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FACTORS AFFECTING THE INTENTION TO ADOPT SOFTWARE-AS-A-SERVICE IN PUBLIC ORGANIZATION FROM EXPERT'S PERSPECTIVE

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ABSTRACT

The advancements in Cloud Computing (CC) and the creation of more bandwidth have enabled the development of a distributed and collaborative model called Software as a Service (SaaS). The CC-SaaS provides many benefits to the countries, organization, both government and private in terms of cost-saving, and quality improvement. However, the adoption of CC-SaaS is still very challenging to organizations, more especially in such instances where no specific attributes to guide user decisions on the movement into CC-SaaS. Moreover, none of the studies have provided a holistic analysis for the determinants that affect CC-SaaS adoption from user and organizational perspectives, which is certified by any expert. This paper investigates the factors affecting CC-SaaS intention to adopt in public organization, which in turn can assist organizations to gain important benefits from CC-SaaS technology. The influential factors are reviewed, selected and confirm by experts from the field of cloud computing, the results of their assessments are presented.

Keywords: *Cloud Computing, Factor Selection, Factors Confirmation, Software As A Service, Adoption.*

1. INTRODUCTION

Recently, the rapid growth of computing with higher processing and storage capabilities has made Internet access and computing resources highly robust, universally accessible and cheaper than ever before [1]. This technological trend which is widely called cloud computing (CC), has revolutionised the ways for which better answer is provided to current and future ICT requirements [1]. The CC enables evolutionary online environment which enhanced the capability to handle and expand the volume of work without any effect on the execution of the IS framework [1]. Furthermore, CC is a new-generation ICT technology that continues to gain popularity due to its pay-as-you-go service model [2]. Thus, CC has the ability to reduces the amount of time, cost and resources required from the ICT's dependencies [3]. This is achieved through enabling the ICT providers to virtualised their computational resources and concurrently provides them via a service orchestration process [4].

The CC is defined as the distribution of applications and IT services over a network, popularly the Internet, which is considered as a technology that combined the web applications, utility computing and services that can be accessed via the Internet [5], [6]. Moreover, CC is deployed to help in breaking down the barriers across many government organisations, it facilitates entry into a new phase of collaboration, partnership, sharing of services, and resources pooling [5], [7], [8]. It also facilitates an effective way of sharing information among citizens, reduced efforts and increase efficiency in the provision services, manage budget efficiently and provides service effectively [7], [9]. Nowadays, the evidence is apparent that cloud technologies become a strategic trend for various governments and their agencies not only among developed nations (e.g. the Japan, UK, and the US) but also amidst developing ones (e.g. India, Malaysia and other countries within the Middle East) [10]. CC has been launched in these countries to enhance and standardise the IT resources, reduce cost and ensure efficiency in public services delivery [10].

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Furthermore, CC provides three fundamental service models [7]. These are, Infrastructure as a Service (IaaS), then Platform as a Service (PaaS) and lastly Software as a Service (SaaS) [5], [11]–[13]. Based on CC, IT infrastructures (backup, computing and storage) can be outsourced by an organisation through the application of IaaS, other IT platforms (database and business intelligence) via PaaS and It Software (email, Dropbox, MS Office) through SaaS [14].

Further, despite the significance of CC-SaaS, the organizations faces certain challenging more especially in such a case where there is no specific attributes to guide user decisions on the movement into CC-SaaS. In addition, the author in [15] recommended that other factors not relating to organisation need to be considered in the CC-SaaS adoption, due to their wider operating environment and ralation to the technological characteristics of CC-SaaS. Moreover, suggested that a study of SaaS adoption could be very interesting if it is undertaken from the perspectives of specific attributes such as human and organisation [16]. Also, the human capacity in the organisation have major concerns for cloud migration decisions due to the security issues, losing control and privacy agreements [17], [18]. In addition, [61] emphasises on the difficulty in adopting related applications, concerns of security, weak understanding of the process and lack of knowledge of information security (IS) regarding agreements. Hence, investigation for the factors affecting the adoption of CC-SaaS from the general view of security, human, organisation and technology is needed. Therefore, this paper provided a holistic analysis for the determinants that affect CC-SaaS adoption from user perspectives which considered the combination of human, organization and technological factors for outline some specific attributes to guide decision for the adoption of CC-SaaS.

Furthermore, this paper is aimed to hypothesizes if there are influencial factors affecting the intention to adopt CC-SaaS in public organisation. The hypothesis can be determine from the preliminary stage of technological adoption from the level of IT expert in the field of cloud computing. Therefore, the investigation of the factors affecting the intention to adopt CC-SaaS in public organisation should be from the experts' perspective. The rest of the paper is organised into five (5) sections. Section I introduce the influence and benefit of CC, the adoption of CC with their model are presented in Section II. The detremient of CC-SaaS adoption are discussed in Section III and Section IV presented the methodology of the details procedures and processes for factor selections and experts' confirmation. After presentation and discussion on the expert confirmation result, Section V concloude the paper.

2. CLOUD COMPUTING ADOPTION

It was reported in the earlier studies that the adoption of cloud technology is used as a channel for delivery of innovation in public services [19], [20]. This adoption has improved performance in services rendered by governmental organisation significantly. Also, it creates a new paradigm in worldwide delivery of public services. World over, CC platforms and applications have begun to be applied by governments in the delivery of their services, the aim of which is to increase service quality, enhance efficiency and reduce costs [20], [21]. Several benefits can be derived from the adoption of cloud technologies in the delivery of public services, and these include management of security, dynamic scalability, distributed storage, green IT solutions and improved transparency and accountability [20], [22].

Many studies have undertaken the examination of the influential determinants for CC adoption in a variety of sectors, and this has been done through the application of different theories and models such as UTAUT, TAM, TRA, TOE and DOI depending on the perspective of the study which could either be organisation or individual. In the study of [23] investigation was conducted in the CC adoption among the Portuguese organisations in industrial and services sectors, was discovered that technological readiness, relative advantage, top management support, complexity and firm size were found with a significant direct effect on CC adoption. Lian et al. [24] conducted a study which also integrates TOE framework and HOT-Fit, found cost, complexity, security, top management's support and technical competence as the five most important determinants of CC technology adoption.

Moreover, Low et al. [15] also combined DOI and TOE framework in the examination of the adoption for CC among high-tech industries in

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Taiwan. The study found competitive pressure, relative advantage, top management support, the pressure of trading partner, advantage and firm size as variables that significantly impact on CC technologies' adoption. Through the adoption of the TOE framework as underpinning theory, Alshamaila et al. [25] reported the finding of semi-structured interviews conducted to 15 key decision-makers of various SMEs in the north-eastern part of the United Kingdom. The result from this qualitative study highlight that geo-restriction, market scope, industry, uncertainty, trial-ability, relative advantage, compatibility, innovativeness, external computing support, supplier efforts prior experience, firm size and top management support, as the key factors of CC based solutions adoption among SMEs. In Singapore also, Gupta et al. [26] reported five factors that affect CC usage by SMEs, including convenience, ease of use, cost reduction, privacy and security . In Spain, Trigueros-Preciado et al.[27] discovered the critical barriers hindering cloud adoption, the key finding was that CC knowledge is lacking among the organisation surveyed and such become the main obstacle to the adoption CC technologies at organisational level.

Furthermore, Mohammed [28] synthesised the major drivers and constraints of CC security from the perspectives of technology and society. Their synthesis highlighted that privacy, trust, and user behaviour are the key factors from the societal perspective that affects the security of CC. Their study further revealed factors such as data rights, encryption, reliability, scalability and transparency as the major issues that affect CC security from a technological perspective. In the context of e-government, an integrated model was developed by Lian [29] through the application of UTAUT2 as a theoretical base, and the study identified key significant factors influencing cloud-based e-invoicing service adoption in Taiwan. Seven factors were examined in the study, including original UTAUT2 factors; social influence, performance and effort expectancies, trust with perceived risk and security and facilitating conditions, as additional variables. Sabi et al. [30] also conducted a similar study in sub-Saharan Africa by investigating the determinants of CC adoption, diffusion and usage among educational institutions. The outcome of their research indicates that data security, perceived usefulness, demonstrability of results and socio-cultural factors as the most important determinants of propensity to recommend CC adoption by ICT experts and decision-makers in sub-Saharan African universities.

Furthermore, CC adoption in various areas may be subject to the influence of technological, organisational and environmental factors [31]. Several studies which combined number of models have been undertaken with the aim of providing a robust ic evaluation of factors determining of the adoption of CC in the areas of enterprise resource planning (ERP), large business, SMEs, healthcare, and other business [25], [32]–[35]. Studies were also conducted in education sector[6], [36]–[38]. However, these earlier studies were mostly targeted specifically to higher education, and they deployed TOE, UTAUT or TAM model as their theoretical bases.

3. DETERMINANTS OF SaaS ADOPTION

Notwithstanding the fact that several studies were documented in the literature which addressed the current trends in the development of cloud services, however, only a few studies were found to have a specific focus on CC-SaaS adoption [39]. Majority of the documented evidence within CC-SaaS literature emphasised on outsourcing [40], or Application Service Provider (ASP) [41]. Among the studies that focus on CC-SaaS, several theories and models within the IS field were deployed to estimate the significant or insignificant determinants of its adoption. Some of these theories and models include, for or example, PEST (political, economic, social and technological) analysis [42], the TRA [40], the TAM [39], the perceived e-readiness model [43], and the TOE framework [24], [25], [44]. However, it was recommended that other factors need to be considered in the CC-SaaS adoption, these factors relate not only to the organisation but also to its wider operating environment and those relating technological characteristics of CC-SaaS [15].

CC-SaaS adoption literature which identified economic benefits as the most influential factors driving the adoption CC-SaaS emerged from the work of Lee, Chae, and Cho [42]. In the same vein, organisations PEST analysis was also employed in some studies and also confirmed economic factors as the significant factors deriving the adoption of CC-SaaS. However, PEST analysis failed to give due cognisance to the organisation's internal environment [45].

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Moreover, no research model was developed in the study that developed PEST, it was only a discussion on factors relating to PEST. Consequently, other theories and models such as TAM, UTAUT and TPB were applied in reaching different conclusions regarding SaaS, however, these were mostly at individual level analysis with neglect of the firm-level analysis. Therefore, Wu [39] suggests that some organisational level decision advice regarding SaaS (1) that organisation need to consult experts in their SaaS adoption, (2) that the adoption of SaaS should focus on the need to improve organisational performance and effectiveness and (3) that priority should also be given to data backups and security.

In a study conducted by [39], TAM was extended through the integration of security and trust, the result from this model integration revealed that perceived usefulness, social influence, trust and security are the significant determinants of CC-SaaS use. The study of [39] focussed mainly on user (individual) acceptance of CC-SaaS. Differently, through the integration of three theories; the transaction cost theory (TCT), the resource-based view (RBV), and TBP. Benlian, Hess, and Buxmann [46] investigate the drivers for the adoption of CC-SaaS in Germany. Social influence was found to be one of the key influential factors that affect the adoption of CC-SaaS.

Nevertheless, the weakness of this study was its inability to consider other important stages of diffusion of technology. In another research conducted through a case study, Wu [47] explored the influence of risks and benefits perceptions on the adoption of CC-SaaS via Decision Making Trial and Evaluation Laboratory (DEMATEL) approach. The outcome of this research suggested that the strategic interests of CC-SaaS adoption outweigh its associated risks. Nevertheless, the study did not explore the important factors relating to technology, organisation, and environment that can affect the adoption of CC-SaaS.

The adoption of CC-SaaS and ranking the determinants was conducted by Safari [16] to provide an insight about SaaS adoption in IT enterprises. The study developed a model using DOI and TOE for the determination of the influencing factors for CC-SaaS adoption. In addition, Erisman [48] used DOI and TOE to study the factors influencing CC-SaaS adoption midst of SME manufacturing industry, also a study by Mangula [49] was also conducted to discover the influence of technological, organisational, and environmental factors for CC-SaaS adoption in Indonesian companies. The factors of CC adoption are assessed for industrial and services sectors using DOI and TOE with only technological readiness as a factor [23]. Moreover, the study for the online business is conducted for SaaS adoption in Sri Lanka [50]. The study targeted managerial and ICT professionals that have technical know-how about SaaS adoption. However, in all these studies, there is no specific human factor that is considered for the adoption of SaaS. Consequently, it was suggested that a study of SaaS adoption could be very interesting if it is undertaken from the perspectives of specific attributes [16] such as human and organisation, investigating such factors are of great importance for SaaS adoption.

Furthermore, existing literature revealed organisation could experience many obstacles and difficulties in the adoption or even when intended to adopt CC-SaaS, especially regarding the information security and privacy against non-authorized access [31], [50]. Besides, the absence technical knowledge about any capabilities in terms of privacy from the side of CC-SaaS providers [51], lack of understanding between CC providers and the organisation for service scope and implementation level [52] and technical barriers [53] can affect SaaS-CC adoption. Therefore, many researchers are making efforts to address the problems through the investigation of what is required especially in companies and SME from different sectors to enable the adoption of CC-SaaS. An integrated theoretical CC-SaaS adoption by three Malaysian SMEs as the case study was presented in [31]. Also, the organisational factors that influenced a decision to adopt CC-SaaS for Indonesian companies were also examined [54].

Moreover, Bhuiyan et al. [18] explore the determinants of CC adoption for SMEs from security objectives. Kim et al.,[55] analysed the factors affecting the intention to adopt CC-SaaS based on the risk and benefit from the users perspective. The factors affecting the intention of small companies in Korea to adopt CC-SaaS are investigated with the mediation of perceived risks and benefit. In addition, the opportunities and

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risks for CC-SaaS adoption was studied among German companies [40]. However, despite the relevance of these studies in the investigation the influential determinants for CC-SaaS intention to adopt, the researchers have not been testing the moderating effects for the significant factors. Mohtaramzadeh et al., [56] stated that there is a need for understanding the moderating effects in the IT adoption research. In addition, the understanding of how the influence of moderators may be affecting the direct relationship between the determinants and the intention to adopt CC-SaaS is not less important [52], [56].

Managers and head of IT are targeted for the investigation of CC-SaaS adoption in an organisation [52]. The author used technological, organisation and environmental factors through the moderating effect of environmental context. Tomas, Thomas and Oliveira [57] evaluated the impact of virtualisation characteristics on CC-SaaS adoption by using intention to adopt CC-SaaS as mediator. Martins et al., [58] analysed the factor that drives the CC-SaaS continuance intention and usage by making SaaS Use as mediator. Further, post-adoption intention for a hospitality information system based on CC-SaaS is studied in Taiwan healthcare, with relational and cognitive capital as a mediator [51]. Tan and Kim, 2015 [59] inspected the influential factors that affect user acceptance of CC-SaaS and its collaboration tools for the confirmation of the CC-SaaS perceived usefulness by using user satisfaction as mediator. Same as Palos-Sanchez et al., [53] the perceived usefulness, perceived ease of use and attitude toward using SaaS mediate the relationship between the behavioural intention to use CC-SaaS and the factors for technological acceptance. However, these studies have not considered the security concern and the difficulty for an organisation to adopt CC-SaaS. The concerns of organisations in cloud migration decisions relating server, service and data are mainly about the security, losing control and privacy agreements [17], [18]. Organisations also face other challenges in moving some of their systems into the cloud, and these include the difficulty in adopting related applications, concerns of security, weak understanding of the process and lack of knowledge of information security (IS) regarding agreements [18], [60].

Further, Benlian and Hess [40] analysed opportunities and risks related to the increased level of CC-SaaS adoption. Security threats and cost advantages were identified as key determinants of CC-SaaS adoption in their study, while the research considers some technological factors it failed to capture possible environmental factors. In addressing this weakness, Kung et al. [61] investigated the effect of environmental factors on SaaS intention to adopt. While Yang, Sun, Zhang, and Wang [62] expand such investigation by proposing tripod readiness model which incorporate technology, organisation, and environmental factors relating organisational CC-SaaS readiness. Therefore, it can be deduced from the previous review that there are identifiable limitations associated with the above theoretical models in relation to the CC adoption scenario, such that available studies do not point out the significant variables and constructs affecting CC adoption under a given context or approach in an explicit manner.

While CC-SaaS has the potential of providing significant opportunities to organisations through improvement in their IT at reduced cost and fewer management concerns [16]. However, the adoption of CC-SaaS is still very challenging to organisations, more especially in such instances where no specific attributes to guide user decisions on the movement into CC-SaaS. Moreover, none of the studies reviewed above has provided a holistic analysis for the determinants that affect CC-SaaS adoption from user perspectives, and it is also clear that the insights provided by earlier studies with regards to CC-SaaS adoption are only small isolated explanations. Therefore, the investigation into the factors affecting CC-SaaS adoption could be of great significance. The fact is that organisations are doubting on factors with high priority that are critical for consideration in their decisions towards the movement into CC-SaaS [16]. This implied the need for further investigation into those factors that could significantly influence the adoption of CC-SaaS, which in turn can assist organisations to gain important benefits from this type of technology.

4. METHODOLOGY

4.1 Factors Selection

Thus, in this study the selection of factors influencing the intention to adopt CC-SaaS on the organisational level are extracted based on

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Wymer and Regan [63] criteria. In the first step of the criteria, the factors are identified and listed according to their respective studies. The total of sixty-three (63) aggregated factors are found in the literature as shown in Table 1are extracted from ninety-two (92) published articles in journals and conferences. In the second step, the factors are filtered, consolidated and then eliminated those factors that are identified as the same, but rather a different terminology was used in naming them. Later, the set of combined factors are identified and recorded with their references based on the respective dimensions. At the end of these processes, eighteen (18) factors which are selected based on their high frequency are deducted and recorded from the literature, and these factors are found relevant to the research problem. The selection of these factors based on high frequency is in line with a number of studies [63]–[68]. The selected factors are shown in Table 1.

4.2 Factors Confirmation

The factors that influence CC-SaaS intention to adopt are selected based on their high frequency of occurrence in the literature, according to Wymer and Regan [63]. The factors are used for the experts evaluation. Further, the selected factors are given to the expert for the confirmation of their relevancy with the proposed CC-SaaS intention to adopt the model. The experts are selected based on the criteria for expert selection by Sarif et al.,[69], [70] and Norfiza [71]. The expert must be in the related field which their relevancies are ensured and inlined with the identified research problems and objectives. Their expertise is assured by fulfilling the criteria set in [69]–[71] as follows:

1- Having a PhD in Computer Science (CS), Information Systems (IS) or related areas or/and
2- Having at least five (5) years University teaching background in CS or IS, and
3- Have been researching/studying in CS or IS.

Table: Selected Factors

S/N	Factors	Freq	%
1	Relative Advantages	35	13%
2	Compatibility	31	12%
3	Top Management Support	31	12%
4	Complexity	30	11%
5	Security	19	7%
6	Competitive Pressure	19	7%
7	Technology Readiness	16	6%
8	Government Regulations	16	6%
9	Organization Size	10	4%
10	Trust	8	3%
11	Privacy	8	3%
12	Organization Readiness	6	2%
13	External Support	6	2%
14	Trading partner	6	2%
15	IT Personnel Innovativeness	6	2%
16	IT Personnel Knowledge	5	2%
17	Compliance with Regulation	5	2%
18	IT Experiences	4	2%
Total		261	100%

In general, the factors are grouped into four classes technological, organisational, environmental and human factors as presented in Table 2. The group of factors with higher frequency are from technological dimension, covered at least 70% of the reviewed factors from the literature. In addition, the organisational factors that have a higher frequency and covered 72% of the dimensions are selected, that is top management support, technological readiness and organisational readiness. Further, the environmental factors with higher frequency are competitive pressure, government support, external support and compliance with the regulation. These factors have the highest frequency, covered more than 75% of the dimension. Finally, the selected factors for the human dimension are presented are IT personnel innovativeness, IT knowledge and IT experience. The factors have the highest frequency and covered more than 75% of the dimension. Therefore, the factors with low frequency were excluded as they did not satisfy the selection criteria. Hence factors selected are used for the experts evaluation and confirmation.

Table 2: Grouping of the Selected Factors

DIMENSIONS	FACTORS
Technological Dimension	Relative Advantage
	Compatibility

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	Complexity
	Security
	Privacy
Organizational Dimension	Technology Readiness
	Top Management Support
	Organization Readiness
	Government Regulation
Environmental Dimension	Competitive Pressure
	External Support
	Compliance with Regulation
Human Dimension	IT Knowledge
	IT Personnel Innovativeness
	IT Experience
Trust Dimension	Ability
	Integrity
	Benevolence

As depicted in Table 4, the results of five expert validators that confirmed the selected factors. The main aim of this study is to identify the factors that influence the intention to adopt cloud computing based software as a service for a public organization from the experts' perspectives. The factors match with the certain group of factors such as technological, environmental, organizational and human factors as in Table 3. As shown in Appendix A is the form that accessed by the experts presented the factors that influence the intention to adopt cloud computing software-as-a-service. The factors are described with their operational definition and accompany with 1 to 3 rating scale. The expert selected the factors based on the following descriptions of the scale: 1 = Not Confirm; 2 = Undecided; 3 = Confirm.

The totals of eighteen factors are rated according to 1 to 3 rating scale described above by five experts. Seven factors Compatibility, Security, Privacy, Technological Readiness, Organization Readiness, IT personnel Innovativeness and Ability are 100% confirmed by the experts as the factors that influence the adoption of CC. In addition, the six factors Relative advantage, External Support, Compliance with Regulation, IT Knowledge, Integrity and Benevolence are confirmed by 80% from the experts. Further, three factors Complexity, Top Management Support and It Experience have the median percentage which is 60%. However, two factors are considered not relevant or not an important factor that can influence the adoption of CC-SaaS in public organization as they are rated very low, which is 20% level of confirmation from the experts. Therefore, the two factors with low level Government Regulation and Competitive Pressure are consider outliers for the development of a theoretical model that will be used for empirical studies.

Table 3: Experts' Confirmation Results

S/N	FACTORS	EXPERT'S DECISION			STATISTICS	
		NC	U	C	Mean	%
1	Relative Advantage	0	1	4	0.8	80%
2	Compatibility	0	0	5	1	100%
3	Complexity	1	1	3	0.6	60%
4	Security	0	0	5	1	100%
5	Privacy	0	0	5	1	100%
6	Technology Readiness	0	0	5	1	100%
7	Top Management Support	1	1	3	0.6	60%
8	Organization Readiness	0	0	5	1	100%
9	Government Regulation	3	1	1	0.2	20%
10	Competitive Pressure	2	2	1	0.2	20%
11	External Support	0	1	4	0.8	80%
12	Compliance with Regulation	0	1	4	0.8	80%
13	IT Knowledge	0	1	4	0.8	80%
14	IT Personnel Innovativeness	0	0	5	1	100%
15	IT Experience	1	1	3	0.6	60%
16	Ability	0	0	5	1	100%
17	Integrity	0	1	4	0.8	80%
18	Benevolence	1	0	4	0.8	80%

Figure 1 illustrates the result for experts' confirmation which is explained in Table 3. The figure analyzed the confirmation based on percentage, level of confirmation against the factors. We can observe that seven factors are at the highest level (level 5) reaching 100%, six factors at level 4 reaching 80% and three factors at level 3 reaching 60%. Finally, only two factors remained at level 2 with only 20% level of confirmation from the experts.

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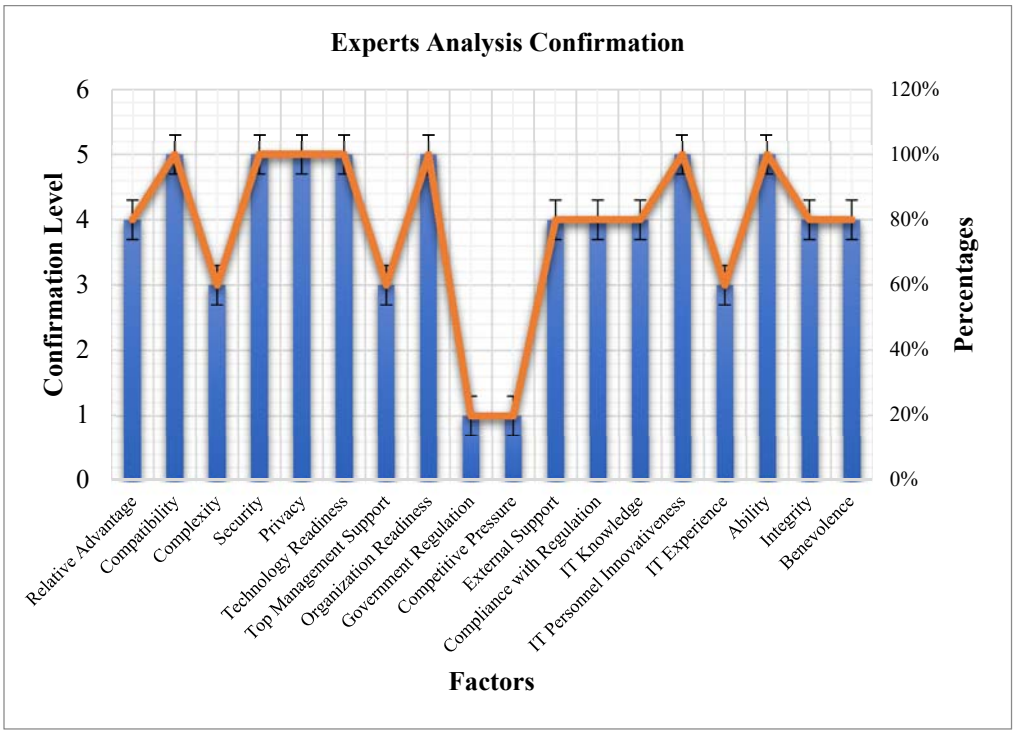

Figure 1: Factors Confirmation Chart

5. FUTURE WORK

This research will be extended in the future by testing the content validity, which will be also conducted by selecting number of experts from the domain to determine the validity of the constructs in order to measure what it designed for. Later on, the data will be collected from Iraqi organizations by using the refined questionnaire after tasting the reliability. Then data analysis will be performed by using the structural equation modelling technique to investigate the most critical factors that impacts the adoption of CC-SaaS among Iraqi organizations.

6. CONCLUSION

In developing countries, the studies focus on the investigation into the intention to adopt and the adoption of CC in public sector, healthcare, higher education and SMEs. In these studies, different theories were applied to examine the influence of technological, environmental, organizational factors to address the challenges of CC. Therefore, in this paper, the factors that influence CC-SaaS intention to adopt are selected based on their high frequency of occurrence in the literature. In addition, the selected factors are given to the expert for the confirmation of their relevancy. The experts are selected based on the criteria for expert, which they must be in the related field which their relevancies are ensured and in lined with the identified research problems and objectives. The result of expert's confirmation is presented which will be a guide to use the factors for the proposal of theoretical IS model, that can guide the decision makers for the adoption of CC-SaaS. However, some particular issues that hinder the adoption of CC need to be investigated, especially in the country that its government faces financial issues as a result of corruption, insecurity, violence and risks, which affect its organizational development. Moreover, there are also other critical issues such as poor resource management, IT infrastructure instability, IT resource and services that were not considered. Additionally, factors such as services and applications, government support and external support are also not considered. Hence, these issues and challenges that are unique each country need to be considered and investigated for the identification of the significant factors that may influence the intention to adopt CC in the country.

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APPENDIX A:

EXPERT CONFIRMATION OF FACTORS

Section A: Expert's Details

Please provide answers to the following as appropriate.

1	Name:
2	Position:
3	Organization:
4	Profession:
5	Years of Experience:
8	Do you have any experience in using Cloud Computing? (a) Yes (b) No
9	If above is 'Yes' what kind of cloud computing services do you used?

Section B: Factors influencing the intention to adopt cloud computing Software-as-a-Service

The following are the factors that influence the intention to adopt cloud computing software-as-a-service. The factors are described with their operational definition for this study and accompany with 1 to 3 rating scale. The expert can select the factors based on the following descriptions of the scale:

1 = Not Confirm; 2 = Undecided; 3 = Confirm.

Please circle the rate as indicated.

	Factor	Operational Definition	Rate		
Technological Factors					
1	Relative Advantage	Refers to degree at which CC-SaaS technology is perceived as being better than other computing paradigms.	1	2	3
2	Compatibility	Refers to extend which the CC-SaaS technology is perceived as consistent with the existing infrastructures, skills, and needs of an organization.	1	2	3
3	Complexity	Refers to the degree which CC-SaaS technology is perceived as relatively difficult to understand and use.	1	2	3
4	Security	Refers to the extent of security measures in place to prevent unauthorized access or modification to information in storage, processing, or transit for CC-SaaS technology usage.	1	2	3
5	Privacy	Refers to confidentiality of data and information provided by CC-SaaS technology, where only authorised person can access it.	1	2	3
Organisational Factors					
6	Top management support	Refers to the provision of resource management, goal specifying and commitment of decision makers that influence the intention to adopt CC-SaaS technology.	1	2	3

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7	Technology Readiness	Refers to the degree of IT human resources and IT infrastructures readiness that influence the organization decision for the intention to adopt CC-SaaS technology.	1	2	3
8	Organization Readiness	Refers to the determination of technological readiness and financial resources for the intention to adopt CC-SaaS technology.	1	2	3
9	Government Regulation	Refers to the regulation, policies and initiatives support given by the authority for the intention to adopt CC-SaaS technology.	1	2	3
Environmental Factors					
10	Competitive Pressure	Refers to the degree of pressure that an organisation faces from citizens for service delivery.	1	2	3
11	External Support	Refers to the supports from SaaS providers, training partners or relative associations to influence the organizational intention to adopt CC-SaaS.	1	2	3
12	Compliance with Regulation	Refers to the concerns for the fact that there are no governmental rules or regulations that can support an organization which intend to adopt CC-SaaS when data is breach.	1	2	3
Human Factors					
13	IT Knowledge	Refers to the ability and technical skills of IT managers to foresee and leverage CC-SaaS towards the organizational goal.	1	2	3
14	IT Personnel Innovativeness	Refers to an individual's curiosity to try CC- SaaS and apply IT in novel ways to support organizational services.	1	2	3
15	IT Experience	Refers to the extent of a user's experience with previous technologies or similar CC-SaaS technologies.	1	2	3
Trust Factors					
16	Ability	Refers to the belief that CC-SaaS providers have knowledge and technical skill that enables organization to have an influence of the CC-SaaS performance.	1	2	3
17	Integrity	Refers to the belief that CC-SaaS providers are honest and keep promises and can do what is right.	1	2	3
18	Benevolence	Refers to the belief that CC-SaaS providers' motives, intentions and concerned about the interests of an organization.	1	2	3

Section C: Comments and Advices

1- Please, use this space to write any comments you wish to make.

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