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# Business Intelligence Systems Adoption: A Systematic Literature Review

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## Abstract

**Even though** business intelligence (BI) systems are widely used by organizations across all industries, they frequently fail to yield the expected benefits because the critical success factors (CSFs) that guarantee effective adoption are not **considered**. Giving this field more scholarly and practical attention is essential. The purpose of this study is to identify and rank the CSFs that influence the adoption of BI. This research employed the systematic literature review methodology. The study analyzes and synthesizes 64 relevant studies to address the CSFs influencing BI adoption. The findings indicate that organizational and technological factors are the most important factors. The study also analyzes the importance of the CSFs. Finally, the study finds that top management support, organizational readiness, clear vision, information/data quality, system integration, IT infrastructure, competitive Pressure, and change management influence BI adoption.

## Article Info

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## 1. INTRODUCTION

Currently, exploiting BI is a vital target for all firms in their glowing struggle to achieve a sustainable competitive advantage. In today's volatile environment, competition forces companies to generate, collect, and transform their data into actionable knowledge[1]. Businesses now depend heavily on BI technology solutions to support their performance, management procedures, services, and goods[2]. Almost all industries will require BI systems in the coming years, and most businesses will be required to implement them. Numerous studies demonstrate that one of the primary issues for chief information officers (CIOs) is the significance of BI exploitation[3, 4]. BI is a technological tool that helps businesses improve their performance and customer relationship management by analyzing and visualizing data to extract knowledge and information[5]. BI is also defined as "quality information in well-designed data warehouses, paired with software tools that give users rapid access, effective analysis, and an attractive presentation of the correct information, making them able to take the right actions or make the right decision" [6]. BI is intended to lessen ambiguity in the decision-making process and assist the decision-maker effectively and efficiently as part of the broad scope of management support systems (MSS)[7]. However, despite rising investments in BI systems, many businesses do not benefit from their use[8]. Moreover, as mentioned in [9], Implementing BI systems costs billions of dollars annually. However, more than half of the BI projects failed to yield any results. Companies are continuously struggling to understand how to deploy BI systems correctly and obtain rewards for doing so. [10]. Although intelligent and decision support systems have been widely implemented in businesses worldwide, there is still a lack of scientific scholarly interest in determining the CSFs that influence adoption decisions[11]. To successfully implement BI systems and reap their anticipated benefits, we must not only determine the CSFs,

but also rank them in order of importance. Although there is a wealth of research on IS/IT adoption, relatively few studies have examined BI adoption [6, 12, 13]. As BI differs from other forms of information systems, its adoption must be examined independently of that of other conventional information systems [14]. This study examined the effective adoption of BI systems. It also highlights CSFs that guarantee effective adoption.

### 1.1. Research Objectives, Questions, and Structure

This study aimed to summarize and prioritize CSFs for successful BI adoption. This is done by examining CSFs that have already been investigated in the literature. Therefore, the objectives of this study are as follows:

1. To explore the most important dimensions of BI adoption.
2. To explore the most effective CSFs for BI adoption, then prioritize them.

## 2. METHODS

This study will prepare SLR based on a systematic approach suggested by Okoli and Schabram [15]. This approach proposes five sequential logical steps: problem statement, searching for literature, inclusion and exclusion, data extraction, and writing the review. Research materials were explored using an automated search. The researchers looked for studies from different sources, including scholarly search engines, reputable journals, and conference proceedings. Furthermore, the selected studies must be conducted between 2012 and 2024. The first search process covered 253 studies relevant to BI adoption, and then inclusion/exclusion criteria were applied to filter them, as explained in the following sections. Inclusion ended with 143 studies, while exclusion ended with 64 studies.

## 3. FINDINGS

The findings were structurally organized according to the research objectives. Hence, the dimensions of CSFs and CSFs were synthesized, summarized, and prioritized.

### 3.1. CSFs Dimensions

CSF dimensions are presented in this section. Understanding the dimensions or classifications of CSFs is crucial for controlling responsibility and accountability as well as for modifying the environment and conditions. This information aids in handling situations and in overcoming barriers. Additionally, such an understanding aids in establishing accountability and delegation of authority and responsibility. The dimensions were ranked according to their frequency in the research after dimensional summary. Table 1 summarizes the dimensions of the CSF.

**Table 1.** Factors classifications

| No. | Factors Classification | References |
|---|---|---|
| 1 | **Organizational** | [14], [13], [16], [17], [18], [19], [20], [21], [22], [23], [24], [25], [26], [27], [28], [29], [11], [30], [31], [32], [33], [34], [35], [36], [37], [38], [39], [40], [41], [42], [43], [44], [4], [45], [46], [47], [48], [49], [50], [51], [52] |
| 3 | **Environmental** | [14], [16], [17], [19], [23], [24], [25], [26], [27], [28], [11] ,[31], [32], [35], [37], [38], [39], [40], [41], [43], [44], [46], [47], [48], [49], [50], [51] |
| 4 | **Human** | [53], [20], [24], [36], [48] |
| 5 | **Process** | [13], [53], [26], [30], [33], [34], [44], [45], [47] |
| 8 | **Project** | [29] |
| 9 | **Project Management** | [36] |
| 12 | **Vendor factors** | [54] |
| 13 | **Social Influence** | [55] |
| 14 | **Situational Constraint** | [55] |

According to survey studies, there are 14 different dimensions. All dimensions are listed in Table 1. It is clear from the table that the two most important dimensions are organizational and technological. The third most important dimension is the environmental dimension. The fourth important dimension was the process dimension. The fifth dimension was the human dimension. Otherwise, there are dimensions mentioned in only one study, such as project, project management, vendor, social influence, situational constraint, and culture.

### 3.2. Critical Success Factors

This section summarizes all the CSFs referenced in the surveyed papers. Table 2 shows 100 CSFs. The factors were classified under the dimensions listed in Table 1. Each CSF was categorized under the most suitable dimension according to the classification of studies for that factor.

### 3.3. The Most Important Factors

In this step, the factors are ordered and prioritized, the factors are ordered and filtered according to their importance in the literature. Factor prioritizing was based on factor frequencies in the literature, where the factors mentioned in 10% or more of the surveyed studies were considered important factors. This ordering aims to prioritize factors based on their importance and the frequency of each factor. This step ends with twenty-nine CSFs, which were considered the most important factors affecting the BI adoption process, as listed in table 3.

## 4. RESULTS AND DISCUSSION

This section presents the findings of our study, which sought to identify the best CSFs for BI adoption and prioritize them. Additionally, it seeks to investigate the crucial aspects of the CSF of BI adoption. To assist researchers and decision makers, the findings of this study can be categorized into two primary areas. The first division helps recognize the importance of the dimensions of the factors. The second section discusses the most important CSFs.

### 4.1. Dimensions of CSFs

The suggested dimensions of the studies differed significantly. According to the findings, the organizational and technological dimensions are the most crucial. The technological dimension covers the organization's pertinent internal and external technologies, including the machines and procedures that are currently in place inside the organization as well as the range of available external technologies [56]. The significance of this dimension is derived from its comprehensiveness, which encompasses all the aspects of technology in the adoption process. Our findings demonstrate the significance of the technological factor, which is in line with earlier research projects, both new and ancient, including [13, 57]. Technological factors are related to systems such as data quality, relative advantages, compatibility, complexity, system integration, IT infrastructure, business-driven, scalable, and flexible technical framework, perceived ease of use, cost, and system quality. The organizational dimension is also important. The organizational dimension refers to the descriptive measures of the organization, such as size, culture, and resources [56]. This finding is consistent with previous studies [57, 58]. This highlights the critical importance of paying greater attention to organizational factors.

Organizational factors are those related to managerial and organizational aspects: top management support, organizational readiness, clear vision, strategic plan and well-defined information and systems requirements, organization size, BI strategic alignment to business, organizational culture, users' readiness, BI expertise, decision-making culture/environment, and committed and informed executive sponsors. Therefore, it is important to measure the extent to which these factors exist in the organization before adoption and make sure to strengthen them during the adoption process before the beginning of adoption. The environmental dimension is ranked second, so the factors of this dimension must exist around the organization to ensure successful adoption. This aligns with several other studies, such as [59], which emphasize the significance of environmental factors. These factors include competitive advantage, vendor partnership, and regulatory support. The process dimension is third. The factors in the process category are a balanced team and composition, change management, and project champion. Moreover, many studies have examined the importance of this dimension in BI adoption. This inspired many researchers to test the importance of this dimension in the future. The human dimension is in the fourth dimension, with only 8%, and has only one important factor, user involvement.

### 4.2. CSF priorities

The results indicate that the most important factor is "top management support," which was mentioned in 80% of the studies. Top management support refers to providing overall direction and support (resources, funding, human skills, and other requirements) from CIOs, general managers, functional managers, IT/IS managers, and project managers to the adoption process [13]. It can be said that most of the studies that investigate the adoption of BI have confirmed the importance of top management support for the adoption of BI, where many of these studies confirmed that this factor is the most important at all, which was emphasized by [47], where the study worked on prioritizing the success factors with the AHP methodology, and the top management support factor was the most important factor. The second important factor is" Relative advantages" which was mentioned in 60% of the studies. This factor is considered one of the most important factors, as mentioned in the most important and famous theories, such as the DOE theory[59], as well as the TAM model in [60] as perceived usefulness, and this factor was the desired goal of achieving the expected success of the IS model of the Delone McLean model [61]. The third is "organizational readiness (financial, budget, and other necessary resources)," which was mentioned in 55% of the studies. If an organization has sufficient technological, financial, and human resources to devote to the adoption process, it is said to have sufficient organizational resources [62]. Many studies, such as [13, 57, 58], have proven that the higher the resources, the higher the chance of success in adopting BI, and vice versa. The fourth important factor is "information/data quality", which was mentioned in 52% of the studies. This factor is important because these systems depend primarily on structured and unstructured data. Therefore, it is important to consider the accuracy, consistency, completeness, and comprehensiveness of the data [61]. "Competitive Pressure" is in the fifth order with 40% of studies this insures it is an important.

Table 2: Critical success factors.

| Perspectives | Critical Success Factor | Studies | Total |
|---|---|---|---|
| Organizational Factors | Top Management support | [13], [17], [19], [53], [14], [20], [40], [63], [24], [25], [26], [27], [28], [29], [30],[64], [65], [31], [66], [55], [32], [67], [68], [69], [33],[34], [35], [70], [36], [23], [37], [38], [18], [41], [16], [42], [44, 54], [45], [71], [46], [47], [48], [49], [50], [72], [51], [52]. | 48 |
| | Organizational readiness (financial/budget, technological, and other necessary resources) | [14], [40], [25], [26], [28], [29], [11], [64], [65], [31], [66], [55], [32], [36], [33], [34], [70], [36], [23], [38], [18], [41], [16], [42], [43], [44], [73], [45], [46], [50], [72], [51], [68] | 33 |
| | clear vision, strategic plan & well-defined information and systems requirements | [13], [63], [20], [26], [11], [30], [64], [65],[66], [67], [69], [33], [34], [36], [41], [44], [45], [71], [47], [53], [70] | 22 |
| | Organization size | [17], [14], [25], [28], [11], [31], [32], [35], [23], [37], [38], [39], [16], [51], [49], [52] | 16 |
| | BI Strategic Alignment to Business | [26], [29], [64],[65], [31], [66], [74], [67], [70], [36], [18], [41], [42], [44], [48] | 15 |
| | Organizational culture/ characteristics (beliefs, values, and norms of individuals that support the use of BI). | [70], [23], [41], [51], [42], [26], [65], [44], [47], [22], [48], [69], [45], [52] | 14 |
| | Users' readiness (personal innovative skills, expertise) | [24], [65], [66], [55], [33], [34], [18], [43], [51], [18], [52] | 11 |
| | BI expertise – technical skills | [29], [65], [31], [33], [34], [43], [47] | 7 |
| | Decision-making culture/ environment (decision types, and information processing needs) | [14], [18], [21], [42], [4], [54] | 6 |
| | Committed and informed executive sponsor | [67], [69], [70], [21], [71], [13] | 6 |
| | Collaboration/ partnership between business and technical teams | [28], [34], [36], [66] | 5 |
| | organizational structure | [63], [32], [47], [51] | 4 |
| | Enterprise risk management alignment | [4], [49], [36] | 3 |
| | AI awareness (employees have adequate understanding and expectations toward AI) | [18, 49], [52] | 3 |
| | user empowerment | [63], [18] | 2 |
| | Organizational BI &A maturity | [70], [22] | 2 |
| | Organizational flexibility | [4], [21] | 2 |
| | Managerial capabilities | [16], [42] | 2 |
| | Organizational competencies | [48], [40] | 2 |

| | | | |
|---|---|---|---|
| | **BI function factors (Functions that provide useful information for users. Includeing status access, standardized definitions, exception reporting, and access to external data)** | [70], [18] | **2** |
| | **management style** | [42] | **1** |
| | **organizational data environment** | [14] | **1** |
| | **Value addition** | [54] | **1** |
| | **Talent** | [49] | **1** |
| | **Organizational Satisfaction** | [54] | **1** |
| | **Agility** | [49] | **1** |
| | **Project structure, collaboration** | [51] | **1** |
| | **Data flow(between its source and its use ensures high data accessibility to AI experts)** | [18] | **1** |
| **Technological Factors** | **information/data quality** | [13], [53], [20], [75], [24], [26], [29], [30], [64], [65], [31], [66], [74], [68], [69], [33], [34], [76], [70], [18], [41], [21], [42], [54], [44], [45], [71], [47], [22], [77], [4]. | **31** |
| | **Relative advantages/ Perceived usefulness** | [19], [38], [14], [17], [25], [26], [28], [66], [55], [32], [35], [37], [38], [39], [16], [44], [73], [46], [11], [23], [18], [41], [47], [48], [49], [50], [72], [51], [19], [40], [65], [74], [70], [78], [72], [37], | **36** |
| | **Compatibility** | [17], [19], [40], [24] , [25], [26], [27], [28], [66], [55], [35], [37], [38], [16], [44], [73], [45], [22], [48], [50], [72], [51] | **22** |
| | **Complexity** | [17], [19], [40], [25], [26], [28], [11], [66], [55], [32], [35], [39], [44], [73], [46], [48], [49], [16] | **18** |
| | **System Integration** | [53], [63], [20], [26], [64], [65], [31], [66], [75], [69], [33], [70], [21], [44], [45], [47], [4] | **18** |
| | **IT infrastructure (technology readiness/ maturity, capabilities/ competencies)** | [39], [19], [53], [24], [20], [27], [64], [66], [35], [18], [41], [43], [45], [47], [48], [50], [52] | **17** |
| | **Business-driven, scalable & flexible technical framework** | [13], [70], [30], [65], [31], [66], [67], [33], [42], [44], [71], [46], [26], [29], [75], [34], [63], [70], [47], [54] | **20** |
| | **Cost** | [14], [11], [23], [41], [47], [49] | **6** |
| | **System quality** | [65], [76], [42], [22], [77], [75] | **6** |
| | **Effective data management** | [53], [20], [67], [36], [42] | **5** |
| | **User access** | [34], [70], [18], [21], [4] | **5** |
| | **Creating the data warehouse organization (big data availability)** | [36], [47], [49], [18] | **4** |
| | **Use of appropriate technology/AI tools** | [31], [70], [36], [37] | **4** |

| | | | |
|---|---|---|---|
| | **Data security/privacy** | [43], [45], [47], [48] | **4** |
| | **Reliability system** | [75], [36], [42], [54] | **4** |
| | **Analytical capabilities** 20 | [20] , [37], [22] | **3** |
| | **BI is a part of ERP** | [14], [23] | **2** |
| | **Identify the user's specific issues and requirements** | [36] | **1** |
| | **Strong applications management in the organization** | [36] | **1** |
| | **Cloud community facility** | [37] | **1** |
| | **Data governance issues** | [47] | **1** |
| | **Technology prirequesit** | [52] | **1** |
| **individual Factors** | **User Involvement** | [53], [63], [20], [29], [66], [68], [34], [70], [36], [41], [42], [71], | **12** |
| | **User Satisfaction** | [76], [21], [48], [77] | **4** |
| | **Interpersonal communication** | [48], [70], [37] | **4** |
| | **Extensive management support (Support from all business lines in the company)** | [53], [69] ,[34], | **3** |
| | **Social Influence (supervisor support, co-worker support)** | [55], [72] | **2** |
| | **Individual Difference (intrinsic motivation, extrinsic)** | [55], [78] | **1** |
| | **user support** | [36] | **1** |
| | **Job security of employees post AI adoption** | [48] | **1** |
| **Environment factors** | **competitive Pressure** | [17], [19], [40], [24], [25], [26], [27], [28], [11], [31], [66], [32], [35, 37], [38], [41], [16], [43], [44], [46], [48], [51] | **24** |
| | **Vendor partnership** | [16], [40], [27], [65], [33], [41], [48], [17] | **9** |
| | **Regulatory support** | [19], [48], [25], [35], [39], [41], [49], [50] | **8** |
| | **Government support** | [38], [32], [16], [50], [51], [28], [17] | **7** |
| | **Sustainability/Demand volatility** | [24], [65], [66], [34], [48] | **5** |
| | **Selection of vendors** | [26], [66], [44], [73], [47] | **4** |
| | **industry** | [14], [32], [39], [51] | **4** |
| | **Market uncertainty** | [24], [16], [17] | **3** |
| | **Rivals' absorptive capacity (exploit outside knowledge, recognize the value of new information, assimilate, and apply it more effectively to gain productive ends)** | [11], [73] | **2** |
| | **External support** | [14], [32] | **2** |
| | **Pandemic recovery** | [37] | **1** |

| | | | |
|---|---|---|---|
| | **Distributive events** | [49] | **1** |
| | **External presser** | [49] | **1** |
| | **Institutional based trust** | [48] | **1** |
| | **Vendor availability** | [50] | **1** |
| **Process factors** | **balance team & composition** | [13], [53], [63], [20], [26], [66], [67], [69], [33], [34], [70], [36], [18], [42], [43], [44], [73], [45], [71], [48] | **20** |
| | **Change management** | [13], [48], [26], [29], [30], [65], [66], [74], [32], [67], [33], [70], [36], [18], [44], [45], [51] | **17** |
| | **Champion** | [14], [13], [70], [53],[63], [25], [29], [30], [65], [66], [68], [23], [41], [44], [47], [52], [26]. | **17** |
| | **Effective Project Management/Manager** | [53], [20], [26], [65], [66], [74], [33], [70], [42], [44], [73], [45], [36][ | **13** |
| | **Business-driven & development/deployment approach** | [13], [70], [30], [34], [42] | **6** |
| | **User training & education** | [20], [70], [37], [45], [48] | **5** |
| | **Customers' expectations** | [19], [20], [33], [36], [72] | **4** |
| | **Ethics** | [47], [48], [18] | **3** |
| | **IT staff collaboration with consultants** | [53], [34], [18] | **3** |
| | **Responsibility and accountability** | [47] | **1** |
| | **Resistance** | [47] | **1** |
| | **well defined a business problem and processes** | [33] | **1** |
| **Project management** | **Avoid deviation from the initial goals of the project** | [36] | **1** |
| | **Project team management** | [36] | **1** |
| | **Being flexible and responsive to change** | [36] | **1** |
| **Vendor Factors** | **Solution Ownership** | [54] | **1** |
| | **Vendor Dependability** | [54] | **1** |
| **Social Influence** | **Co-worker support** | [55] | **1** |
| **Situational Constraint** | **Organizational learning climate** | [55] | **1** |

**Table 3.** The most important Critical success factors

| Perspectives | No | Critical Success Factor | frequencies | percentage | priority |
|---|---|---|---|---|---|
| Organizational | 1 | Top Management support | 48 | 80\% | 1 |
| | 2 | Organizational readiness (financial, budget, and other necessary resources) | 33 | 55\% | 3 |
| | 3 | Clear vision, strategic plan & well-defined information and systems requirements | 22 | 37\% | 6 |
| | 4 | Organization size | 16 | 27\% | 10 |
| | 5 | BI Strategic Alignment to Business | 15 | 25\% | 11 |
| | 6 | Organizational culture/ characteristics (beliefs, values, and norms of individuals that supports the use of BI). | 14 | 23\% | 12 |
| | 7 | Users' readiness (personal innovative skills, expertise) | 11 | 18\% | 15 |
| | 8 | BI expertise – technical skills | 7 | 11.5\% | 19 |
| | 9 | Decision-making culture/ environment (decision types, and information processing needs) | 6 | 10\% | 20 |
| | 10 | Committed and informed executive sponsor | 6 | 10\% | 20 |
| Technological | 11 | Information/data quality | 31 | 52\% | 3 |
| | 12 | Relative advantages/ Perceived usefulness | 36 | 60\% | 2 |
| | 13 | Compatibility | 22 | 37\% | 6 |
| | 14 | Complexity | 18 | 30\% | 8 |
| | 15 | System Integration | 18 | 30\% | 8 |
| | 16 | IT infrastructure (technology readiness/ maturity, capabilities/ competencies) | 17 | 28\% | 9 |
| | 17 | Business driven, scalable & flexible technical framework | 20 | 33\% | 7 |
| | 18 | Perceived ease of use | 10 | 16\% | 16 |
| | 19 | Cost | 6 | 10\% | 20 |
| | 20 | System quality | 6 | 10\% | 20 |
| Human Environment | 21 | User Involvement | 12 | 20\% | 14 |
| | 22 | Competitive Pressure | 24 | 40\% | 5 |
| | 23 | Vendor partnership | 9 | 15\% | 17 |
| | 24 | Regulatory support | 8 | 13\% | 18 |
| Process factors | 25 | Balance team & composition | 20 | 33\% | 7 |
| | 26 | Change management | 17 | 28\% | 9 |
| | 27 | Champion | 17 | 28\% | 9 |
| | 28 | Effective Project Management/ Manager | 13 | 22\% | 13 |
| | 29 | Business-driven & development/deployment approach | 6 | 10\% | 20 |

The Most Important Factors with Dimensions" highlights a factor consistent with previous studies.

These studies, such as [24, 38, 79], have identified it as a critical success factor for BI adoption. factor This is consistent with previous studies that identified it as an important critical success factor for BI adoption [24, 38, 80]. In the sixth order, there are two factors which are "clear vision, strategic plan, well-defined information and system requirements" and "Complexity" each of which was mentioned in 37%

of studies. However, they differ in that the first affects positively, where several studies, in the past and present, have proven the importance of this factor in adopting BI systems, such as [11, 13, 29, 47, 48, 57], and others have negatively affected BI adoption. "Balance team & composition" is in the seventh order, while it is mentioned in 33% of studies. Yeoh and Popovič (2016) in [13] confirmed that a strong external consultant, a committed champion with sufficient business understanding, and an internal project team comprising business and technical employees should be on a balanced BI team. In the eighth order, there are two factors, System Integration" and " compatibility, which were mentioned in 30% of the studies. Because data analysis is the main component of BI, their integration with other systems and access to their data become crucial components in the success of the adoption process. Many studies have considered integration as one of the most important factors in the success of adopting BI [4, 47, 58]. Rogers (1995) identified compatibility as the fitness of innovation with the organization's practices, experiences, values, and existing needs [59]. A significant number of studies have emphasized compatibility's positive impact on BI adoption, such as [79]. Furthermore, in ninth place, there are three different factors: "IT infrastructure (technology readiness/maturity, capabilities/competencies)", "Change management," and "Champion," each of which was mentioned in 28% of studies. Many studies, such as [39, 80, 81], have proven that technological maturity is one of the most important success factors that is critical to the process of adopting these systems. Because business intelligence systems are accompanied by several changes, it is necessary to manage these changes to become organized changes that achieve their desired

goals. Studies [18, 48, 51] have proven that change management is a critical factor for BI adoption, which is consistent with our results. The " organization size" factor was in the tenth order with a 27% frequency in the studies. The larger the organization, the greater its ability to provide the requirements for adopting BI systems and vice versa, as proven by many studies such as [37, 49, 81, 82] in addition to our study "BI strategic alignment to business" is mentioned in 25% of studies. "Organizational culture/characteristics" was mentioned in 23% of studies. Organizational culture is defined as the values, beliefs, and social ideals shared by employees of the organization [83]. When IS adoption fails, organizational cultural factors are blamed. Thus, the term culture is critical for IS adoption [84]. Organizational culture is a vital factor [85]. The factor "Effective Project Management/Manager' was mentioned in 22% of the studies. This means that it is somewhat important in BI adoption, as indicated by several studies, including [20, 26, 53, 65, 66] while in some studies it was considered an independent dimension with factors, which was confirmed in [36]. "Business driven, scalable & flexible technical framework" is mentioned in 20% such as [13, 30, 65, 70], Yeoh and A. Koronios (2010) in [57] confirmed that flexibility is a key capability for BI success, while [86] stressed that BI must be able to adapt to the requirements of expansion. "User Involvement" is also mentioned in 20% of studies. This has been confirmed by various studies, and some studies have even exaggerated that the user must be a development partner and not just an end beneficiary. The remaining factors were reported in less than 20% of the studies, which means that they are less important than the previous factors, but they remain somewhat important. In the following sections, the factors are mentioned with their frequency percentages. The "Users' readiness (personal innovative skills, expertise)" factor was mentioned in 18% of studies. "Perceived ease of use" is mentioned in 16% of studies. "Regulatory support" was mentioned in 13% of studies. "BI expertise–technical skills" is mentioned in 11.5% of studies. In the end, four factors were mentioned in 10% of the studies: " decision-making culture/environment (decision types and information processing needs)", "Committed and informed executive sponsor", "Cost", "System quality", and "Business-driven & development/deployment approach". Our research ignores the factors mentioned in less than 10% of the studies. All of the above factors should be given sufficient attention to ensure the success of the adoption process.

## 5. CONCLUSION

The need for BI systems is growing daily, and businesses are finding that their use is now essential. On the other hand, the organization will suffer greatly if this adoption fails. As a result, when a company chooses to implement BI, it must ensure that the adoption is successful. This study aimed to identify and prioritize CSFs that affect BI adoption. CSFs were collected from the literature, evaluated, ranked, and categorized. The findings demonstrated the importance of organizational and technological dimensions, followed by environmental and process dimensions. This encourages decision-makers to give these factors more consideration and grant them more authority, responsibility, and privileges to facilitate and guarantee the success of adoption. The findings also extracted more than 100 CSFs, the most important of which was top management support. These factors were evaluated to determine the most important factors. This study calls for new research to enrich the field based on the most important factors that resulted from this study.

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