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Supply Chain Professionals' Intention to use Cloud Supply Chain

Samsudeen Sabraz Nawaz
Department of MIT
Faculty of Management and Commerce
South Eastern University of Sri Lanka
sabraz@seu.ac.lk

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Abstract
In order to enable the exchange of cloud computing services and data transmission among members of supply chain it is important to determine the processes that impact cloud computing service applications in supply chain management systems. The theoretical framework of this study was developed based on the Elaboration Likelihood Model (ELM) and incorporating Argument Advantage and Source Credibility constructs and studied the association among Trust, Attitude, Perceived Usefulness and intention to use. A quantitative method using questionnaire survey was employed. Data were collected using online channels and the proposed model was evaluated by Partial Least Square Structural Equation Modelling using SmartPLS 3 software. The findings revealed that perceived usefulness is influenced by central and peripheral routes of the ELM and perceived usefulness, attitude and trust influence intention to use cloud supply chain system.

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1. Introduction

Despite their novelty, cloud computing services are gaining the attention of more and more companies due to their IT innovativeness, accessibility, and cost-effective approach [1].The efficacy of a supply chain management (SCM) is often driven by the factor of flexibility. Flexibility and efficiency in companies have been proven to be enhanced by the use of cloud-based services.

Cloud-based systems can quickly and efficiently identify and apply external technical solutions to improve operational productivity. Based on the previous applications of cloud computing in various supply chain contexts, it has been demonstrated to be able to supply cost-effective yet flexible quality on-demand services [2]. Firms that aim to operate and lead in a competitive global supply chain marketplacemust have in place highly advanced technologies, systems and processes such as those offered by cloud computing technologies that enable supply chain firms to drive business process transformations [3]. Based on the technology acceptance model (TAM) and innovation diffusion theory, technology adoption is often motivated by the users' *perceived usefulness* and *perceived ease of use*[4]. *Perceived usefulness*is the perception that a certain technology benefits the users' work performance thus driving them to adopt its use in the workplace. To be able to recognize the actual benefits of a technology, in this case the cloud-based SCM system, the users must first develop a perception of its usefulness.This is a valuable awareness to have for supply chain managers that could help them drive the company-wide adoption of the new system.

Additionally, cloud-based SCM requires efficient and flexible information sharing amongst the

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supply chain players. In this context, a reliable cloud environment must be established of which responsibility falls on the cloud service provider [5]. With the constant exchange of critical data, the reliability of the cloud-based system is highly crucial [6]. Theservice providers must guarantee that great levels of security, stability, and reputation are in check. The behavioral intentionof users is highly influenced by the level of trustworthiness demonstrated by the service provider [7]. Hence, users' adoption of a cloud-based SCM is largely dependent on their perception of the system's quality, credibility, usefulness, attitude and reliability.

The effect of the advantages/disadvantages of cloud computing and organizational culture, the information systems' compatibility and the applications' functionality on users' intention to adopt the system has also been explored [3]. However, the relationship between external information processes andusers' perceived usefulness and attitudes towards cloud-basedSCM as well as the relationship between perceived usefulness, attitudes, and trust withusers' intention to use cloud-based SCM has not been well studied. Hence, this current study intends to explore these relationships by integrating the elaboration likelihood model (ELM) and the commitment trust theory (CTT) thus proposing a new approach. Other than the constructs of perceived usefulness and trust, this study also focuses on othermediating factors linked to attitude and usage intention in exploring the influencing factors of users' intention to adopt cloud computing services.

2. Theoretical framework

2.1 Elaboration likelihood model

ELM is derived from the theory of persuasion [8] entailing a dual-process of the central route i.e. the vigilant and systematic explanation of the main qualities of a message'sarguments, and the peripheral route i.e. the simple explanation and cognitive resource shortcuts and links based on minor cues. Similar to TAM, the external variables may influence perceptions of usefulness and attitude. However, unlike TAM, other influencing factors on acceptance are dismissed. Argument quality and source credibility have been identified as the basis for IT adoption that is driven by perceived usefulness and attitude.

Numerous ELM studies have explored individual information processing in domains such as psychology, marketing, IT and e-commerce [9]. Zheng et al.[10]used the theory of persuasion to explore the factors that determine a project's success. Bhattacherjee and Sanford [11]extended the TAM by incorporating the ELM's central (argument quality) and peripheral (source credibility)routes in determining the effects of user motivation onperceived usefulness and IT acceptance. The model suggests that the central route is often taken by users with greater motivation and elaboration ability while the peripheral route is usually taken by users with lesser motivation and ability. Sussman and Siegal [12] proposed an ELM-based adoption model to determine the effect of argument quality and source quality on perceived usefulness in the context of user adoption of computer-based information.

Following that, the effects of ELM argument quality and source credibility on the perceived usefulness of cloud-based SCM are studied. The use of cloud technologycould foster a cooperative, intellectual and dispersed environment [13]. Similarly, instant and efficient information sharing can foster knowledge acquisition thus enhancing perceived usefulness.

2.2 Trust and key mediating variables model

The key mediating variables (KMV) model was proposed by [14]to prove the importance of mutual commitment and trust in ensuring an effective relational exchange between the cloud participants. This model could develop an array of new cooperative relations and business activities. CTT and behavioralintentions are positively linked [15] whilst trustworthinesssignificantly determines customer commitment.

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Apart from human relationships, trustworthiness also entails humans to computerized systemsrelationship. Pearson and Benameur[16]lists three concepts of trust related to cloud computing: 1) the users' *persistent trust* on the established main properties or infrastructures, 2) the users' *dynamic trust* that is changeable based on situations or variables, and 3) the users' *persistent social-based trust*on a certain software which is linked to technological-based trust. This is valuable knowledge for determining the social and technological manners in which persistent and dynamic trust can be established.

Internet-based cloud computing provides an abundance of virtual resources. The effective, flexible and productive sharing of business information can be carried out using cloud-based SCM. Trustworthiness in terms of the system's security, stability and reputation can encourage its adoption. The information exchanged among the supply chain parties need to be protected by superior security standards. The system's self-protection from failures and viruses is an indication of its overall stability. A good system reputation is instrumental in influencing its adoption[6].

Therefore, social and technological mechanisms need to be integrated to establish dynamic and persistent trust. In the context of this study, persistent trust refers to the users' continuous trust on the cloud computing service supported by dynamic trust that would enable the researchers to determine the influencing factors for user trust and link it with the users' intention to use the system. Certain trust cues entrenched in a message could prompt usage intention. Therefore, this study treats trust as a crucial component in the KMV model.

3. Research model and Hypothesis Development

ELM and CTThave been used in the fields of advertising, marketing, social psychology, IT and e-commerce [9]. Numerous prior studies on the impact of information have been used as the base for the current study's research model. It has been generally assured that SCM users have had positive cloud computing experiences; therefore, the current research approach is viewed with high optimism. A holistic approach is offered by the research model in exploring the correlation between argument advantage and source credibility with perceived usefulness and attitude, and subsequently the correlation between perceived usefulness and trust withattitude andusage intention. The research model integrates the technical and relational views of the ELM and CTT [17] that allows for the employment of the six constructs for the purposes of hypothesis development.

3.1 Argument Advantage and Source Credibility

In this current study, the application of the ELM begins by determining how perceived usefulness is influenced by argument advantage and source credibility. Perceived usefulnessentails the user's perception of the usefulness of adopting a certain technology[11] and it is significantly influenced bysystem quality and information credibility. Therefore, past studies on argument quality had mainly focused on the correlation between system benefits and perceived usefulness [11].

The Internethas enabled rapid information sharing and attainment at lower costs. Similarly, cloud computing allows for more efficient and effective business processes. In the context of supply chain, cloud computing allows for the flexibility to adapt products or services to suit customer needs. The qualities of being cost effective, highly accessible and efficient in improving services could lead to users perceiving cloud-based technology as highly beneficial for increased productivity, performance and efficacy, all of which are strategic factors in supply chain which relies heavily on IT capabilities.

It has been reiterated that greater flexibility and improved productivity are the strongholds of cloud computing technology. In this current study, the argument advantage of the central route

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illustrates the benefits of cloud-based technology which drive users to form positive perceived usefulness of cloud SCM. Meanwhile, a professional third-party sourcemeasures information credibility which peripherally prompts trust. Peripheral cues often influence user attitude through human stimuli when perceived usefulness is formed via reliable sources. Past researches have employed various source factors including persuasive information, commercial information, supplier-derivedinformation and expert references [11]that specify the ability of peripheral cues in the ELM toformfavorable perceptions. Users can also employ personal thinking derived from external references and expertise as well as lesser effort in the peripheral route decision process regarding the usefulness of cloudSCM.

Information content and source credibility can also form perceptions and attitudes whereby measurements are on elements such as trustworthiness, expertise and appeal [18]. Cloud-based SCM services that are perceived to have significant argument advantage and source credibility can lead to the formation of high perceived usefulness of the service.

3.2 Perceived Usefulness, Trust and Attitude trust from the ELM and KMV

Perceived usefulness is the belief that positive outcomes can be derived from using a service. It is deemed to be crucial in persuadinguser attitudes to adopt certain systems[19]. With the mediation of attitude, perceived usefulness is suggested to indirectly affect user intention. With the perception that cloud computing can improve task performance, positive attitudes to adopt the system can hence be formed[20].

In the ELM, the central and peripheral routes are applied in which the user processes persuasive communication associated with perceived usefulness and attitude[11]. Trust is critical in business relations especially those that depend on the users' behaviour[21]and attitudes towardsnewly-developedtechnologies[22].Based on the KMV model, trust and commitment are developed when the mutual relationship yields positive results. Marketing professionals suggest that positive attitudes lead to positive behaviours[23]. In the context of online services, trustcan be established by improving security standards, amongst others. Reputation as well as security standards and systemcapabilities are the main assets of online service providers in developing users' trust and thus influencing their intention to adopt the system [7].

The collective and empirical factorsin establishing trust as discussed above are imperative in delving into the thinking and requirements of the customers and suppliers .As indicated in the KMV model,behavioral intentionprecedes trust and attitude. Therefore, improving perceived usefulness can result in improved trust and attitude towards service systemadoption. In turn, trust could be the mediating variable in ELM for the acceptance of cloud SCM.

3.3 Perceived usefulness, Attitude and Intention in the ELM

Perceived usefulness and usage intention are strongly correlated whereby the former influences the user's perception of a technology's usefulness in terms of productivity and performance [21]. A high perceived usefulness could lead to service adoption due to the former's significant effect on behavioral intention. When positive outcomes are expected from the adoption of a certain technology, positive attitudes towards usage intention may also be formed[24]. This is the relationship being examined in this current study based on the hypothesis that the perceivedusefulness of cloud-based SCM is high among potential users because they believe the system could improve their productivity and performance.

3.4 Trust in cloud SCM service and Usage Intention

Long-term business relationships require trust and commitment.Commitment is thecontinuous wish

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to retain a reciprocally beneficial relationship based on trust [25]. Trust is the belief that a system and its services are reliable and dependable [26]. In an online context, trust entails the relationship between the user and a website[27]. Trust is also highly crucial when it comes to the security of a cloud computing system [28]. The security, dependability, credibility and stability of the system drive usage intention [7]. Considering that trust is essential in determining user intention, this current study incorporates it as an ELM characteristic thus marking the distinction of this inquiry from other studies on cloud SCM.

Based on the above discussion, the following hypotheses were proposed and the model shown in Figure 1 was derived.

H1. The argument advantage has a positive effect on potential users' perceived usefulness.

H2. Source credibility has a positive effect on potential users' perceived usefulness.

H3. Source credibility has a positive effect on potential users' trust.

H4. Perceived usefulness has a positive effect on attitude.

H5. Perceived usefulness has a positive effect on trust.

H6. Trust has a positive effect on attitude.

H7. Perceived usefulness has a positive effect on usage intention.

H8. Attitude has a positive effect on usage intention.

H9. Trust in a cloud SCM service has a positive effect on usage intention.

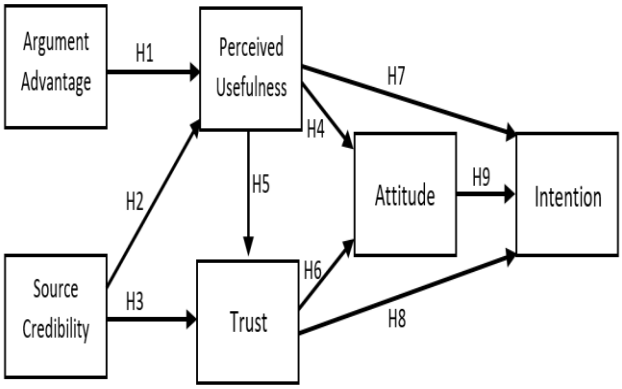

Figure 1: Research Model

4. Research methodology

This study employed questionnaire based quantitative approach. Instrument was developed based on prior studies. The definitions and items of the constructsunderwent slight modifications than their initial forms as derived in prior studies to ensure compatibility with the context of the cloud SCM. The questionnaire utilized in this study entailed two sections. The firstsection gathers the respondents' demographic data such ascategory of industry, designation and level of education and the second section constitutes the measurement of the constructs using a seven-point Likert scale i.e. from 1 denoting 'Strongly Disagree' to 7 denoting 'Strongly Agree'.

The targeted study sample constitutes supply chain professionals who are in constant contact with customers, suppliers or competing firms. Respondent were chosen conveniently based on personal contacts with industry people and their professional networks since I did not have any population framework. Online questionnaire was sent via WhatsApp groups, Facebook messenger and emails. Follow up calls were made and SMSs were to remind the respondents. After ten weeks, the researcher managed to retrieve 498 responses. However, 39 had to be rejected due to incompletion. Hence, the final count of usable survey forms was 459 that were considered for further analysis.

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5. Data analysis and hypothesis testing

5.1 Reliability tests:

The research model as well as the constructs' internal consistency and discriminant validity were tested using the Partial Least Square Structural Equation Modeling (PLS-SEM). SmartPLS 3 was employed to assess the measurement and structural model.

Firstly, the Fornell and Larcker[29] criteria were used to assess the convergent validity. Table 1 shows thatconvergent validity was assured as all the factor loadings had statistically exceeded the minimum threshold of 0.60 [30]. Secondly, as can be seen in Table 2, each construct had also recorded anAverage Variance Extracted(AVE) of more than 0.50, indicating that more variance in the underlying construct had been captured by the hypothesized items than bythe measurement error. Thirdly, good reliability had been achieved as the Composite Reliability (CR) for the latent variables had exceeded the recommended value of 0.70 [29]. As a whole, convergent validity had been achieved in this study as the empirical data had fulfilled all the three required criteria. As can be seen from Table 3, the discriminant validity of this study was also supported as the largest correlation i.e. 0.609 (Intention and Trust) was lower than the smallest square root of AVE 0.795 (Attitude).

Table 1: Factor Loadings

	AA	Attitude	Intention	PU	SC	Trust
AA2	0.772					
AA3	0.841					
AA4	0.85					
AA5	0.876					
AA6	0.844					
ATT1		0.742				
ATT2		0.863				
ATT3		0.771				
ATT4		0.799				
INT1			0.784			
INT2			0.831			
INT3			0.858			
INT4			0.758			
PU1				0.815		
PU2				0.851		
PU4				0.832		
PU5				0.804		
SC1					0.811	
SC2					0.852	
SC3					0.884	
SC4					0.803	
TR1						0.876
TR2						0.889
TR3						0.771
TR4						0.811

Note: AA - Argument Advantage, PU - Perceived Usefulness, SC - Source Credibility

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Table 2: Reliability and Validity Measures

Construct	Cronbach's Alpha	rho_A	CR	AVE
AA	0.893	0.896	0.921	0.701
Attitude	0.806	0.815	0.873	0.632
Intention	0.823	0.827	0.883	0.654
PU	0.845	0.849	0.895	0.682
SC	0.858	0.861	0.904	0.702
Trust	0.858	0.867	0.904	0.702

Note: AA - Argument Advantage, PU - Perceived Usefulness, SC - Source Credibility, CR - Composite Reliability, AVE – Average Variance Extracted

Table 3: Fornell and Larcker Criteria

	AA	Attitude	Intention	PU	SC	Trust
AA	**0.837**					
Attitude	0.556	**0.795**				
Intention	0.573	0.607	**0.809**			
PU	0.525	0.607	0.573	**0.826**		
SC	0.486	0.511	0.52	0.562	**0.838**	
Trust	0.555	0.592	0.609	0.553	0.476	**0.838**

Note: AA - Argument Advantage, PU - Perceived Usefulness, SC - Source Credibility

Table 4: Hypotheses Testing

Relationships	Beta	STDEV	T Statistics	P Values
AA -> PU	0.329	0.056	5.840	0.000
Attitude -> Intention	0.281	0.042	6.764	0.000
PU -> Attitude	0.403	0.049	8.182	0.000
PU -> Intention	0.226	0.047	4.813	0.000
PU -> Trust	0.418	0.055	7.583	0.000
SC -> PU	0.402	0.068	5.894	0.000
SC -> Trust	0.242	0.055	4.373	0.000
Trust -> Attitude	0.369	0.045	8.138	0.000
Trust -> Intention	0.317	0.051	6.210	0.000

Note: AA - Argument Advantage, PU - Perceived Usefulness, SC - Source Credibility

5.2 Structural model result:

The assessment of the structural model showed that the path coefficients of the proposed relationships had good values. To confirm the statistical significance, Bootstrapping procedure was executed. According to [31], for a two-tailed test with 5 percent probability error, the t-value of 1.96 is considered as significant. Table 4 shows the results of the structural model analysis with path coefficients and significance level.

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Figure 2shows the path analysis results which reveal that cloud computing service advantages and source credibility are precursors to usage intention. Perceived usefulness and attitude influence perceptions of cloud SCM services, whilst perceived usefulness and trust influence attitude towards cloud SCM services. The results also indicate thatthe advantages of cloud computing services influence the perceived usefulness of the provider in line with the findings of Marston et al.[1].As expected, usage intention was significantly and positively impacted by trust and attitude in this research model. Based on the path analysis results, argument advantage and source credibility explained more than 73 percent (33% plus 40%) of the effectiveness of perceived usefulness on attitude and intention, whilst source credibility explained 24 percent of the effect on trust. Trust explained 37 percent of the effect on attitude. Finally, Perceived Usefulness, Attitude and Trust together explain 49 percent of the variance in intention.

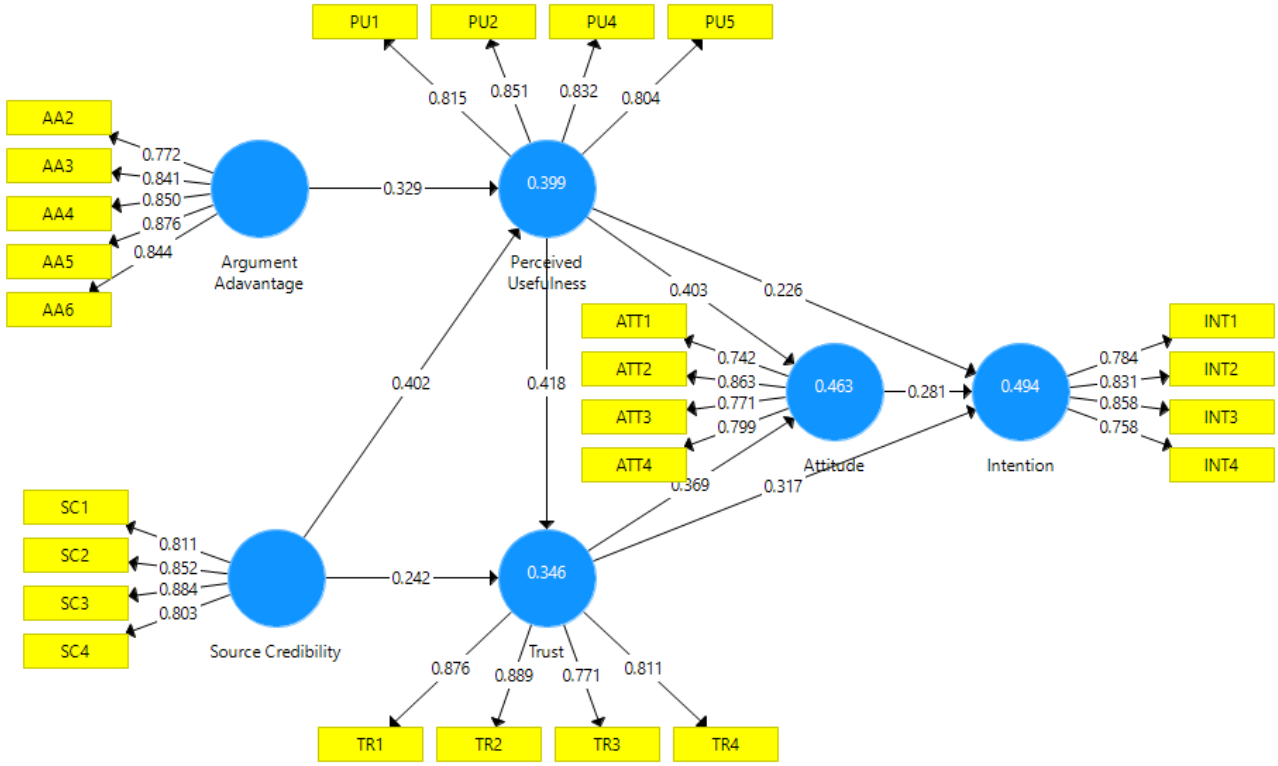

Figure 2: Path Analysis

6. Conclusion

The integration of the ELM and CTT perspectivesin thisstudy's proposed model is important in exploring the correlations related to cloud SCM usage intention. Perceived usefulness was found to be significantly influenced by argument advantage and source credibility in line with the findings of [11] and [12]. Argument advantage has a stronger influence on perceived usefulness than do source credibility, indicating that users put more weight on cloud SCM service advantages. Perceived usefulness and attitude are distinctly derived from argument advantage and source credibility, which in turn influence commitment and cooperation between partners when there is alignment in their needs. The perception of a secure, stable, and trustworthy relationship is also crucial for the partners[11].

Cloud SCM service providers are suggested to enhance service advantages such as by designing a system that is more compatible to the users' needs so as to enhance the perceived usefulness of cloud SCM thus leading to enhanced usage intention. Improved credibility can also lead to increased perceived usefulness. Other efforts to enhance leverage include the provision of useful

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information and comparisons of professional and trustworthy websites. Cloud SCM service providers must also take cognizance of the closecorrelation between usage intention and perceived usefulness and attitudes which enhance job productivityas well as firm performance and effectiveness. Firms should have in place immediate access and enhanced services to fulfill the requirements of clients and users, allowing them to assess the significance of service system advantages and individual usage intention. A front-end system with integrated cloud-based infrastructures that allow for on-demand manufacturing of tailored products is an example of a cloud SCM system that would interest users.

Another important element is trust which is based on the users' expectation of positive andeffective results with regards to certain interactive actions or decisions[32]. The efficiency and flexibility of information exchange between supply chain partners must go hand in hand with proper security standards, system capability, and reputation;this is because mutual trust between users and the cloud service system provider is crucial in influencing behavioral intention [7]. Nevertheless, the results of this study indicated that user intention to use cloud service system is only weakly influenced by trust. This could be because users do not have control over cloud computing service resources considering that they are not allowed to use the technical mechanisms due to data protection against unauthorized access. Usage intention measurement instead depends on contracts or other mechanisms [16].

7. Limitations of the study and future direction

There are several limitations to this study. Information systems usage ensues either mandatorily or voluntarily. The usage behaviour of mandatory users is predictable due to its obligatory nature; however, voluntary system usage is based on personal perceptions and feelings and thus unpredictable. Considering that voluntary users can determine the extent of their involvement, they may disregard their managers and the system regardless of their skills or experience. Next, a "cost-benefit" model analysis focuses on costs, prices, revenues, volume, profits and sales mix factors. Cost-benefit models had been implemented in past studies with pricing mechanisms for establishing a cloud service system in companies and mathematicalcalculations on the investment returns of implementing cloud computing. Nonetheless, all the said models had only focused on cost savings and business intelligence. Hence, future studies could apply other methods and factors such as value analyses and cost-benefit models for measuring organizational performance. Furthermore, this study only involved respondents in Sri Lanka which makes the findings un-generalizable to other countries.

References

[1] Marston, S., Li, Z., Bandyopadhyay, S., Zhang, J., &Ghalsasi, A. (2011). Cloud computing—The business perspective. *Decision support systems*, *51*(1), 176-189.

[2] Stieninger, M. and Nedbal, D. (2014), "Characteristics of cloud computing in the business context:a systematic literature review", *Global Journal of Flexible Systems Management*, Vol. 15 No. 1,pp. 59-68.

[3] Wu, Y., Cegielski, C. G., Hazen, B. T., & Hall, D. J. (2013). Cloud computing in support of supply chain information system infrastructure: understanding when to go to the cloud. *Journal of Supply Chain Management*, *49*(3), 25-41.

[4] Legris, P., Ingham, J., &Collerette, P. (2003). Why do people use information technology? A critical review of the technology acceptance model. *Information & management*, *40*(3), 191-204.

[5] Zissis, D., &Lekkas, D. (2012). Addressing cloud computing security issues. *Future Generation computer systems*, *28*(3), 583-592.

[6] Pranata, I., Skinner, G., &Athauda, R. (2012). A holistic review on trust and reputation management systems for digital environment.

[7] Lin, A., & Chen, N. C. (2012). Cloud computing as an innovation: Percepetion, attitude, and adoption. *International Journal of Information Management*, *32*(6), 533-540.

[8] Petty, R. E., & Cacioppo, J. T. (1986). The elaboration likelihood model of persuasion. In *Communication and persuasion* (pp. 1-24). Springer, New York, NY.

January - February 2020
ISSN: 0193 - 4120 Page No. 13111 - 13120

[9] Hur, K., Kim, T. T., Karatepe, O. M., & Lee, G. (2017). An exploration of the factors influencing social media continuance usage and information sharing intentions among Korean travellers. *Tourism Management*, *63*, 170-178.

[10] Zheng, Q., Guo, W., An, W., Wang, L., & Liang, R. (2018). Factors facilitating user projects success in co-innovation communities. *Kybernetes*, *47*(4), 656-671.

[11] Bhattacherjee, A., & Sanford, C. (2006). Influence processes for information technology acceptance: An elaboration likelihood model. *MIS quarterly*, 805-825.

[12] Sussman, S. W., & Siegal, W. S. (2003). Informational influence in organizations: An integrated approach to knowledge adoption. *Information systems research*, *14*(1), 47-65.

[13] Eckert, J. A., & Goldsby, T. J. (1997). Using the elaboration likelihood model to guide customer service-based segmentation. *International Journal of Physical Distribution & Logistics Management*, *27*(9/10), 600-615.

[14] Morgan, R. M., & Hunt, S. D. (1994). The commitment-trust theory of relationship marketing. *Journal of marketing*, *58*(3), 20-38.

[15] Achrol, R. S. (1991). Evolution of the marketing organization: new forms for turbulent environments. *Journal of marketing*, *55*(4), 77-93.

[16] Pearson, S., &Benameur, A. (2010, November). Privacy, security and trust issues arising from cloud computing. In *2010 IEEE Second International Conference on Cloud Computing Technology and Science* (pp. 693-702). IEEE.

[17] Hashim, K. F., & Tan, F. B. (2015). The mediating role of trust and commitment on members' continuous knowledge sharing intention: A commitment-trust theory perspective. *International Journal of Information Management*, *35*(2), 145-151.

[18] Patzer, G. L. (1983). Source credibility as a function of communicator physical attractiveness. *Journal of business research*, *11*(2), 229-241.

[19] Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: a comparison of two theoretical models. *Management science*, *35*(8), 982-1003.

[20] Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS quarterly*, 425-478.

[21] Gefen, D., Karahanna, E., & Straub, D. W. (2003). Trust and TAM in online shopping: an integrated model. *MIS quarterly*, 27(1), 51-90.

[22] Brown, S. A., Massey, A. P., & Ward, K. W. (2016). Handle mergers and acquisitions with care: the fragility of trust between the IT-service provider and end-users. *European Journal of Information Systems*, *25*(2), 170-186.

[23] Liljander, V., &Roos, I. (2002). Customer-relationship levels–from spurious to true relationships. *Journal of services marketing*, *16*(7), 593-614.

[24] Ozok, A. A., Wu, H., Garrido, M., Pronovost, P. J., &Gurses, A. P. (2014). Usability and perceived usefulness of personal health records for preventive health care: A case study focusing on patients' and primary care providers' perspectives. *Applied ergonomics*, *45*(3), 613-628.

[25] Moorman, C., Zaltman, G., & Deshpande, R. (1992). Relationships between providers and users of market research: the dynamics of trust within and between organizations. *Journal of marketing research*, *29*(3), 314-328.

[26] Zhou, T. (2012). Understanding users' initial trust in mobile banking: An elaboration likelihood perspective. *Computers in Human Behavior*, *28*(4), 1518-1525.

[27] Limbu, Y. B., Wolf, M., & Lunsford, D. (2012). Perceived ethics of online retailers and consumer behavioral intentions: The mediating roles of trust and attitude. *Journal of Research in Interactive Marketing*, *6*(2), 133-154.

[28] Goel, R. (2015). Trusted supply chains: surveying competitive value of the cloud. *International Journal of Management & Information Systems (IJMIS)*, *19*(1), 43-50.

[29] Fornell, C., & Larcker, D. F. (1981). Structural equation models with unobservable variables and measurement error: Algebra and statistics.

[30] Anderson, J. C., &Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological bulletin*, *103*(3), 411.

[31] Hair, J. F., Hult, G. T. M., Ringle, C. M., and Sarstedt, M. (2017). A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM), 2nd Ed., Sage: Thousand Oaks.

[32] Wang, Y., Chen, R., Cho, J. H., Swami, A., & Chan, K. S. (2015). Trust-based service composition and binding with multiple objective optimization in service-oriented mobile ad hoc networks. *IEEE Transactions on Services Computing*, *10*(4), 660-672.