebra And Statistics, 18(3).*

Gable, G. G., Sedera, D., & Chan, T. (2008). "Re-conceptualizing information system success: the IS-impact measurement model", *Journal of the Association for Information Systems*, *9*(7), 377-408.

Güleş, H. K., Bülbül, H., & Çağlıyan, V. (2003). Bilişim teknolojileri kullanımının işletme performansına etkisi: küçük ve orta ölçekli sanayi işletmelerinde bir uygulama*, S.Ü. İİBF Sosyal ve Ekonomik Araştırmalar Dergisi*, *3*(6), 61-83. Retrieved from https://dergipark.org.tr/tr/pub/susead/issue/28437/302920

Hair, Joseph F., Tatham, Ronald L., Anderson, Rolph E., & Black, W. (1998), *Multivariate data analysis: with readings*, 5th Edn. Englewood Cliffs, NJ: Prentice Hall.

Hair Jr, J. F., Hult, G. T. M., Ringle, C., & Sarstedt, M. (2017). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Sage Publications. 2.nd ed.

Haskioğlu, F. (2019). *Mikro ve küçük ölçekli işletmelerde çalışanların çalışma koşulları.* (Yayınlanmamış yüksek lisans tezi). Pamukkale Üniversitesi.

Hsu, M. H., Chiu, C. M., & Ju, T. L. (2004). Determinants of continued use of the WWW: an integration of two theoretical models. *Industrial management & data systems*, *104*(9), 766-775.

Hulland, J. (1999). Use of partial least squares (PLS) in strategic management research: a review of four recent studies. *Strategic Management Journal, 20*(2), 195–204.

Kale, D. (2019). *İnsan kaynakları bilgi sistemlerinin örgütsel performansa etkileri: DeLone & McLean bilgi sistemleri başarı modeli bağlamında bir değerlendirme.* (Yayınlanmamış yüksek lisans tezi). Başkent Üniversitesi.

Kanışlı, E. (2015). *Mikro ölçekli işletmelerde enerji yatırımlarının analizi: Tokat ili örneği.* (Yayınlanmamış yüksek lisans tezi). Gaziosmanpaşa Üniversitesi.

Kesken, J., & Eğit, T. (2004). Kobi'ler bilgi çağına hazır mı? Türk kobileri ve bilgi yönetimi: sektörler arası karşılaştırmalı analiz. *Eylül Üniversitesi İşletme Fakültesi Dergisi, 5*(2): 88-110. Retrieved from https://dergipark.org.tr/tr/pub/ifede/issue/4604/62886

Koçyiğit, N. (2022). Bilgi sistemleri kullanımının işletmelerde performans değerlemeye etkileri: küçük ve orta ölçekli işletme (KOBİ) performans değerleme sistemi örneği. *Pearson Journal of Social Sciences & Humanities 7*(21), 283-295. Retrieved from https://pearsonjournal.com/index.php/pub/article/view/386/378

Kurt, Ö. (2016). Bilgi sistemleri başarı modeli ile bir e-öğrenme sistemi değerlendirmesi. *Yönetim Bilişim Sistemleri Dergisi 1*(3), 140-149.

Laudon, K. C., & Laudon, J. P. (2018). *Management information systems: Managing the digital Firm.* (Çev. Uğur Yozgat) İstanbul: Nobel Yayın.

Liao, C., Palvia, P., & Chen, J. L. (2009). Information technology adoption behavior life cycle: Toward a technology continuance theory (TCT). *International Journal of Information Management*, 29(4), 309-320.

Lipaj, D., & Davidaviciene, V. (2013). Influence of ınformation systems on business performance. *Mokslas: Lietuvos Ateitis, 5*(1), 38-45.

Mecek, G. (2020). Küçük ve orta büyüklükteki işletmelerin (KOBİ) uluslararasu tanımlama ölçütleri ve kavramlaştırılması. *Ekonomi İşletme Siyaset ve Uluslararası İlişkiler Dergisi, 6*(1): 29-55

Muske, G., Stanforth, N., & Woods, M. D. (2004). Micro business use of technology and extension's role. *Journal of Extension,* 42(1), http://www.joe.org/joe/2004february/a4.shtml

Official Gazette (2018). Small and medium enterprises development organization, regulation on the amendment of the regulation on the definition, qualifications and classification of small and medium-sized enterprises, https://webdosya.kosgeb.gov.tr/Content/Upload/Dosya/2022/2022_KOB%C4%B0_Tan%C4%B1m%C4%B1_Y%C3%B6netmelik.pdf

Oğrak, A., Kesen, M., & Yaşar, M. E. (2016). Toplam kalite yönetimi uygulamalarında bilişim teknolojileri kullanımının verimliliğe etkisi: Van organize sanayi bölgesinde bir uygulama. *Dicle Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 8*(16): 514-528.

Olunuga, A. O. (2022). Determinants of bank lending and credit accessibility of micro, small, and medium enterprises. *Journal of Business Science*, 10(3), 299-313.

Özcan, S. (2019). *Seyahat acentalarında kullanılan enformasyon sistemlerinin başarısının kullanıcı perspektifinden incelenmesine yönelik bir araştırma.* (Yayınlanmamış yüksek lisans tezi). Akdeniz Üniversitesi.

Özdemir, S., Ersöz, H., & Sarıoğlu, H. (2007). Küçük girişimciliğin artan önemi ve KOBİ'lerin Türkiye ekonomisindeki yeri. *Sosyal Siyaset Konferansları Dergisi, 53*, 173-230.

Palmer-Abbs, M., Cotrill, C., & Farrington, J. (2021). The digital lottery: The impact of next generation broadband on rural small and micro businesses in the North East of Scotland. *Journal of Rural Studies, 81*, 99-115.

Papastathopoulos, A., & Beneki, C. (2010). Does entrepreneurial experience and strategy really matter for ICT performance? A Greek cross-border empirical study. *The Electronic Journal Information Systems Evaluation* 13(2),177-186.

Petter, S., Delone, W., & Mclean, E. (2008). Measuring ınformation systems success: models, dimensions, measures, and interrelationships. *European Journal of Information Systems,* 17, 236–263

Qureshil, S., Kamal, M., & Wolcott, P. (2009). Information technology ınterventions for growth and competitiveness in microenterprises. *International Journal of E-Business Research, 5*(1), 117-140.

Ringle, C. M., Wende, S., & Becker, J. M. (2015). SmartPLS 3. SmartPLS GmbH, Boenningstedt. http://www.smartpls.com

Salvucci, S., Elizabeth W., Valerie C., Steven F., & Mehrdad S. (1997). *Measurement error studies at the national center for education statistics, u. s. department of education.* Washington: NCES 97464 Publication.

Seker, S. E. (2014). DeLone ve McLean bilgi sistemleri başarı modeli (IS success model). *YBS Ansiklopedi*, *1*(3), 2-8.

Sidlo, K. W., Karunska, K., Salmeri, C., Bieliei, S., & Albinyana, R. (2020). Digitalisation of small and medium enterprises (SMEs) in the Mediterranean. *Commission for Citizenship, Governance, European Union Institutional and External Affairs,* ISBN: 978-92-895-1051-6, DOI:10.2863/206606.

Tecim, V. (1999). Bilgi teknolojilerinde yeni bir gelişme: Coğrafi bilgi sistemleri ve bilgi sistemleri arasındaki yeri. *Dokuz Eylül Üniversitesi İktisadi İdari Bilimler Fakültesi Dergisi*, *14*(1), 1-12.

Trinugroho, I., Pamungkas, P., Wiwoho, J., Damayanti, S. M., & Pramono, T. (2022). Adoption of digital Technologies for micro and small business in Indonesia. *Finance Research Letters, 45,*102156.

Ultav, E. E. (2010*). Bilgi sistemlerinin işletmeler için stratejik önemi ve başarısının ölçülmesi.* (Yayınlanmamış yüksek lisans tezi) Marmara Üniversitesi.

Verhoef, P. C., Broekhuizen, T., Bart, Y., Bhattacharya, A., Dong, J. Q., Fabian, N., & Haenlein, M. (2021). Digital Transformation: A Multidisciplinary Reflection and Research Agenda. *Journal of Business Research,* 122, 889-901.

Yağar, F., & Dökme S. (2018). Niteliksel araştırmaların planlanması: araştırma sorunları, örneklem seçimi, geçerlilik ve güvenirlik. *Gazi Sağlık Bilimleri Dergisi* 3(9): 1-9.

Yang, L., Zou, H., Shang, C., Ye, X., & Rai, P. (2023). Adoption of information and digital technologies for sustainable smart manufacturing systems for Industry 4.0 in small, medium, and microenterprises. *Technological Forecasting and Social Change, 188,* 122308.

Yuthas, K., & Young, S. T. (1998). Materials matters: Assessing The effectiveness of materials management IS. *Information And Management, 33*(3), 115-124.