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## **KNOWLEDGE MANAGEMENT IN IT SERVICE MANAGEMENT: A SYSTEMATIC LITERATURE STUDY**

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### **ABSTRACT**

Knowledge management is considered key to the success of organizations today and is critical in knowledge-intensive areas such as the service sector. This study aims to understand knowledge management focus in service organizations, to identify research gaps in the field, and to shape the knowledge management approach in Information Technology Service Management (ITSM). Firstly, the basics of knowledge management and service management will be explained then a systematic literature review will be conducted on academic literature focusing on service organizations. Finally, the results of the study will be shared, and suggestions will be made for future studies.

**Keywords:** Knowledge Management, Service Management, IT Service Management (ITSM)

**JEL Codes:** O34, M15, M10

### **1. Introduction**

Knowledge Management gained importance as a research area in the 90s with contributions from various disciplines such as organizational behaviour and learning, information technologies and technology management, computer and cognitive science. (Razmerita, Phillips-Wren & Jain, 2015, p. 5; Omotayo, 2015, p. 1-2; Iskandar, Jambak, Kosala & Prabowo, 2017, p. 69-70) One of the most well-known studies of the field by Nonaka and Takeuchi(1995) was published in the mid-90s, and after this period, studies, publications, seminars and congresses on knowledge management increased both in the academic world and in companies, and this focus continued to the present day as the domain of knowledge management expanded.

One of the areas where knowledge management is critical has been the service sector. Service management defines the processes that are carried out to co-create value with customers. Today, the increase in technology capacity and the need to do more business with less resources has brought up the concept of IT service management (ITSM). The aim of this study is to conduct a systematic literature review on the service sector to help understanding the knowledge management focus in this field and identifying research gaps, and to shape the knowledge management approach in IT service management through the studies reviewed.

This paper consists of three parts. The first section describes the fundamentals of knowledge management and information technology service management. In the second section, details of the

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systematic literature review and selection process of sources are explained. The sources obtained at this stage are examined in detail and the findings are associated with research problems. Finally, the results are summarized, and suggestions are made for future studies.

## **2. Fundamentals of Knowledge Management and IT Service Organizations**

In order to understand knowledge management, the concepts of data, information and knowledge need to be understood. (Vassallo, 1999, p. 232) The concept of data has been defined by many authors as characters, symbols, numbers, and audio/visual parts related to objects, events, and their surroundings. (Ahmad, Lodhi, Zaman & Naseem, 2015, p. 861 ) Data that gained meaning through relational connections is called information. (Edosio, 2014, p. 4) Knowledge is the product of learning process that affects how products/services are shaped using both the data and information; it includes both tangible and intangible assets such as documentation, user guides, patents, licenses and, people's experiences and how to behave, how to make certain transactions, how to conduct processes and more.

### **2.1. Knowledge Management**

Knowledge management (KM) terminology has emerged from complexity in the market, competition in technology and changes in customer demands. Knowledge management, is the open and planned creation, renewal and implementation of the knowledge assets of the organization considering the people, process and technology elements in order to achieve organizational goals by increasing the knowledge-based efficiency of the organization, and to prevent the organization from being out of business. (Wiig, 1997, p. 6-8; Nawab, Nazir, Zahid & Fawad, 2015, p. 43; Hartono & Halim, 2014, p. 111-112; Si Xue, 2017, p. 32)

People are the real owners of knowledge. New employees bring their knowledge to the organization, while the employees who leave the organization take their knowledge with them. (Maier, 2007, p. 28) Knowledge obtained from customers, business partners and competitors play an important role for improvement, remediation, prevention, competitive advantage and profitability. In order to prevent the loss of knowledge obtained from these sources, it is necessary to transform the organizational culture to 'knowledge sharing ' to create an atmosphere of trust within the organization.

In order to transform the organizational culture by implementing knowledge management and to make full use of knowledge assets, organizations must have a clear understanding of knowledge management and create processes accordingly. (Si Xue, 2017, p. 34) Although knowledge management processes are modelled by many authors, the basic processes can be summarized as the creation/acquisition, storage, sharing and dissemination of knowledge. (Alici & Cengizoglu, 2017, p. 2, 7) Knowledge management processes are cyclical and in order to conduct these processes smoothly, processes must be supported by relevant tools and related technological investments must be made. (Kamal & Buniyamin, 2018, p. 34; Gunjal, 2015, p. 41-43)

Supporting all processes of an organization with knowledge management requires the integration of all the necessary tools and systems, considering the needs of the stakeholders. The concept of combining all knowledge management tools with knowledge management-oriented organizational design without being restricted to a specific class or group of employees has been conceptualized as knowledge management systems (KMS). (Desta, Garfield & Meshesha, 2014, p. 1-2; Gunjal, 2015, p. 41-43; Liao, 2003, p. 156-157) Even though there are KMS products on the market,

organizations can create their own systems by bringing the appropriate tools for their needs together.

## **2.2. IT Service Management**

The concept of services and service management was born out of the increasing complexity of IT systems and the increasing maturity of IT management. (Winniford, Conger & Erickson-Harris, 2009, p. 154) Service is a complex concept; it can take many different forms, such as 'personal service' or 'product as a service' and usually it is a series of activities that take place through interactions between customers, service employees, the physical resources or systems of the service provider aiming to provide solutions to co-create value together with customers. Today, the increase in technology capacity and the need to do more business with fewer resources have increased the interest in Information Technology Service Management (ITSM). Many companies have become strategic service providers by combining IT with their businesses, with the goal of providing value-added and quality services to the customer.

ITSM is defined as a mix of technology, information and knowledge that is carried out to effectively manage the information technologies and their dependencies owned by the organizations and to provide value to customers in the form of service. (Galup, Quan, Dattero & Conger, 2007, p. 46-48) Effective knowledge management in this context is considered key to the success of ITSM. (Fathi, Hafeez-Baig & Gururajan, 2019, p. 155-156)

## **3. Method**

The aim of this study is to demonstrate how knowledge management practices are implemented in the field of IT service management. The method of systematic literature study to be applied within the scope has been adapted from the theoretical work of Denyer and Tranfield (2009). The main steps of the adapted systematic literature approach are defined as: Identification of research questions, selection of keywords and databases to be searched, selection criteria and selection of resources and searching for answers to research questions by examining the obtained resources in detail.

### **3.1. Identification of Research Questions**

Based on the aim of the study and the theoretical background described in the introduction section, 4 research questions were identified.

- S1: When and by which publisher have the works been published?
- S2: What sectors and service areas have the studies focused on?
- S3: What is the focus on the IT services?
- S4: How should the KM framework for IT service organizations be shaped?

### **3.2. Selection of Keywords and Databases**

Keywords to be used in the surveys were selected according to the research questions. Knowledge management and service were selected as the basic concepts describing the scope of the research. The words framework, model, architecture and method have been identified as secondary keywords supporting the research questions. Queries are created by combining selected keywords and

concepts with Boolean operators (AND and OR). Related query is given as follows: "Knowledge Management" AND (Model OR Method OR Framework OR Architecture) AND Service

Created query was searched on IEEE Xplore, ACM Digital Library, Science Direct, Emerald Insight, Sage Journals, Springer link Taylor and Francis Online, JSTOR, and Wiley Online Library.

### **3.3. Resource Selection and Analysis**

As all selected databases support the search of Boolean queries, no customization was made at the first stage and the queries given above was searched directly. In order to narrow the results and to increase the focus on the study questions a year filter between 1990-2019 and title match filters were added to the queries in the next steps. The customized queries including the title filtering are given in Table 1. Since filters in some databases are broadly defined to include not only the title of the publication but also the name of the journal in which the publication is published or the conference in which it is presented, it should be considered that there may be studies not including all the keywords in their title.

The sources obtained after filtering were exported from the databases in BibTeX reference format, then transferred to JabRef tool, an open source bibliography reference manager using BibTeX as the local file format. Duplicate sources were removed by using the features of JabRef and also updated versions of the same studies conducted by the same author were taken into consideration in order to prevent the inclusion of the same work more than once. The resources left after this control are reserved for title and summary check, the criteria for inclusion and elimination at this stage are given as follows:

- Books and book reviews, standards, course content, and grey literature are excluded from the scope.
- The study was conducted for one of the service areas.
- The paper was published in full text

Databases	Queries with Title Filter
IEEE Xplore	("Document Title":"Knowledge Management") AND ("Document Title":Model OR "Document Title":Method OR "Document Title":Framework OR "Document Title":Architecture) AND ("Document Title":Service)
ACM Digital Library	[Publication Title: "knowledge management"] AND [[Publication Title: model] OR [Publication Title: method] OR [Publication Title: framework] OR [Publication Title: architecture]] AND [Publication Title: service]
Science Direct	Title: "Knowledge Management" AND (Model OR Method OR Framework OR Architecture) AND Service
Emerald Insight	title:"Knowledge Management" AND (title:"Model" OR title:"Method" OR title:"Framework" OR title:"Architecture") AND (title:"Service")
Sage Journals	[Title "knowledge management"] AND [Title service] AND [[Title model] OR [Title method] OR [Title framework] OR [Title architecture]]
Springer Link	On Advanced Search Tab - Title Field : "Knowledge Management System" AND (Model OR Method OR Framework OR Architecture) AND Service
Taylor & Francis Online	[Publication Title: "knowledge management"] AND [[Publication Title: model] OR [Publication Title: method] OR [Publication Title: framework] OR [Publication Title: architecture]] AND [Publication Title: service]
JSTOR	((("Knowledge Management") AND ti:(Model OR Method OR Framework OR Architecture))) AND ti:(Service))
Wiley Online Library	""Knowledge Management"" in Title and "(Model OR Method OR Framework OR Architecture)" in Title and "Service" in Title

Table 1: Queries with Title Filter

First, source type filtering was applied using JabRef and 367 resources obtained after this process were taken to the title and summary evaluation manually. With this evaluation, studies that do not meet the target of the research questions and/or are not related to the study focus are excluded. During this evaluation, a paper published in the IEEE was withdrawn due to an ethical violation, and 90 sources were allocated for analysis after this study was excluded. The selected works were re-examined in detail to answer the research questions. The source numbers obtained after each step are given in Figure 1.

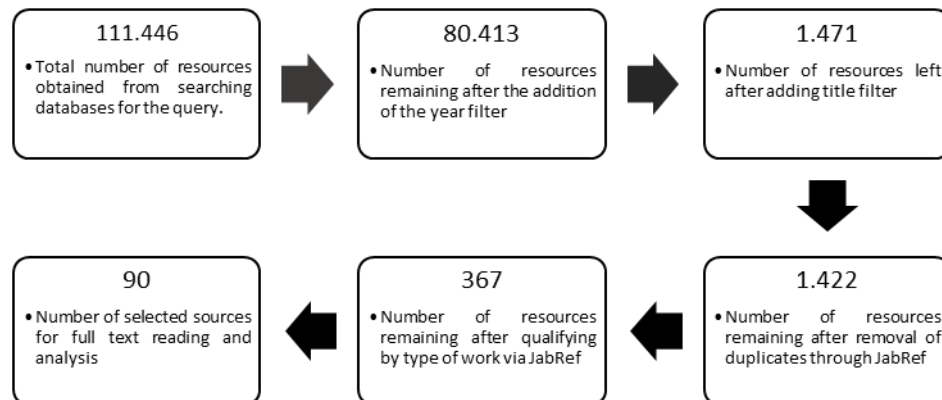


Figure 1: Number of Resources Obtained After Each Step

### 3.4. Risks

In order to increase the relevance of the scan results to the research questions, some adjustments have been made to the queries. The concept of Knowledge Management is enclosed in quotation marks in order to improve query results. In this way, while preventing the confusion of the sources in which the words knowledge and management are mentioned separately, the visibility of the possible sources referred to as “management of knowledge” or similarly has been lost.

In addition, some selection criteria were implemented through the JabRef tool. By carrying out this process through a means, there was a risk that resources such as conference papers, which were turned into books, would be ignored. Also, the study was conducted by a single author, which may cause researcher bias of some studies not being selected. In order to ensure the reliability of the results of the study, comparisons will be given with similar literature studies conducted during the evaluation of the findings.

### 4. Findings

Selected work was examined in detail, analyses were made, and the findings obtained are given below.

#### 4.1. Frequency of Publications and Publication Information (S1)

The year and publisher information of the studies were obtained through JabRef and scatter charts were created. Figure 2 shows the distribution of resources by year. The first study was conducted in 1990 by Engel (1990) and is the only study in the corresponding year. After 1998, the number of studies increased rapidly. This increase shows that knowledge management has an important place in the service field. In addition, the results are consistent with the study conducted by Gu to understand the global focus on knowledge management. (2004)

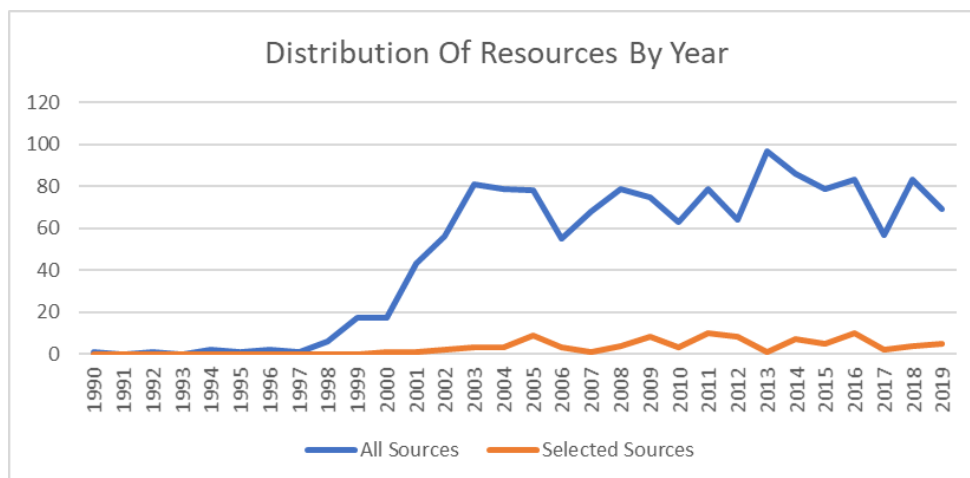


Figure 2: Distribution of Resources by Year

The publisher with the most publications in all sources is Springer-Verlag, with 1327 works. In all sources, the distribution of publishers excluding Springer-Verlag is given in Figure 3. The publisher distributions of the selected works are given in Figure 4. It is not surprising that Springer-Verlag came first again as publisher in this distribution.

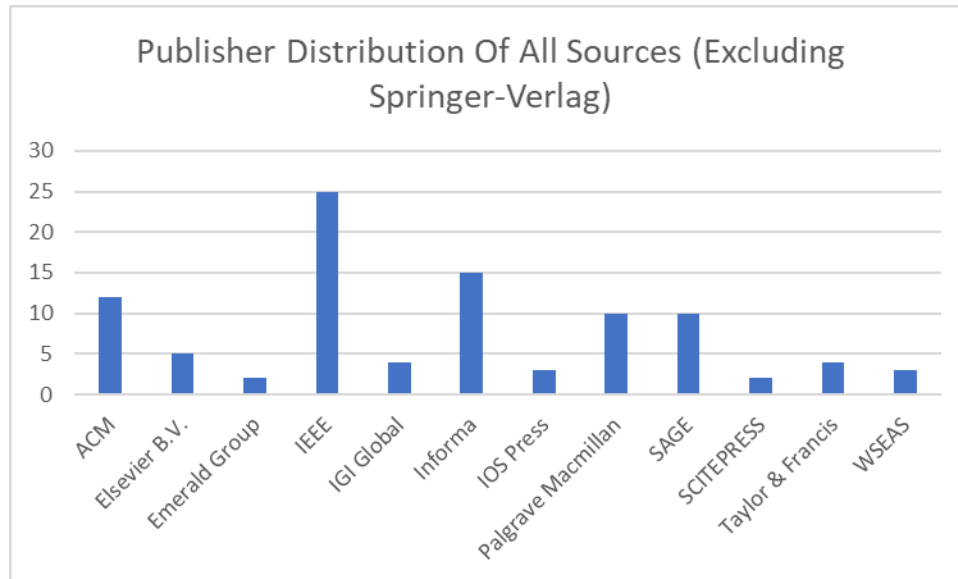


Figure 3: Publisher Distributions of All Sources (Excluding Springer-Verlag)

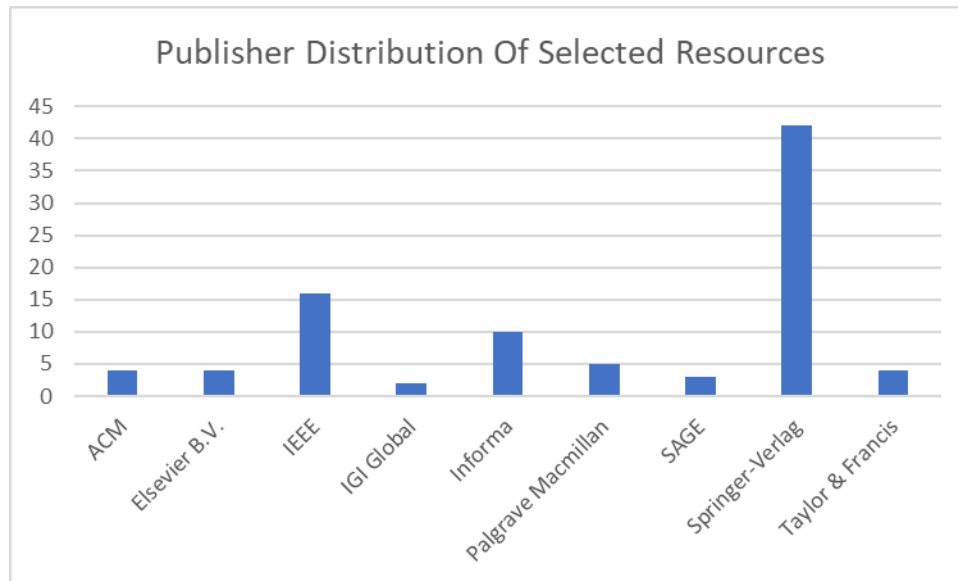


Figure 4: Publisher Distribution of Selected Resources

The distribution of the selected works according to the type of contribution is given in Figure 5. As described in the method section, due to the scope of the header filters in the databases, the studies that do not include all the keywords in the title were matched in the query results and the studies that were compatible with the research questions were evaluated and included in the analysis. In studies labelled as tool design/application, a tool for knowledge management was designed or a selected tool was put into use; in research studies, the effects and/or applications of knowledge management were theoretically explored in a specific area, some of which included a

case-study. The remaining studies suggest a model, method or framework based on knowledge management.

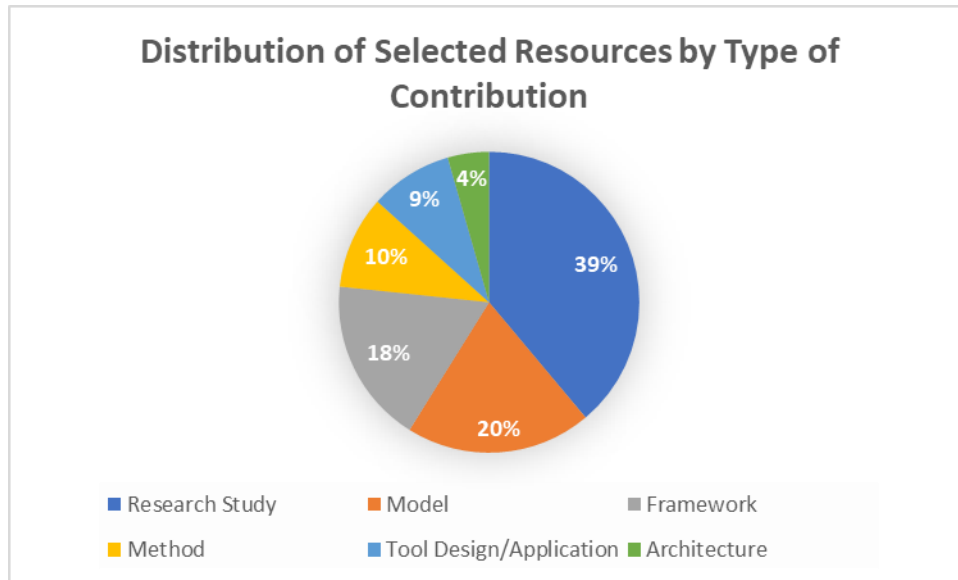


Figure 5: Distribution of Selected Resources by Type of Contribution

#### 4.2. Focus on Sectors and Service Areas (S3 and S4)

In Figure 6, the distribution of the selected works according to the sector they focus on is given. According to these distributions, the studies for the health sector take the first place. The consulting and education sectors shared the second place with an equal number of studies. In third place are the IT and manufacturing sectors. There are 8 studies focusing on the IT service field. Although there is a wide variety of service types, all these services are possible thanks to Information Technologies. Therefore, the knowledge management application in any service area can indirectly be a guide in determining the knowledge management approach in the IT service field.

The distribution of the service area in the studies examined was based on the application areas given in ITIL 4. These distributions are given in Figure 7. There are 34 singular application areas in ITIL 4, which are given under three main categories. (Axelos, 2019) In selected studies, only 16 of these fields have been covered: with this distribution, research gaps in the literature have become visible.



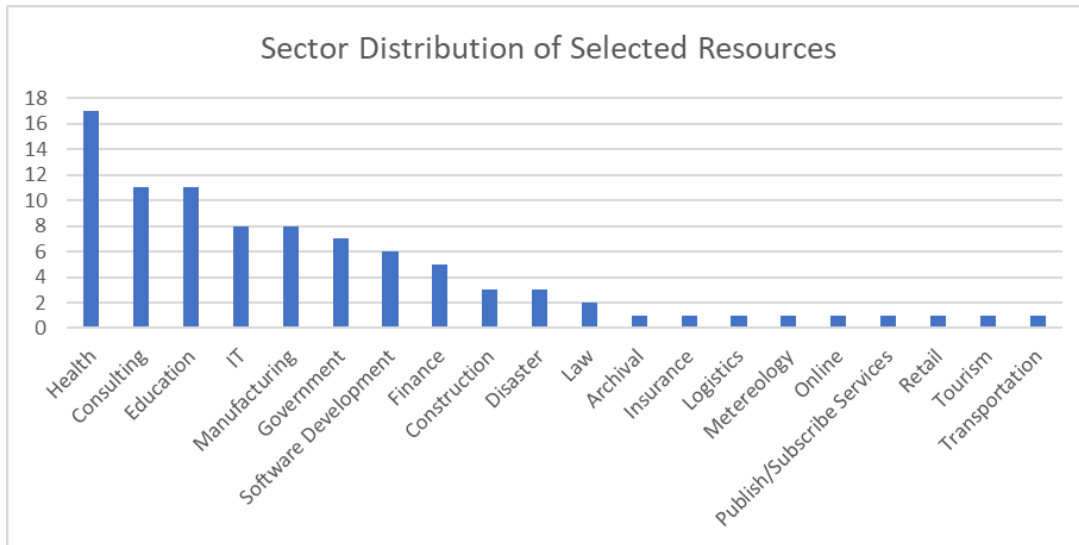


Figure 6: Sector Distribution of Selected Resources

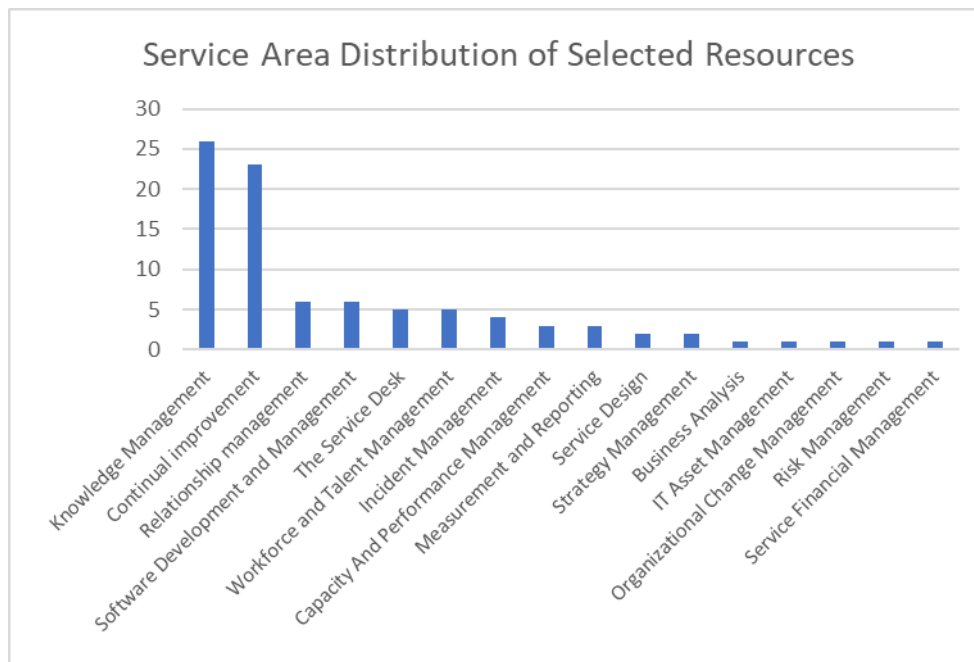


Figure 7: Service Area Distribution of Selected Resources According to ITIL (Axelos, 2019)

### 4.3. Shaping the Knowledge Management Framework

The studies examined revealed that knowledge management is an area worth studying because of its potential benefits and the need to manage the knowledge management cycle along with knowledge management. It has been revealed in studies that knowledge management practices increase service performance and efficiency, help the company choosing strategy / domain, improve decision support mechanisms and customer relationship management, reduce costs, and save time. (Gottschalk, 2000, p. 75-77; Skok, 2004, p. 150; Aradati et al., 2019, p. 2-3; Almeida, de Vasconcelos & Pestana, 2018, p. 3; Govender & Pottas, 2007, p.43-44; Zhang, Zhou &

Nunamaker Jr, 2002, p. 375; Løwendahl, Revang & Fosstenløyken, 2001, p. 922; Mikšović & Zimmermann, 2011, p.272; Leppaniemi, Linna, Soini & Jaakkola, 2009, p. 964 ; Zhang, Hu, Xu & Zhang, 2012, p. 323-330; Quinn, Huckel-Schneider, Campbell, Seale & Milat, 2014, p. 7)

When the technological aspects of the studies are analysed, it is seen that the common focus of all studies is knowledge bases. These knowledge bases can be a computer system or application, ticketing system, internet-based message boards and discussion groups, newsgroups, forums, portals, websites, blogs, social networks wikis and even podcasts. (Papailiou, Apostolou, Panagiotou & Mentzas, 2007, p. 216-218; Skok, 2004, p. 151-152; Yu, Li & Feng, 2015, p.2; Tsai, 2016, p. 5; Córdova & Durán, 2014, p. 192; Farid & Ahmad, 2011, p. 2-3; O'Sullivan, Powell, Gibbon & Emmerson, 2009, p. 373; Dobbins et al., 2010, p. 2-3; Bibbo, Michelich, Sprehe & Lee, 2012, p. 17-18; Meenan, King, Toland, Daly & Nagy, 2009, p. 143; Trujillo Torres, 2011, p. 231)

To ensure the sustainability of the selected knowledge base, the qualifications and criteria of the knowledge to be recorded must be determined. There are differences in knowledge needs between organizations and even departments. (Müller-Merbach, 2008, p. 354) In addition, it should be determined that whose knowledge will be recorded to the base. The inclusion of only senior management at this point will not be effective as long as the needs of the core rationalities (employees) are different. (Jacobs, Jordhus-Lier & de Wet, 2015, p. 433) The benefits of knowledge management can only be achieved if it is evaluated by all business actors and feedback is given. In the context of the knowledge to be recorded, it should be considered that knowledge obtained from smaller and local tasks and sources can assist in solving a problem in another context. (Brahmi & Matta, 2018, p. 42-43) In order to increase the usability of these tools, it is also recommended to have features such as filtering, indexing, linking, sharing, categorization for fast and accurate search. (Zhang, Zhou & Nunamaker Jr, 2002, p.379-380; Huang, O'Dea & Mille, 2003, p. 2; Bae & Ko, 2012, p. 2255)

However, all of the holistic knowledge management processes such as the identification and development of knowledge, storage, dissemination and sharing, renewal and cleaning cannot be provided with knowledge bases; using an knowledge management system in which all tools are centralized can help organizations in overall coordination. (Dai & Song, 2009, p. 573; Mikšović & Zimmermann, 2011, p.273; Edwards, Hall & Shaw, 2005, p. 181-182; Le-Nguyen, Dyerson & Harindranath, 2016, p. 1128-1130; Boella et al., 2016, p. 255; Park, Jang, Lee, Ahn & Yoon, 2013, p. 24)

All tools and system configurations to be used in knowledge management must comply with the organization objectives and organizational knowledge management framework. (Tsai, 2016, p. 4; Serenko, Bontis & Hull, 2016, p. 8; Prasetyo & Bandung, 2015, p.4; Nie, 2017, p. 513-514; Villela, Santos, Schnaider, Rocha & Travassos, 2005, p. 46-47)

In order for systems to succeed, it is necessary to work with all personnel at the design and implementation stages, to encourage user feedback, and making sure all individual parts are also able to operate in a flexible and integrated manner that can vary according to these notifications and evolving needs. (O'Sullivan, Powell, Gibbon & Emmerson, 2009, p. 373; Zahner, 2002, p. 13-14; Wu et al., 2012, p.83-84, Brown, Massey & Boling, 2005, p. 56-58) In this context, resources such as glossary of terms, user manuals and training programs can be created. (Kothari, Hovanec, Hastie & Sibbald, 2011, p. 7; McCracken & Edwards, 2017, p.10; Hussein, Ghanim, Abu-Hassan & Manton, 2014, p. 306)

In addition to obtaining the benefits of knowledge management by using the existing knowledge in the systems, the creation of new organizational knowledge should also be considered for the effectiveness and continuity of knowledge management. By using data science elements such as data visualization, automated and intelligent data mining, data analysis from external sources, the desired knowledge can be obtained from a large-scale dataset consisting of many different sources. (Zhang, Zhou & Nunamaker Jr, 2002, p. 380; Al-Qurishi, Al-Rakhami, AlRubaian & Alamri, 2015, p. 1-3; Ishigaki, Takenaka & Motomura, 2010, p. 528; Baptista et al., 2019, p. 41-42) By automating these processes, it is stated that time spent and labor costs of the experts can be significantly reduced. (Wang & Hsu, 2004, p. 535-538; Contenti, Termini, Mecella & Baldoni, 2003, p. 21-23; Hou, Sun & Chuo, 2004, p. 182) On the other hand, it was pointed out by the authors that although automation saves time in practice, its implementation is an expensive process that can only be done in large companies and will remain as an impulse expense unless carefully designed. (Baxter, Roy, Doultsinou, Gao & Kalta, 2009, p. 1078-1080; Spies, Clayton & Noormohammadian, 2005, p.35)

The creation of employee knowledge is a complex process beyond the typical technology implementation of KM, influenced by a variety of factors such as a culture of knowledge creation and sharing, motivational incentives, knowledge-friendly organizational structure, and support of employees through training. (Mbhalati, 2014, p. 119-120; Marques, Leal, Marques & Cardoso, 2015, p. 662; Palacios-Marques, Gil-Pechuán & Lim, 2011, p. 108) In order to improve the organizational infrastructure, it is necessary to implement KM-based management, to restructure all units, especially HR, and to incorporate knowledge management processes into daily work activities. (Liebowitz, 2003, p. 71; Córdova & Durán, 2014, p. 192) In this context, focusing on what influences people's actions, awareness should be created by all levels of the organization: top management support and knowledge-based leadership, the linkages between personal and organizational goals, internal policies on knowledge sharing and needed technology infrastructure to support knowledge sharing should be handled. (Le-Nguyen, Dyerson & Harindranath, 2016, p. 1128-1130; Liebowitz, 2003, p.71; Carroll et al., 2003, p. 61; Huang, Quaddus, Rowe & Lai, 2011, p. 68; Huang & Liu, 2009, p. 851; Fink, 2001, p. 491; Shoham & Perry, 2008, p. 242-243; Hume, Hume & Johnston, 2016, p. 10; Chen, Li and Li, 2006, p. 258 ; Wedman & Wang, 200 p. 130-131)

Findings also support these points as studies have failed to explain the direct relationship between information technology and KM performance, although the existence of a suitable technology infrastructure is a necessity for KM. (Chiu & Chen, 2016, p. 2) It is stated that any investment for KM will be ineffective unless senior management support, common culture and trust factor is provided, and that knowledge sharing is not the result of knowledge self-efficacy and mutual benefits but rather of organizational culture. (Burtonshaw-Gunn, 2008, p. 36; Lam, 2005, p. 210-211; Tan, 2015, p. 529) In a case-study conducted, it is found that the factors affecting the KM were organizational culture, leadership and information technology from the highest positive impact to the lowest. (Chen, 2011, p. 910) In a literature study focusing on critical success factors of knowledge management these factors were also considered as success factors; additionally, regulation and policy determination were also included to the list. (Sensuse, Qodarsih, Lusa & Prima, 2018)

On the other hand, organizations find it difficult to spread a culture of knowledge sharing due to competition among the people of the organization and reward systems that discourage knowledge sharing. (Al-Qurishi, Al-Rakhami, AlRubaian & Alamri, 2015, p. 1-3; Yan, Xiang, Shi & Zhu,

2018, p. 376-377; Jonsson, 2015, p. 46; Santo, 2005, p. 43-44) In this context, the activities that encourage the creation and sharing of knowledge between employees should be considered by the management in order to overcome this behavioural problem. (Luengo-Valderrey & Moso-Díez, 2017, p. 315) These activities include trainings, case studies and workshops, tours-visits, events, conferences, forums and chat sessions, storytelling, knowledge mapping and cartographic approach. (Evans, 2004, p. 50; Mizintseva & Gerbina, 2009, p. 310; Kothari, Hovanec, Sibbald, Donelle & Tucker, 2016, p. 403-404; Schell, 2008, p. 4-5; Liebowitz, 2003, p. 73; Chang, Chen, Chu, Chen & Chen, 2006, p. 12) These approaches involve more people in the knowledge-building process as they allow collaboration. (Chiu & Chen, 2016, p. 5; Eccher et al., 2002, p. 478) Knowledge sharing will contribute to knowledge management processes as well as make a positive contribution to innovation. (Esmi & Ennals, 2009, p. 202; Chen, Chen & Wu, 2012, p. 13146; De La Torre Sanclemente, Molina & Valencia, 2019, p. 329; Farsani et al., 2014, p. 186) The results of the literature study conducted by Kurniawati et al. (2019) on the relationship between knowledge management, innovation and performance also confirm these findings.

Lack of knowledge sharing culture can cause employees to leave and their knowledge to be lost with them. (Fink, 2001, p. 491-492; Abukhader, 2016, p. 419) In this context, another point to consider is outsourcing; not only the main employees, but also the knowledge of outsiders should be transformed into organizational knowledge assets. (Aydin & Bakker, 2008, p. 304)

There are two different views on the agile side of knowledge management. On the one hand, it is argued that teams can advance by relying on implicit knowledge rather than documenting. (Singh, Singh & Sharma, 2014, p. 299) On the other hand, although agile teams value interactions more than comprehensive documentation, it is argued that documentation plays an important role on knowledge bases and is essential for organizational memory. (Khalil & Khalil, 2019, p. 4)

Another approach proposed in the work examined is that implementing technology-free KM processes in order to overcome the difficulties resulting from insufficient IT and/or financial resources. (Mbhalati, 2014, p. 115; Dwivedi, Bali, Naguib & Lehane, 2005, p. 12) Studies on this approach need to be carried out.

In the case of current high-tech use; vulnerabilities, lack of supervision and support, protection of privacy and the security factor for permissions should be taken into consideration and necessary measures should be taken. (Zhang, Zhou & Nunamaker Jr, 2002, p. 383-383) Cloud computing has been proposed as the best solution to the issues mentioned above for many reasons. Cloud computing services support collaborative learning methods, reduce technical challenges by eliminating most system requirements with virtualization, and provide more flexible, affordable, scalable, and secure solutions. (Al-Qurishi, Al-Rakhami, AlRubaian & Alamri, 2015, p. 1-3; Abdullah & Alsharaei, 2016, p. 143-144; Talib & Abdullah, 2012, p. 83) Cloud use in the field of knowledge management is an emerging approach and increasing studies can help address knowledge management issues. (Abdullah, Eri & Talib, 2011, p. 3)

## **Conclusion**

The KM function is responsible with the business operations and in order to support these processes it also helps developing needed infrastructure then motivates employees to participate in these activities. (King, 2009, p. 4) The aim of KM applications is to improve the knowledge assets of the organization to ensure better practices, decisions and overall performance.

Service organizations are knowledge -intensive companies. In services, there is a lot of knowledge that comes from the constant interaction between organizations and customers. Therefore, knowledge management should be integrated with service management. In this article, a systematic literature study was conducted to determine the factors that help shape the knowledge management approach that can be applied in the field of IT Service Management. The study resulted in 90 sources and the sources were examined and analysed in detail.

The selected studies were examined in detail and the year, publisher, sector and service areas were determined and the findings were arranged to answer the research questions. The increase in the number of studies that in the mid-90s and continued accordingly shows the importance of knowledge management.

The selected studies show that the contribution to the IT service sector is in the middle. However, since services are made possible with the use of IT, knowledge management application in any sector can be used indirectly as a guide in determining the knowledge management framework in IT service field.

In the distribution of service areas, the latest version of ITIL, a service management framework, is referenced. 26 studies were conducted directly in the area of knowledge management, while in the remaining studies, knowledge management was used to support other areas of service and to make its operations possible. On the other hand, ITIL 4 has 34 individual application areas. 16 areas were highlighted in the selected studies, but 14 areas other than knowledge management and continuous improvement were not very much contributed. Conducting research in these areas will also help to close the shortfall in literature.

It is stated that all technological elements should be user-friendly, open to development, flexible, supportive of knowledge sharing, in line with the organization's knowledge management objectives and should be secure. In this respect, the use of cloud technologies in by has been proposed. The use of cloud technologies is an emerging field and research is needed. It was also emphasized that while knowledge management technologies are an important element, technology alone will not bring knowledge management success. Through practices such as organizational sharing culture, management support, and increased knowledge capacity through training, organizations can understand, improve their capacity and have the appropriate basis for service innovation.

The findings from the study match with similar studies in the field and it can be seen that the scope risk mentioned in the method section has been resolved. In future studies, the gaps in the literature can be closed by concentrating on non-contributed service areas. At the same time, an knowledge management approach to be applied in IT service organizations can be developed through the evaluation of the findings and applications can be made based on the structure of the organizations.

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