Investigating Critical Success Factors of Knowledge Management implementation in Higher Education Universities (A Case Study: University of Basrah- Iraq)

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Abstract:

Nowadays, organizations are considering knowledge management as basic resources for efficient management of their resources, which is defined as a major contributing instrument to enrich the performance of organizations. The implementation of knowledge management in an organization is depending on critical success factors affecting. Critical Success Factors (CSFs) defined as different kinds of areas in which guaranteed enhancing the competitive performance of an organization. The main aim of this paper is to investigating and assesses Critical Success Factors of Knowledge Management implementation in the University of Basrah. This research surveyed one hundred and six workers at the University of Basrah. Data were collected by a structured questionnaire distributed randomly to 2272 workers in the study organization. The main instrument was used in research is SPSS v 0.22, there are only four analysis conducted on the collected data. Regression analysis proved that only seven factors have been a significant effect on knowledge management implementation in the University of Basrah which are Organization Culture, Leadership, Human Resource Management, Reward & Motivation, Knowledge Measurement, Organization Infrastructure, and KM Organization. Consequently, the current study contributed to developing a new Model for CSFs in the University of Basrah. This study may participate in promoting CSF's that assist in enhancing the competitive performance of the university.

Keywords: Knowledge Management, Knowledge Management in Universities, Critical Success Factors,

Introduction

Recently business world considering knowledge as basic resources for efficient management, thus knowledge has become a hot topic of the world. There are several definitions of knowledge is defined as the value chain of related information that insights in working environment in order to support the businesses outcome [1]. Knowledge has empowered the business world to increase the benefits in different ways such as customer satisfaction. The knowledge-based view provides a theoretical basis for why knowledge-based resources are vital in creating sustainable competitiveness [2]. There are several studies present the knowledge in two types which are tacit and explicit knowledge to enlarge the performance of an organization [3]. Tacit knowledge is defined as the long experiences stored in the employee mind that it is so important factors to increase the organization's productions. Explicit knowledge is presented as employee experiences that are documented, coded, captured to manage and access by another worker [4]. The results of knowledge volume growth lead to appear new term which is Knowledge Management (KM) to manage the knowledge carefully. KM is too broad term there are many directions under the umbrella of

KM such as KM strategies, KM processes, and success factor current study focuses on the success factors of Knowledge Management Implementation (KMI) [5]. Knowledge management has been defined as a major contributing instrument to enrich the performance of organizations. However, there are researchers empirically examined and validated the theories of knowledge management [6]. The main objective of KM in the organization is sharing the right knowledge to the right person at the right time to improve the organization's business values [7].

The significance of KM in organizations is to increase the competitive advantage which is directly related to it is business. The implementation of KM is affected by various factors that control the achievement of organizational objectives of KM adoption. However, these factors may differ from one organization to another based on the situation. The current research investigates the Critical Success Factors (CSF) in implementing knowledge management at the University Of Basrah (UOB).

All of the notations used in this study are presented in Table 1. The remainder of the paper is organized as follows. Section 2 reviews of CSF's, second 3 the Conceptual Model of CSF's in UOB, Section 4 data collection, and analysis, Section 5 contains the results and discussion and Section 6 only conclusion.

Table 1. Description The Notations and symbols used in this research

Symbol	Description
KM	Knowledge Management
CSF	Critical Success Factors
IT	Information Technology
UOB	University of Basrah
SPSS	Statistical Package for the Social Sciences
OC	Organization Culture
KMI	KM Implementation
OS	Organization Strategies
LS	Leadership,
HR	Human Resource Management
AP	Activities & Processes
RS	Resources
RM	Reward & Motivation
KM	Knowledge Measurement
OI	Organization Infrastructure
KO	KM Organization
ISM	Interpretive Structural Modeling

Literature Review:

This section presents a brief overview of existing research in the field of CSFs. There are too many studies conducted in the field of knowledge management to identify the success factors of knowledge management implementation in different organizations, but there is no clear study conducted to determine the CSFs in University of Basrah. To overcome these drawbacks this study use theory of reasoned action (TRA) to investigate the success factors of (KMI) in University of Basrah. In 2012, Yaghoubi and Maleki [8] surveyed 75 employees to identify the success factors of Knowledge implementation in Electric

Distribution Company in Zahedan-Iran and find the main factors affect the knowledge management which is listed here Information Technology, Knowledge Management System, Information systems, Strategy, Knowledge strategies, Architecture, knowledge management. The researchers mentioned that all of the above factors have the same signs of influence on KM.

Basu and Sengupta ,2007,[9] find only four CSF's (technical infrastructure, organizational culture, motivation, and commitment), senior management in Academic University- business school-India and shows that, the investigated factors must implement correctly in education institute that leads to better education outcomes.In 2014, Al-Oqaily et al,[10] conducted their study in Four Private Universities which are applied science Jordan Gadara, national Amman, and Petra University to find the CSF's of KM implementation. The significance results confirm that these university environments contain the most important factors of (KM) and there are many determinates need to be covered by universities to ensure the best adoption of KM implementations. The main factors identified are Organizational Culture, Effective& Systematic Processes, Knowledge Measurement, Organizational Knowledge, and Infrastructure.

Anantatmula & Kanungo [11] uses Interpretive Structural Modeling (ISM) to find the success factors of KM implementation in General Business fields and find only four factors which are Strategic focus, organization and roles, Culture and people engagement, and Technology enablement. Huang and Lai,2012 [12] used the Interview and questionnaire to study the factors of KM implementation in the life insurance Industry- Taiwan. The results indicate that environments significantly affect organizational characteristics, environments and IT infrastructure significantly affect KM characteristics, and individual characteristics, KM characteristics and organizational characteristics significantly influence KM implementation

Karami et al,2015[13], find the most important factors of KM implementation in Bahman Automobile Industry by using the questionnaires and interviews (Organizational Culture, Human Resource Management, Goals & Strategies, Information Technology, and Organizational factors) Shoemaker ,2014 [14]conducted classroom experiment to know the success factors of KM implementation in Austin University Global Software Development the researcher find the most significant factors(rewarding of knowledge sharing Employees culture Organizational Motivation Communication, scope, and resource management)

Saleem et al,2019 [15] find only communication and resource management as success factors of KM implementation in Global Software Development in 2016 Enshassi et al, [16] used a questionnaire as a research method to identify the success factors in construction companies in Palestinian contractors Union-Gaza Strip and find the Culture, Knowledge sharing, and Organizational structure the most significant success factors. Nasiruzzaman & Dahlan 2013, [17] review 45 articles to identify the success factors of KM implementation in the Malaysian Institution of Higher Learning (IHL). The main factors identified by the research team are leadership, strong ICT infrastructure, and value-based organizational culture. Table 2 summarizes the critical success factors of KM implementation in those studies.

Based on the review of CSF in different organization around the world the main hypothesizes of this research are summarized as the following.

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H1. IT infrastructures significantly affect KM implementation in UOB.

H2. Organizational Culture significantly affects KM implementation in UOB.

H3. Organization Strategies factor significantly affects KM implementation in UOB.

H4. Leadership factor significantly affects KM implementation in UOB.

H5. Human Resource Management factor significantly affects KM implementation in UOB.

H6. Activities and Processes factor significantly affects KM implementation in UOB.

H7. Resources factor significantly affects KM implementation in UOB.
H8. Reward & Motivation factor significantly affects KM implementation in UOB.
H9. Knowledge Measurement factor significantly affects KM implementation in UOB.
H10. Organization Infrastructure factor significantly affects KM implementation in UOB.
*H11. KM Organization factor significantly affects KM implementation in UOB.*

Table 2: Success Factors of KM Implementations in organizations

Researcher	IT infrastructu	Organizatio n Culture	Organizatio n Strategies	Leadership	Human Resource	Activities & Processes	Resources	Reward & Motivation	Knowledge Measuremen	Organizatio n Infrastructu	KM Organizatio
Ref [8]	√		√								
Ref [9]	√	√						√		√	
Ref [10]	√	√		√		√					
Ref [11]	√	√	√			√					
Ref [12]	√		√							√	
Ref [13]	√	√	√		√						
Ref [14]		√						√			
Ref [15]	√				√						
Ref [16]		√								√	
Ref [17]	√	√		√						√	
Current	√	√	√	√	√	√	√	√	√	√	√

Conceptual Model

The result of previous studies review proves that there are different factors affect the successful implementation of KM in organizations. This study investigates the factor carried out successfully implementation of KM in UOB which is structured in the following diagram. Figure 1 present the Conceptual Framework of Success factors in University of Basrah.
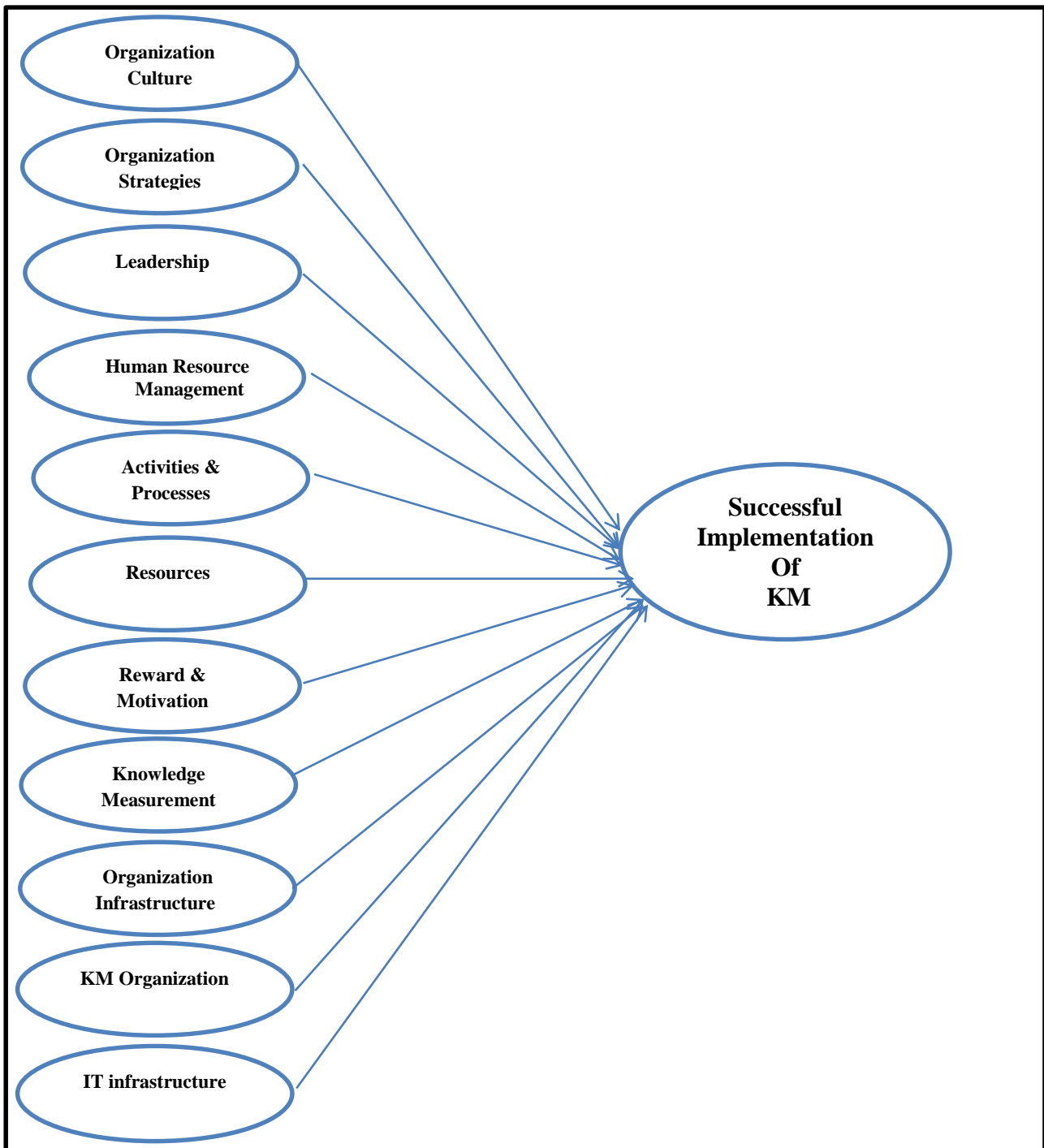
Research Methodology (RM):

Research Methodology is defined as a collection of tools used to collects the research data or the experiences to match the find the research aim [31]. The main method used in this research is are Literature review and Quantitative approach (questionnaire).

Quantitative Data Collection:

The research data were collected from the workers in the (UOB) 2018-2019. The questionnaire of this study was adopted from several studies which are shown in Table 3.The study's questionnaire was designed based on 5 – point scale (1) SA for Strongly Agree to (5) SD for Strongly Disagree. The questionnaire

consists of 62 items divided into 2 sections which are Demographic data which is related to responses and Research factors (Success Factors). The number of responses to this study was 106 responses.

Table 3: The Measurement Factors Questions.

Variables	No. of Items	Reference
IT infrastructure	7	(Mathi, 2004) (Chin Wei et al,2009) [18,19]
Organization Culture	6	(Mathi, 2004) (Chin Wei et al,2009) [18,19]
Organization Strategies	5	(Mathi, 2004) [18]
Leadership	5	(Chin Wei et al,2009) [19]
Human Resource Management	5	(Yew Wong & Aspinwall,2005) [20]
Activities & Processes	6	(Mathi, 2004) (Yew Wong & Aspinwall,2005) [18,20]
Resources	6	(Yew Wong & Aspinwall,2005) [20]
Reward & Motivation	5	(Yew Wong & Aspinwall,2005) [20]
Knowledge Measurement	4	(Mathi, 2004) (Chin Wei et al,2009) [18,19]
Organization Infrastructure	5	(Yew Wong & Aspinwall,2005) [20]
KM Organization	5	(Mathi, 2004) [18]
KM Implementation	3	(Huang & Lai,2012) [21]

Primary Study:

A pilot study was conducted by passing the questionnaire related to the conceptual model (CM) to seven academic participants from different overseas universities. The professionals were selected with more than 15 years' experience in academic work. They are requested to review the design and structure of the questionnaire and adjust to match the research objective. The main aim of the pre-study is to check the suitability and comprehensibility of the survey. Regarding their comment, there are not many changes that were made to the survey. Mainly, the pilot study showed that some attributes were repeated, irrelevant, weak, or vague and should be omitted. In general, the professionals suggested some related to reputation, difficult understanding by the fresh reader, spelling mistakes, and grammatical errors. All modified presented by those academics was conducted professionally.

Results and Discussions:

This section will present the descriptive analysis and hypothesis tests of the collected data in fitting with the proposed Conceptual Model.

The Reliability analysis:

The main software used to analyze the collected data is the Statistical Package for the Social Sciences (SPSS) version 22.0. Cronbach's Coefficient Alpha was used to investigate the reliability of the collected data. The questionnaire reliability is a method to measure the relations between the questionnaire items and responses [22]. The normal range of accepted Cronbach's coefficient alpha result must be between 0.7 and 0.99 [23]. The result of Cronbach's Coefficient Alpha presented in Table 4 which is 0.82 that's means collected data is reliable for this study.

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Table 4: Reliability Statistics

Cronbach's Alpha	N of Items
.820	106

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Demographic of Responses:

The demographic data consist of only three variables which are the responses Age, Experiences Years, and Qualification Levels. The first item is Age, the highest rank is 69.8% which is related to the category of 20-39, and this means the response was a youth. The second item is Experiences Years; the biggest response was 50.9% which is classified in the category of >5 which quite suitable because they have fresh knowledge management skills. Finally, the Qualification Level, the percentage of PhD 49.3% while the percentage of MSc is 50.9, which mean the collected data was very important because it was shows a mixed opinion of different qualification level in UOB as shown in Table 5.

Table 5: Demographic Results

Item	*Labels*	Frequency	Percent
Age	20-39	74	69.8
	40-59	26	24.5
	Above 60	6	5.6
Experience Year	< 5	54	50.9
	6 to 15	18	16.9
	Above 16	34	32.07
Qualification level	PhD	52	49.3
	MSc	54	50.9

Descriptive Analysis of CSF in Organization:

Mean analysis defined as a statistical procedure used represents significant differences among the responses [32]. Based on the descriptive analysis shown in Table 6 most of the factors indicate that all of the respondents are agreed with the questionnaire's items, this confirms the importance of study factors and their influence on the successful implementation of knowledge management in UOB. Only three variables have been indicated Neutral which are IT infrastructure, Activities & Processes, and Reward & Motivation. These factors' responses are not sure about the importance of these three variables in success implementation knowledge management. Finally, the workers in the University of Basrah are ready to accept the proposed model of this research in their working activities which indicates the success of knowledge management implementation. However, the proposed model should be effective enough to improve the knowledge management inside the university.

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Table 6: Descriptive Analysis

Variables	No of Items	Mean	Std. Deviation	Result
IT infrastructure	7	2.56	.98295	Neutral
Organization Culture	6	2.41	.65770	Agree
Organization Strategies	5	2.14	.83667	Agree
Leadership	5	2.31	.66315	Agree
Human Resource Management	5	2.29	.68454	Agree
Activities & Processes	6	2.57	.82413	Neutral
Resources	6	2.58	.72507	Neutral
Reward & Motivation	5	2.48	1.00732	Agree
Knowledge Measurement	4	2.23	1.01419	Agree
Organization Infrastructure	5	2.44	.69842	Agree
KM Organization	5	2.23	.63987	Agree
KM Implementation	3	2.287	.68488	Agree
Result	62	2.393	0.784908	Agree

Hypotheses Testing:

The main instrument used to analyze the collected data is the Statistical Package for the Social Sciences (SPSS). There are two analysis and techniques used to investigate the relationship between the (KMI) and the research factors which are Correlation analysis is strength a statistical method used to evaluate the relationship between the quantitative variables, and Regression analysis estimating the relationship between the dependent factors and independent variables. Table 7 present the Person Correlations analysis which describe that the relation between the (KIM) and (IT, AP, and RM) ranged from 0.173 to 0.243 this mean it is positive weak relation, while the relation between the (KIM) and (OC, OS, LS, HR, RS, KM, OI, and KO) is ranged from 0.451 to 0.894 which mean positive significant relation.

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Table 7: Person Correlations

N=106	IT	OC	OS	LS	HR	AP	RS	RM	KM	OI	KO	KIM
IT	1	.102	.157	.109	.239*	.521**	.175	.854**	.253**	.253**	.128	.173
OC	.102	1	.508**	.665**	.668**	.199*	.489**	.138	.450**	.661**	.678**	.745**
OS	.157	.508**	1	.613**	.631**	.412**	.231*	.090	.679**	.490**	.584**	.680**
LS	.109	.665**	.613**	1	.802**	.133	.386**	.133	.643**	.652**	.735**	.816**
HR	.239*	.668**	.631**	.802**	1	.256**	.528**	.181	.523**	.718**	.832**	.894**
AP	.521**	.199*	.412**	.133	.256**	1	.051	.503**	.463**	.234*	.278**	.245*
RS	.175	.489**	.231*	.386**	.528**	.051	1	.216*	.035	.576**	.470**	.451**
RM	.854**	.138	.090	.133	.181	.503**	.216*	1	.208*	.349**	.172	.220*
KM	.253**	.450**	.679**	.643**	.523**	.463**	.035	.208*	1	.412**	.520**	.593**
OI	.253**	.661**	.490**	.652**	.718**	.234*	.576**	.349**	.412**	1	.685**	.775**
KO	.128	.678**	.584**	.735**	.832**	.278**	.470**	.172	.520**	.685**	1	.892**
KIM	.173	.745**	.680**	.816**	.894**	.245*	.451**	.220*	.593**	.775**	.892**	1

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Note: IT: IT infrastructure ,OC: Organization Culture ,OS: Organization Strategies , LS: Leadership, HR: Human Resource Management, AP: Activities & Processes, RS: Resources, RM: Reward & Motivation , KM: Knowledge Measurement, OI: Organization Infrastructure, KO: KM Organization, KMI: KM Implementation

Table 8 presents the effects of critical Success Factors (CSF) on Knowledge Management Implementation (KMI) in University of Basrah (UOB).The influence (IT) on (KMI) in (UOB) is has not influence on (KMI) because ($B = -.063$ $P - value > .05$), thus H1 is not supported. The influence (OC) on (KMI) in (UOB) is significant because ($B = .115$ $P - value < .05$), thus H2 is supported. The influence (OS) on (KMI) in (UOB) shows negative affects because ($B = .065$ $P - value > .05$), thus H3 is not supported. The influence (LM) on (KMI) in (UOB) is significant because ($B = .057$ $P - value < .05$), thus H4 is supported. The influence (HR) on (KMI) in (UOB) is positive relation because ($B = .380$ $P - value < .05$), thus H5 is supported. The influence (AP) on (KMI) in (UOB) is too weak because ($B = -0.085$ $P - value > .05$), thus H6 is not supported. The influence (RS) on (KMI) in (UOB) is not significant because ($B = -.090 P - value < .05$), thus H7 is not supported. The influence (RM) on (KMI) in (UOB) is strong affect because ($B = .098 P - value < .05$), thus H8 is supported. The influence (KM) on (KMI) in (UOB) is significant because ($B = .080$ $P - value < .05$), thus H9 is supported. The influence (OI) on (KMI) in (UOB) is accepted because ($B = .140 P - value < .05$), thus H10 is supported. The influence (KO) on (KI) in (UOB) is significant because ($B = .321 P - value < .05$), thus H11 is supported.

The main facts that can be delivered from Regression Coefficients of Knowledge Management Implementation in the University of Basrah are the KMI has been affected by seven factors only (OC, LM, HR, RM, KM, OI, and KO). This means the University of Basrah Culture has high level of implementation, the University of Basrah has accepted level of Leadership, The University of Basrah manage the Human Resource well to support the Knowledge Management, The University of Basrah focused on the Reward & Motivation that affect the Knowledge Management, and all of the Knowledge Measurement, Organization Infrastructure, and KM Organization are supported which lead to support the Knowledge management implementation. On the other hand, only four factors are not supported by the University of Basrah which are Information Technology, organization Strategies, Activities & Processes, and Knowledge Resources. In conclusion Table 9 shows a summary of the accepted and rejected hypotheses.

Table 8: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.071-	.096		-.735-	.464
	IT	-.063-	.046	-.090-	-1.380-	.171
	OC	.115	.044	.110	2.593	.011
	OS	.065	.036	.079	1.826	.071
	LM	.057	.057	.055	1.003	.003
	HR	.380	.069	.380	5.539	.000
	AP	-.085-	.028	-.137-	-3.022-	.319
	RS	-.090-	.036	-.095-	-2.505-	.014
	RM	.098	.042	.144	2.332	.022
	KM	.080	.040	.118	1.990	.050
	OI	.140	.047	.143	2.970	.004
	KO	.321	.059	.300	5.431	.000

Table 9: The hypotheses Status

Hypotheses	Beta	P-Value	Status
H1. IT infrastructures significantly affect KM implementation in UOB.	-.063-	.171	Rejected
H2. Organizational Culture significantly affect KM implementation.	.115	.011	Accepted
H3. Organization Strategies factor significantly affects KM implementation.	.065	.071	Rejected
H4. Leadership factor significantly affects KM implementation.	.057	.003	Accepted
H5. Human Resource Management factor significantly affects KM implementation.	.380	.000	Accepted
H6. Activities and Processes factor significantly affects KM implementation.	-.085-	.319	Rejected
H7. Resources factor significantly affects KM implementation.	-.090-	.014	Rejected
H8. Reward & Motivation factor significantly affects KM implementation.	.098	.022	Accepted
H9. Knowledge Measurement factor significantly affects KM implementation.	.080	.050	Accepted
H10. Organization Infrastructure factor significantly affects KM implementation.	.140	.004	Accepted
H11. KM Organization factor significantly affects KM implementation.	.321	.000	Accepted

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Based on the result of the Regression analysis shows in Tables 8 and 9 which is studied the CSFs in UOB. The final design of the Conceptual Model shows in Figure 2, which confirms only seven factors are accepted and only four factors are rejected.
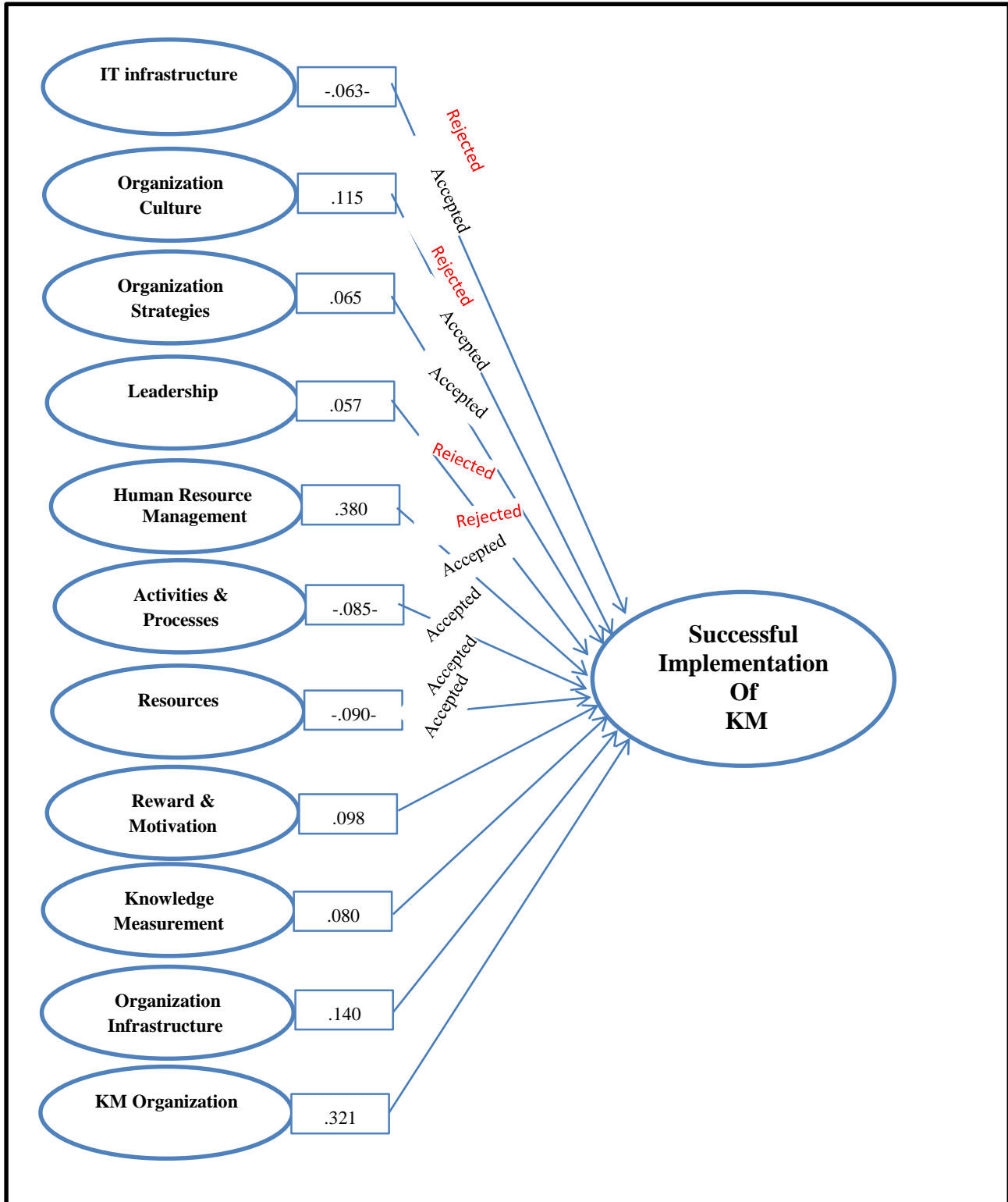
Results Discussion:

This research has tested eleven hypotheses using correlation and regression analysis and find only seven factors affecting the knowledge management implementation in the University of Basrah.

• University Culture is a significant factor in affecting the implementation of KM in UOB. Knowledge culture factors are defined as an approach of employees' life, beliefs, practices and the learned behaviors, values, knowledge, and perceptions of the workers in the organization [24]. In comparing the current study with previous empirical studies [10,13,17] found that all of them agreed on the knowledge culture importance in supporting the Knowledge Management Implementation in Universities.

• Organization Leadership is one of the most supported factors in knowledge management implementation of an organization. Leadership is defined as an individual process supporting other employees in the organization in terms of learning processes [25]. Most of the previous studies confirm the importance of knowledge leads to implement knowledge management successfully [10,17].

• Human Resource Management found a strong relationship with knowledge management implementation in UOB. Human Resource Management is defined as is a set of processes and practices of recruiting, training, orientation, motivating employees, and managing the employees [26]. In the factors test by Stepwise analysis find that the HRM has a highest score of influence on the knowledge management in UOB. • Reward & Motivation also found to affect knowledge management implementation in UOB. Thus, the employees at the University of Basrah have an individual feeling about managing knowledge can positively enhance feedback them with Reward In agreement with the finding of this study [9,14] examined several factors and the motivation was one of the strong founded factors.

• Knowledge Measurement has a positive effect on Knowledge management implementation in UOB. Knowledge Measurement is defined as to evaluation processes to assess the knowledge resources, evaluating an employee's knowledge improve the university performance [27]. Thus enhancing the knowledge measurement in organizations will result to grow knowledge management implementation.

• Finally, Organization Infrastructure and KM Organization have a clear influence on knowledge management implementation in UOB. Organization Infrastructure defined as organization capabilities which are including the following (i.e. cultural, structural and technological) [28,29,30]. The acceptance of this factor confirms the capabilities of UOB in supporting knowledge management implementation. There are several studies have found strong relationships between the organization infrastructure and knowledge management implementation on their studied organization [9, 11,15]

Conclusion

The present study empirically investigates and identifies the most important CSFs influencing the implementation of KM in the University of Basrah. CSFs are identified as different kinds of areas in which guaranteed to enhance the organization's knowledge management [16]. There are several factors influence the successful implementation of knowledge management in the organization. The aim of this study is to examine the list of factors affecting the successful implementation of knowledge management at the University of Basrah. The main method used in this study is a questionnaire consists of Sixty-Two items divided into 2 sections which are Demographic data which is related to responses and Research factors. This study tested only eleven factors which are IT infrastructure, Organization Culture, Organization Strategies, Leadership, Human Resource Management, Activities & Processes, Resources, Reward & Motivation, Knowledge Measurement, Organization Infrastructure, and KM Organization. Finally, only seven factors have been indicated affecting the knowledge management implementation in the University of Basrah which are Organization Culture, Leadership, Human Resource Management, Reward &

Motivation, Knowledge Measurement, Organization Infrastructure, and KM Organization. Consequently, the current study contributed to developing a new Model for CSFs in UOB.

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