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Exploring the Critical Success Factors for the Implementation of Intellectual Capital Management in the Organization: A Structured Literature Review

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Abstract

The purpose of this paper is to present a structured literature review to identify the critical success factor for Intellectual capital management implementation in the organization. A structured literature review is carried out on the subject of ICM research (2013-2026) on success factors affecting implementation of ICM in an organization. After primary review of the articles, 55 research papers were identified for further review. The articles selection process followed like identification, screening, eligibility, inclusion and exclusion. 20 most CSFs were compiled using

content analysis methodology and an inductive coding technique and categorized into four groups. The two of the most highly cited frequency CSFs were Top management and leadership support and organization culture, knowledge management and infrastructure, human capital development, technical integration and digital transformation and performance alignment and alignment. There is a small amount of research papers in conducting systematic literature review and this study did not use a specific organizational or sector to identify relevant CSFs because different types of organization and sectors which might be influence the CSFs of intellectual capital management in the organization. This study contributes in preventing failure for implementing KM in the organizational environment. This study may benefit and contributes in preventing failure for implementing ICM in the organization. The authors call for researchers to consider helping public sector practitioners implement IC frameworks and models through interventionist research. In keeping with the performative third-stage IC research agenda, interventionist research makes it possible for academic researchers to act as a catalyst for implementing IC frameworks and models in practice.

Keywords: Intellectual capital, critical success factor, knowledge management, intellectual capital management implementation, structured literature review

1. Introduction

In the last decade, the way businesses generate and maintain value has completed changed in innovative way as a result of the shift to knowledge based economies. In this digital environment, ICT (Intellectual capital) express the combination of knowledge, abilities and organizational human capital and resources that lead to the organizational performance has become most and pivotal strategic asset (Paoloni, Riccci, F., & Della Corte, G. (2022). The concept of Intellectual capital management (ICM) has emerged as a strategic role for the organization to gain competitive advantages as well as the improving performance of the organization (Wang, Ding, Liu, & Li, (2016, Rooney, Jayawardana, et al., 2023). Another authors Rooney, J., & Jayawardana, A. K. L., (2023) describes that knowledge is a reliable source for gaining a sustainable competitive advantage in the organization because knowledge is "true justified belief" and every day every organization try to attain and grasp that knowledge is called intellectual capital management. In this challenging business environment, organization need to move towards the learning organization and increase their abilities to gain comprehensive knowledge in order to produce innovative products, process improvements and properly utilize the

attained knowledge within the employee and effectively utilize it within the routine activities of the organization (Wu, Fang., Sung., (2015), Wang, Ding, Liu, & Li., (2016) and Nonaka & Takeuchi, (2014). It is the need of the organization to identify the significant critical factor of knowledge management is a preliminary effort for the effective implementation of intellectual capital in the organization.

According to Valbuena Antolínez, S., & Pico Bonilla, C. M. (2024), intellectual capital management has become a basic priority for the managers and researches to focus on the process of intellectual capital management implementation and its critical success factors (Jennex et al, (2014). The idea of intellectual capital is taken as an intangible asset which is managed in the organization as an intrinsic factor that contributes to implementation of achieving competitive advantages to the organization (Cavicchi & Vagnoni, (2017). In this regard, top management and executive are gaining great attention to the factors of how well intellectual capital and knowledge can be effectively managed for optimizing the performance of the organization.

Intellectual capital management is considered as a management of an intangible assets and values which are usually measured in terms of Human capital, structural capital and relational capital and closely links with the organization's strategy to provide opportunities for improving organization performance (Kianto et al, (2013), Urban & Joubert, (2017), as well as attaining competitive advantages (chahal & Bakshi,2015). An organization can utilize its intellectual capital management to create and maintain competitive advantages in the market for longer periods and to also top management should know how to use its intellectual capital management for creating values for the organization. So, effective management of implementing intellectual capital management can lead to generate wealth for organization.

According to Martins, A. E., & Lopes, A. (2024), many organization and public sector companies implement intellectual capital management effectively to guide knowledge initiatives for gaining the competitive advantages. Many organization spent lot of their resources for the implementation of ICM but most of the derived results did not match with the cost incurred and did not desired results P.Anggia et al, (2013). K.Anderson, (2016) presented that there is failure chance is increasing 50 to 80 percent while implementing ICM in the organization. That's why this research try to find out the most significant and critical elements about the successful and effective implementation of

intellectual capital management within an organization M.R.Farzin et al, (2014).

In this SLR systematic literature review addresses this gap by synthesizing most recent research on the most critical and influencing factor about implementing capital management in the organization. While various systematic reviews have addressed IC measurement and reporting (Della Corta, G. 2022), IC antecedents and consequences, and knowledge management system success factors (Martins, A. E., & Lopes, A. (2024)), no recent review has specifically focused on the implementation dimension of intellectual capital management. So the major importance of critical success factors of ICM are to identify and organize these factors in a way that lead towards the intellectual capital management implementation successfully.

So, the purpose of the current study is to investigate with a structured literature review about the most and significant critical success factor for effective imp mentation of intellectual capital management in the organization based on previous literature. In this context, many factors have been identified by authors as crucial and effective implementation of intellectual capital management within the organization for gaining a sustainable competitive advantage in the marketplace.

2. Objectives and Aims of the Study

It is concluded from the above description, the main objectives of this research are to identify significant critical factor about the management of intellectual capital and its implementation in the organization and rank of the determined critical success factors on the basis of their importance and role in the organization performance. And current study has an aim about to respond and call for intellectual capital management research “from a more thoroughly critical success factor perspective”.

For the achievement of above mentioned purpose of this study, this research concentrate on reviewing the literature review to understand and classifying about significant and most critical factor about management of intellectual capital and identify relevant critical success factors. So, core focus in current study is to classify most critical success factors of ICM proposed in the previous literature from 2013 to 2026. It is concluded that from literature that critical success factors for implementation ICM is play a very important role for the organization. From 55 selected

most relevant internationally recognized online research paper, 25 most potential and significant facilitating critical factors is deduced.

After that, by identifying and analysis the most significant success factors and important indicators of ICM implementation will be determined. The analysis results make managers enable to find out most critical factors should be focused, to do beneficial actions toward the implementation of and management of intellectual capital within the organization.

The rest of the paper after the introduction chapter continues as follows and organized into 5 more chapters: furthermore, explains about selection and use of methodology applied in this study, which takes the form of systematic literature review (Massaro et al, (2016). After that, the paper presents the process for the literature review. In chapter 3, data evaluation process is presented. Chapter 4 is about the findings, discussions of most critical success factors which are derived and based on the insights and critique of the literature analyzed which provides the answer to the research proposed question in this study. In the final section conclusion, implications and directions of future research are presented.

3. Research Methodology

In This study, Structured Literature Review method is followed (Massaro et al., 2016). SLR identifies, selects and critically analysis research against a comprehensive answer of a clearly formulated question (Dewey A. & Drahota, A.2016). "SLR is a review about clearly defined question that uses systematic and explicit techniques to classify, selection and analytically evaluate relevant question, to collection and appraises data from previous research which are included in the review" (Cochrane Collaboration, 2014). Tranfield et al (2003) presents the origins of the evidence base approach to adopt a literature review and its use in the discipline of management and science. There are such guidelines and major steps for planning, conducting and application for further proceeding of this study and conducting a systematic literature review (Kitchenham et al 2010; Levy & Ellis, 2006). First of all, a systematic literature review must have a valid research question, secondly the searching criteria in high level of quality database and time frame is most important for searching a relevant keywords and most cited articles is included in the review process. Lastly, SLR is a most reliable tool for conducting finding of this research of the literature linking most significant factor about implementing intellectual capital management successfully

within the organization as well as result, conclusion, fair critique and to suggest future research directions of current study.

In this study, conceptual analysis approach was applied which is compulsory in directing systematic literature review to identify previous researches which mainly focus on critical and significant elements about the successful management of intellectual capital implementation within organization. So, following the SLR purpose and process, which is used to conduct a comprehensive analysis of the articles addressing the Critical success factors for the implementation of intellectual capital management within the organization published from 2013 to 2026.

For succeeding the Methodology of SLR, a review procedure is generated to document the method followed in this study.

4. Research Questions

This section describes and critically presents the successful critical factor of ICM implementation literature because clear and valid answerable questions are the starting point for a comprehensive successful review. In other words, this research answers succeeding proposed study question.

RQ1. Which is the most and significant critical success factors for intellectual capital management implementation in the Organization as mentioned in previous study papers?

RQ2. Which critical success factors were mostly recognized by authors with specified time frame?

4.1. Searching Electronic Database/ Digital Resources strategy

It is a complex task to find out an available relevant research paper work which address research questions. According to the Poojary & Bagadia, (2014), "in a literature review process it is important to know, where to look and how to search about required evidence which is appropriate about proposed question of this study". This study follows (Guthrie et al, 2012), there is an internationally recognized databases are used for searching the relevant research articles/conferences papers about the critical successful factors for successful management of intellectual capital implementation within the organization. In this process of SLR, the data collection starts through selecting best and most impactful factor databases which are generally

accessible and available through digital library of Higher Education Commission of Pakistan that is accessible and subscribed to scholar by the Central library of International Islamic University Islamabad, Pakistan. In this study, research articles/conferences papers are searched from seven online international recognized databases.

I. Google Scholar

II. Emerald

III. Elsevier

IV. JSTOR

V. IEEE Explore

VI. Science Direct

In initial preliminary searching, 146 research articles/conference papers are found in above mentioned seven online international databases. The searching papers by the title and keywords about the critical factor of intellectual capital management implementation successfully, found 56 in Google Scholar, 32 in EMERALD, 20 in ELSEVIER, 20 in Science Direct, 15 in IEEE Explore, 7 in Wiley and 5 in JSTOR. The detail of the research paper downloaded and collected from these data base will have presented in figure 1.

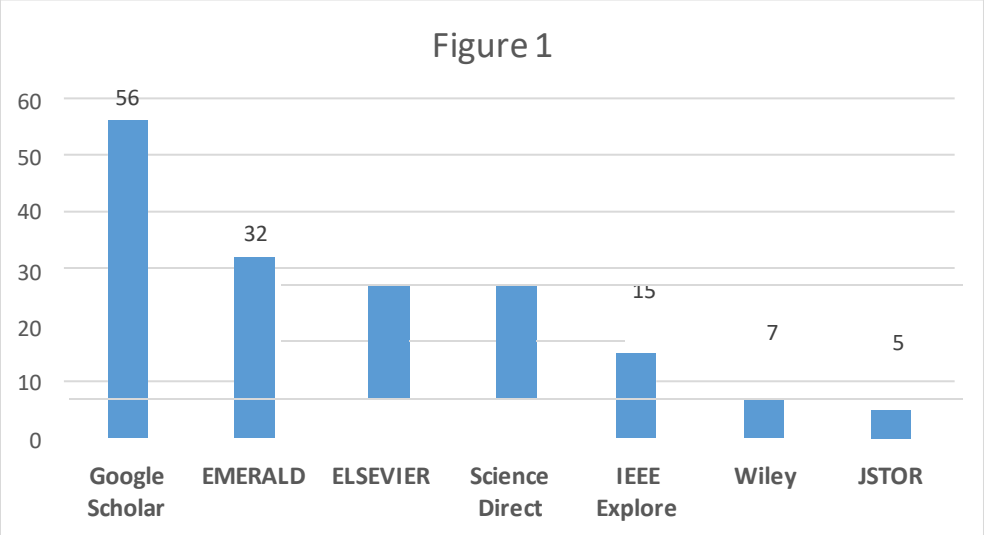


Figure1

4.2. Searching Literature/Strings

The choice of searching strings and terms related to the Critical success factors of knowledge management is presented on the systematic literature review in the research articles by Menolli et al, (2013). According to the Baker, (2016), "most detailed literature search is formed about a research proposed questions which allow the writer to develop inclusion and extraction criteria, the value of the interventions and conclusion regarding confirmation that updates reference for practice".

The formation of the keywords search/ strings must be related to the research proposed topic and research questions. Reference lists of particular articles were also scrutinized to recognize further appropriate sources (backward snowballing). Topic of this research was about "Exploring the Critical Success Factors for the Implementation of Intellectual Capital Management in the Organization" and all articles associated with research theme was hunted by means of diverse strings/keywords/terms is presented in Figure 2.

("Intellectual capital management implementation framework" OR "model") AND ("factors" AND "success*" OR "instruments" AND "intellectual capital management implementation" OR "Knowledge Management") AND "identification "OR "success*" OR "factors of Knowledge Management implementation in the organization")

AND

(CSFs of Intellectual Capital Management, CSFs 'AND' "Intellectual Capital management, Successful factors" 'AND' "Intellectual Capital Management implementation", "Intellectual Capital Management success model" OR "dimensions*") OR

("Influencing factor" OR "critical factor" OR "critical success factor" OR "key factor" OR "intellectual capital management factor")

Figure 2: Search Strings/ Keywords used in this SLR

4.3. Research Articles Inclusion and Exclusion Criteria

To meet the objectives of current study is to conduct a systematic analysis as many as likely in view of a scope like impact factor and citation of research articles. So, the level of analysis would be the highly cited research articles found in highly impact factors research journals as well as international conferences proceedings published in peer reviewed journal which is clearly written in English language because English is an official language of academia research with given time frame from 2013 to 2026 were followed in this study. Google Scholar metrics is adopted to categorize the top publication related to the field of Study for the period of 2013 to 2026 and it is verified that all the journal are in the SCOPUS according to the list published by Jaffrey Beall (https://scholarlyoa,com/).

No.	Inclusion Criteria	No.	Exclusion Criteria
Incl.1	The articles clearly describe the critical success factor that influence in the implementation of intellectual capital management	Excl 1	The papers does not meet the criteria of inclusion.
Incl 2.	Articles available in papers/ conference proceeding with peer reviewed and incorporated the selected articles once appraising the abstract, title and conclusion of the papers.	Excl.2	Duplicate research papers, non-English language and no full text papers are excluded.
Incl 3.	Research papers selected in this study from different database from period of 2013 to 2020 are included in this study	Excl.3	Research papers that are not relevant to the research proposed topic and question are also not included in this study.

Figure 3: Presents the extraction and inclusion set criteria

In this paper, only those research papers are included which clearly describes critical success factors of implementing intellectual capital management within the organization. So, keeping in view

of extraction criteria, from 145 research articles/conference papers only 43 research paper/conferences proceeding papers is finally selected after clear examining and refining by their titles, abstracts and conclusions of all articles/conference proceedings published from 2013 to 2026. The dataset from seven research database which consist of 55 articles/conference papers and among the selected papers, 6 researches/conference papers is collected by the backward searching which is practically organized the relevant items into MS Excel sheet for coding the papers which is exactly related to the "critical and significant factors in managing and implementing intellectual capital successfully within the organization" is analyzed in this systematic literature Review.

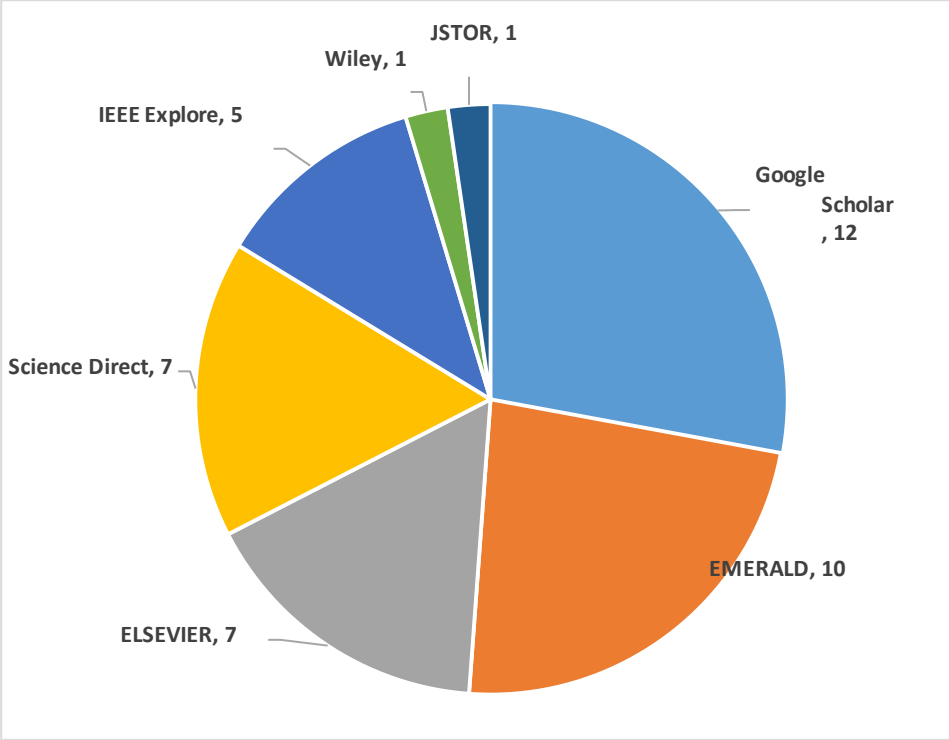


Figure 4: Research articles and conference papers selected for review

4.4. Analytical Framework

In this study, keeping in view of the previous researchers Rooney, J., & Jayawardana, A.K.L., (2023) analytical framework was adapted and revised in the datasheet mentioned in the Table 1.

Table 1: Analytical framework.

A. Research Methods	Studies	Results/%
A1: Quantitative Studies	25	46.5
A2: Qualitative Studies	10	14.0
A3: Case Studies	10	20.9
A4: Reviews	5	9.3
A5: Mixed/Case/Qualitative/Quantitative	5	9.3
Total:	55	100
B. Industry and Size of the Companies		
B1: Manufacturing	10	14.0
B2: Services	15	23.2
B3: Manufacturing/Services/SMEs	11	18.6
B4: SMEs	9	20.9
B5: Public Sectors	10	23.3
Total	55	100
C. Location		
C1: Asian Countries	14	32.6
C2: European Countries	35	58.1
C3: UK/USA	4	4.7
C4: New Zealand/South Africa	1	2.3
C5: Australia	1	2.3
Total	55	100
D. Type of Authors		
D1: Academics	51	95.3
D2: Practitioners	0	0

D3: Mixed of Academics/Practitioners	4	4.7
Total	55	100

4.5. Evaluation of Data

In this study, data was collected from 55 research documents/ conference proceedings incorporated for finding the most significant critical success factors discusses in past research from 2013 to 2026. Detail of data extraction are presented in the below Table 2.

Table 2: Identified Critical Success Factor

Authors	CSF1	CSF2	CSF3	CSF4	CSF5	CSF6	CSF7	CSF8	CSF9	CSF10	CSF11	CSF12	CSF13	CSF14	CSF15	CSF16	CSF17	CSF18	CSF19	CSF20
Paola et al, (2013)	*	*		*		*		*			*				*					
Nadia et al,(2013)	*		*		*	*	*	*	*		*	*	*	*		*				
Waheed et al, (2014)	*	*	*		*		*	*	*		*	*	*	*	*					
Li-Su et al, (2014)		*		*		*	*		*	*	*					*				
Merryl et al, (2014)	*	*				*		*						*		*				
Ricardo v et al, (2014)	*		*		*		*	*	*		*				*					
Mohsen et al,(2015)		*	*	*			*			*		*				*				
S.Kumar et al,	*	*				*		*						*						

(2015)																		
Edlira et al, (2015)	*	*	*	*		*	*					*			*	*		
Negin Berjis et al, (2015)	*	*	*	*	*	*				*		*				*		
S. Alhamoudi et al, (2015)	*		*	*	*	*	*		*	*	*				*			
M.Grimaldi et al, (2015)		*	*	*	*	*		*	*		*		*		*			
Y. Wang et al, (2016)	*		*	*						*					*	*	*	*
R. Tavallaei et al, (2016)	*	*	*	*		*	*						*			*		
Rafal Prusak, (2016)	*	*				*		*	*			*			*			
C. deVilliers a et al, (2017)		*		*	*	*							*				*	
F.Matos et al, (2017)	*		*		*	*	*			*	*					*		
M.Saini et al, (2017)	*	*				*				*	*							
F.Matos et al,	*		*	*			*		*			*	*	*	*	*		

(2017)																	
R.Slovenia et al, (2017)	*			*	*			*	*		*				*		
Hiteshkumar et al, (2018)	*	*	*	*	*	*	*	*	*	*	*	*				*	
M. Khalique et al, (2018)				*	*	*				*		*	*		*		
A. E. Pedro et al, (2018)	*					*				*	*			*			
R.Wudhikarn et al, (2018)	*			*		*		*				*			*		
E.Cortes et al, (2018)	*	*	*				*	*					*			*	

Table 3: Critical success factors of ICM implementation found in past research (2013-2026)

Halid et al, (2018)		*	*		*			*					*				
Z.mitrovic et al, (2018)	*		*	*		*			*		*		*		*		
A. Bechina et al, (2019)	*						*		*						*		
A.Mathew et al, (2019)	*	*	*	*	*	*	*			*	*	*	*	*		*	
D.Sundiman et al, (2019)	*	*	*	*		*	*				*				*		
A.Castilloa et al,		*		*	*				*	*		*				*	

(2019)																
C. Gallego et al, (2020)	*	*	*					*			*			*		*
Oksana et al, (2020)		*	*		*		*			*			*			*
A. Kalkana et al, (2014)	*			*		*		*				*				*
Elin,Dana et al, (2015)	*	*	*	*	*		*	*	*	*	*			*		*
A.Mathew et al, (2015)	*		*	*				*				*		*	*	
D.Sensusea et al, (2015)	*	*	*			*		*	*		*			*	*	*
J. Volna et al, (2015)	*					*	*			*			*			*
L. M. Gogan et al, (2016)	*	*	*		*	*		*				*			*	*
I. G. Fomina et al, (2017)		*	*	*	*		*			*	*		*	*		*
D. Sensuse et al, (2018)	*	*	*	*	*	*	*				*	*	*	*	*	*
J. Rabelo et al, (2018)	*		*	*				*	*		*			*		*
A.Escobar et al, 2019	*	*			*	*		*				*	*			*
Hussinki, et al, (2022)	*							*					*			
Dinu et al, (2022)	*	*	*			*				*		*		*		*
Ali et al, (2023)	*															
Cosa et al, (2023)		*				*				*	*		*			*
Abdullah et al, (2024)				*	*			*								
Wahyudiet al, (2025)		*												*		
				*				*		*		*				
	*	*			*	*			*		*				*	*

4.6. Research Finding

The critical success factors are related to the management perspective which management pay great attention to achieve high performance. This section is related to determine the critical success factors through ICM literature review. The CSFs items for implementation of intellectual capital management identified from the previous research literature was appraised for summarization of the result in Table. And CSFs is tabulated in a hierarchical manner on the basis of frequency occurrences. According to the table 2, there are 20 critical success factors were identified that are used intellectual capital management implementation successfully and it is based on this literature

review.

In the Table No.2, nominated factors were ordered and depicted in a sequence and frequency of the critical success factors found in the previous researchers. Higher frequency critical factors provide valued evidence and most related regard of these factors which are documented in past literature review. That's why most significant critical elements were higher rank and frequency presented in the Table for clear understanding and interpretation. Although the last critical factors may not suggest that it is the least one CSF for implementing intellectual capital management. A generic term CSFs of ICM implementation derived to represent all synonyms. in the process of reading and identifying the most critical factors, it come to know that diverse strings/keywords applied to search most similar theme in diverse literature review.

The frequency of the CSFs which are derived from the past research shows that top management with support of leadership was found maximum in numbers of acute success element regarding implementation of intellectual capital management within the organization because top management and leadership support hold most top and highest frequency of 34 was found most significant and critical success factors identified from top 55 research papers published in 2013 to 2026. Furthermore, organization culture, organization strategy & goal, HRM, information technology, innovation management, communication, organization infrastructure, training and education and performance measurement, and their frequency are 36, 30, 27, 27, 25, 23, 20, 20, 19 respectively and rest of the 10 CSFs are found bit less critical.

Critical Success factor for ICM implementation	Frequency	Ranking
Top Management & Leadership Support (CSF1)	36	#1
Organizational culture (CSF3)	30	#2
Organization Strategy and goals(CSF2)	27	#3
Human Resource Management(CSF6)	27	#4
Information Technology(CSF4)	25	#5
Innovation Management(CSF8)	23	#6
Communication(CSF11)	23	#7
Organizational Infrastructure/Analytical capabilities(CSF7)	22	#8
Training & Education(CSF13)	22	#9
Performance Measurement(CSF15)	23	#10
Relationship with customer(CSF12)	17	#11
Change Management(CSF5)	18	#12
Employee's Trust and Commitment(CSF10)	20	#13
Environmental Conditions(CSF9)	15	#14
Rewarding & Motivation(CSF14)	14	#15
Relationship with suppliers(CSF17)	12	#16
Human capital Development(CSF16)	11	#17
Perceived Benefits(CSF18)	4	#18
Competitive Pressure(CSF19)	2	#19
Sufficient Resources(CSF20)	1	#20

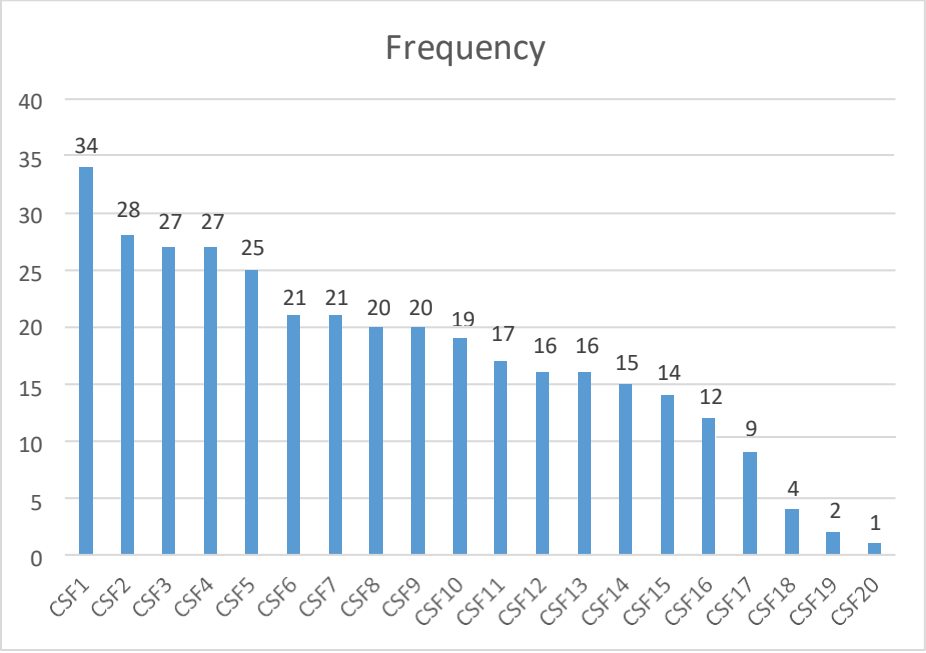


Figure 5: Identified critical success factor for implementation

Figure 5 show the pictorial evidence of these critical factors frequency and identified critical success factors from 43 review of studies thoroughly. In above Figure, the X-axis represents the all identified most significant successful factors of ICM and in the y-axis, the frequency of all identified CSFs derived from research review. All 20 most critical identified success factor can be ranked for the successful implementation of ICM in the organization on the basis of frequency from high to low factors. So, organization can utilize their efforts effectively and efficiently by using these above mentioned CSFs frequency found in the research while implementing the intellectual capital management. Organization first apply higher ranked critical success factor and give important to get maximum result of ICM implementation. However, next section is about the detail analysis and discussion of 15 most critical success factors ranked from 1-to 10 found from the past research review. So, organization must take into account these CSFs in order to achieve sustainable competitive advantages.

5. Research Analysis and Discussion

5.1. Top Management and Leadership Support

On the basis of the literature review results, top management and leadership support is the most extensively used critical successful element to implement intellectual capital management in an organization. From total 55 internationally recognize online research papers, 36 research papers on this systematic literature study uses top management and leadership support as a most significant success factor about implementing of ICM in the organization. Top management and leadership commitment is relatively new idea like ICM to be included in which employee need to get unique commitment and support. In 2025 study of knowledge management implementation was studies in Pakistan regulatory body found that culture that have knowledge centered culture that heavily influenced by behavior of the leadership which positively influenced by knowledge management implementation that will lead to turn the enhancement of knowledge worker performance and productivity of the organization. Acceding to Hussinki, H. (2022), top management and leadership support initiates and stimulate ICM and liable to deliver sufficient resources about Intellectual management implementation in the organization. Nazari et al, (2016); Mingmitr, (2016); Ali, M. A, Haddad, H, (2023), leadership and management support, inspiring leadership and resource allocation are major elements for the successful implementation of ICM

in the organization. Organization cannot gain sustainable competitive advantages without the management support and this critical success factor is applied when an organization want to implement ICM in the organization (Martins, A. E., & Lopes, A. (2024).**Organizational Culture**

Taking favorable organization culture was found as key for successful implementation of ICM and this was evident from the previous literature, Organizational culture as a CSFs of ICM emerged as second maximum frequency element. Current review found Organizational culture as one of the significant critical factor and it is ranked 2 with the frequency of 30 times cited in past research papers. Organizational adopt shared culture to alter core doings into information base, employee developed a knowledge base worker with social network, professionalism and teamwork in implementing successful intellectual capital management within the organization (Karami et al; Margilaj & Bello, (2016), Hussinki, H. (2022).

5.2. Organization Strategy and Goal

Organization strategies should be aligning with the objectives of the organization that will lead to the performance of the organization (Tavellaei & Fadaei, (2016, Dinu, E, R, (2022), Wahyudi,T. (2025). According to the Abdallah, A. S., Amin, H. M. G., Abdelghany, M., & Elamer, A. A. (2024) successful implementation of intellectual capital management is depending on whether organization link their business goal and policy to their requirement of knowledge. Organization policy and strategy is a successful factor in the application and management of intellectual capital within the organization.

In this study, organization strategy and goal is one of the most critical successful factor with high frequency in previous research. It is ranked second and 27 frequency found as a critical successful factor in this current literature review. Farzin et al, (2014); Elamer, A.A. (2024) presented that organization strategies must be communicated to the knowledge worker of the organization for the successful achievement of the set objectives. Organization need to formulate clear strategy because organization policy and strategy are major factor that influence ICM successful implementation in the organization.

5.3. Human Resource Management

In current literature review, Human resource management is classified as a most widely 27-time frequency cited CSF and it is on the rank four in past research review. According to Haddad, H. (2023), recruitment and promotion of the employee based on their competencies about knowledge as a significant successful factor about intellectual capital management implementation successfully within the organization.

For managing of information and knowledge, HR executives play a pivotal role during the process of implementing ICM successfully within the organization (Valbuena Antolínez, S., & Pico Bonilla, C. M. (2024).

5.4. Information Technology

The information technology (IT) is found as one of the critical success factor which is needed to support for the implementation of ICM in the organization. The current systematic literature reviews also found IT as one of the significant critical factor having a frequency of 25 as ranked at five position based on the finding of this past research review from 43 selected research papers published in 2013 to 2026. In the process and proper functioning of ICM implementation, a compact IT infrastructure must be utilizing for the excellence of business activity to gain competitive advantages. According to the (Karami et al. (2015); Mingmitr. (2016; Cosa, M., Urban, B, (2023). IT include the hardware and software setup. Information network, system quality of search and retrieval system must be in the organization to compete in this dynamic business environment. Advanced internet speed connection with sufficient support of technology was create novel role for effective communication towards achieving the objectives and for the successful management of ICM in the organization.

5.5. Innovation Management

Finding of this SLR, categorized by frequency and ranked innovation management as critical success factor regarding ICM implementation successfully within the organization as mentioned in the past research papers review. According to the Table which show the frequency of cited CSFs and rank of the founded CSFs from selected 55 internationally recognized articles, Innovation management is ranked at 6^{th} position and its cited frequency as a critical factor is 23.

According to (Valbuena Antolínez, S., & Pico Bonilla, C. M. (2024) innovation management is a compulsory for having an employee network to generate fruitful idea and give an opportunity to share ideas within the organization and management give importance for the ideas, sharing and learning for the successful implementation of ICM in the organization. Informal and decentralized organization structure would enhance knowledge creating activates and implement the generated ideas effectively and efficiently in an organization (Rooney, J., Jayawardana, A.K.L., (2023).

5.6. Communication

On the basis of the review and analysis of 55 selected research papers there are 23 papers frequency cited communication found significant success factor in implementing intellectual capital management successfully within the organization. Effective communication channel, feedback mechanism must and technological support play a vital role between knowledge and employee of the organization for the successful implementation of the ICM activity in the organization towards the achievement of business excellence (Martins, A. E., & Lopes, A. (2024).

5.7. Organizational Infrastructure

The finding of the study ranked organizational structure as a critical success factor at 8 position among other CSFs finding from past papers. Its cited frequency is 22, show how organizational infrastructure is considered critical factor of implementing intellectual capital management within the organization. Organization infrastructure is necessary to establish new knowledge and the continuous recovery of knowledge resources (Hussinki, H. (2022)), knowledge resources of an organization enhance the capabilities of the organization to gain competitive advantages and ICM become an integral part of this dynamic environment because with the continuous changing customer expectation with ability to innovation (Paoloni, P., Modaffari, G., Ricci, F., & Della Corte, G. (2022).

5.8. Training and Education

This study also initiate training and education is one of the critical successful factor is categorized at 8 stage with 22 highly cited frequency in the past 55 selected papers. Training have stated to calculated and organized process to transform attitude, knowledge or skill behavior through learning experience to achieve effective performance. Training and transfer of knowledge is not an

easy task for the organization and in many cases training of the employee looked hidden cost for the organization. Information and communication considered as a tools in education and training while implementing intellectual capital management successfully within the organization (Ali et al. (2023).**Performance Measurement**

Performance measurement is ranked at 10 in this current study. On the basis of the literature review results which are obtained from 55 research papers, performance measurement critical success factor has 23 cited frequencies in the past research and it show that how critical is performance measure factor of implementing intellectual capital management successfully within the organization. For Assessing and evaluating the performance of ICM implementation has been reflected to ICM success factor by several researchers (Zeidi et al, 2015). Cosa et al. (2023) presented that assessment must be information oriented and have a strong metric established for assessing the performance of knowledge management. Performance measurement process must to know by the organization that ICM implementation is providing a desired result to achieve competitive advantages for the organization (Wahyudi et al. (2025).

5.9. Taxonomy of critical success factor of implementing ICM

The critical success factor regarding the successful implementation of intellectual capital management are some of them are more vital than other CSFs found in this literature review. On the basis of this literature review, the result of many researches with ICM research. Critical success factors are further categorized and classified based on the characteristics and relevance to the different domains. So, this review of literature is classified as four major categories of CSFs presented in this review which fall into four categories. Which is depicted and described in the above figure 5.

6. Conclusion

In an organization, the importance of intellectual capital management has been widely acknowledged. In this digital age of innovation, the sustainability has become increasingly important among large economic units. The most important and critical element for an organization to manage and utilize their intangibles resources such as knowledge, innovation and intellectual property resources to gain a sustainable competitive advantages. So, each organization

need to be emphasized and should establish the critical success factors of intellectual capital management because ICM is most importance enabler of future performance (Gogan, & Duran., (2014).

This systematic literature review is to identify and carrying out critical success factors for implementing intellectual capital management within organization. Total 20 critical success factors were found in this research based on the 55 research paper's review of already available literature from internationally recognize online database since 2013 to 2026. Aim of this current research was categorize and rank most effective critical success factors for intellectual capital management implementation. By reviews of selected literature and identification of significant factors on implementation of intellectual capital management, 20 most important critical success factors are considered and these CSFs were further classified into four categories and other factors are excluded. CSFs were fall in four categories such as organizational factors, individual factors, knowledge management capability and organizational performance. In this systematic review, 8 CSFs were found in the domain of organizational factors, 7 CSFs were identified in the category of individual elements, knowledge management capabilities domain consists of 3 critical success factors and 2 critical success factors were fall in the category of organizational performance. So, organization should focus on the organization factors as well as individual factors rather than the organization performance related critical elements of implementing intellectual capital management successfully within the organization to gain competitive advantages and maximum output. The finding of this research confirmed that on the basis of the previous research papers result related the CSFs of Implementing intellectual capital management in the organization are still applicable in the research. Grounded the analysis of this literature review, top management and leadership support and organizational culture was found most significant factors of intellectual capital management implementation within organization. In third categorized order organization strategy and human resource management, fifth order is information technology which have a great influence on the implication of ICM in the organization.

6.1. Research Implications

In research and practical perspective, current study has a many implications. Most of the organization have implement intellectual capital management in the organization to gain competitive advantages. Firstly, it offers a set of elements and factor that backs and contributes to

implement intellectual capital management successfully within the organization. Secondly, it contributes and give directing to the leadership in preventing failure while implementing intellectual capital management successfully in the organizational environment. Moreover, current study applied as mention of critical success factors while implementation of intellectual capital management and this finding can be recommended for government or any other public sector institution to implement ICM and which CSF has most significant impact to ICM implementation. So, this study may benefit and adds in inhibiting disaster while implementing ICM within organization.

6.2. Research Limitation

Current study has many drawbacks such as first of all it is a small volume of research papers in conducting systematic literature review and this study have no applied at specific organizational or sector to identify relevant CSFs because different types of organization and sectors which might be influence the CSFs of intellectual capital management in the organization. So, the most key curb of current study is about the existence and recurrence of frequency analysis of CSFs of intellectual capital management. For this purpose, practical surveys were carried out to learn the influence of CSFs of ICM, holistic approach can be applied because in this research, the researcher often fixated on only a specific area of critical success factors.

6.3. Future Research Directions

It is recommended for future research is to examine the relationship between the effective and significant factor while implementing intellectual capital management, furthermore with follow up endorsement of the study may be conducted with the help of statistical methods like SEM or regression analysis. Another proposal is to conduct a quantitative study and set the proposed framework to assess the statue of an organization about critical factor of implementing intellectual capital management by using the case study method. Longitudinal study also can be conducted for the analysis of the causality and interrelationship among factors which found most critical for implementing intellectual capital management successfully within the organization.

Further studies can be explored the most significant factor by using multivariable analysis to survey the hidden factors for implementation of ICM in the organization.

It is suggested for further study is about the study of related industries and geographical areas would be conducted for finding critical success factors which not considered yet. In this review, highly ranked critical success factors identified were found most critical. In further study, the researcher can investigate what are the reason and challenges face the organization while identifying the CSFs of Intellectual capital management implementation in the organization.

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