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KEY FACTORS INCREASING THE TRUST AND INTENTION TO ADOPT STANDARD CLOUD-BASED APPLICATIONS

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ABSTRACT

A generic standard cloud-based application such as Google Docs are generally among the first to be considered for adoption by end-users. Thus, it is worthy to examine what factors influence trust and the intention of continuing use for such a cloud-based application. Unlike traditional, on-premise applications, familiarity is not an issue for trusting generic, simple cloud-based applications. Moreover, perceived risk is low enough that it has negative, as opposed to the usual positive, impact on trust and the intention of continuing use. The results of this study also imply that the agile adoption of standard cloud-based applications needs to consider factors, including perceived privacy control, system quality, and user satisfaction because these factors can increase the trust of users. Theoretical and practical implications were drawn from the findings of this study.

Keywords: *cloud-based applications, on-premise application, trust, risk*

1 INTRODUCTION

Agile methodologies enable more dynamic organizational process adjustments than traditional, plan-driven software development methodologies (Nerur et al., 2005, Bustard, 2012). Given cloud computing is gaining legitimacy in corporate application system use (Su, 2011), it is worthwhile examining how the adoption models of cloud-based applications vary from those of traditional, on-premise applications.

There are many perceived advantages and disadvantages of cloud-based applications. Compared to on-premise applications, cloud-based applications excels in availability, total cost of ownership (TCO), and time to value (TTV) (Narasimhan et al., 2011). Drivers for cloud include reduced costs, mobile device use, and telework IT maintenance whereas barriers to adoption consist of Internet connectivity, security concerns, lack of trust in the provider, and cloud availability (Doherty et al., 2015). However, the decision to adopt cloud computing applications depends on the balance between benefits and concerns. According to Geczy et al. (2012), the three main dimensions of benefits are (i) deployment (similarity to outsourcing, deployment ease, deployment speed), (ii) financial (pay structure, pay for use, savings), and (iii) functional (up-to-date functions, the provider's ability to expand functions, the provider's ability to evolve functions). The three dimensions of concerns are (i) alignment (integration, customization, availability, performance, transfer), (ii) management and control (security, management, relocation, control loss, data loss), and (iii) legal (liability, disclosure, legislations) (*ibid*.).

Empirical studies show how the considerations impacting the decision to adopt cloud-based application depend on firm sizes and industry sectors. Hsu et al. (2014) report that significant issues are perceived benefits, business concerns and organizational IT capability for large firms. On the other hand, perceived benefits are not significant for small and medium-sized enterprises (SMEs). Another study (Oliveira et al., 2014) notes differences in adoption decisions between manufacturing and service sectors. Overall, such factors as security concerns, cost savings, application complexity, technology readiness, top management support and firm size are significant. For firms in the manufacturing sector, application complexity and top management support are not significant. For those in the service sector, these factors are significant. When a study (Lian et al., 2014) examined the healthcare (hospital) sector, the five most critical factors are data security, perceived technical competence, costs, top management support, and application complexity.

Thus, we have some common perceived benefits and challenges in adopting cloud-based applications. Beyond them, the details may vary by organization size and sector. However, the current literature lacks cloud computing studies examining adoption factors to increase user trust and usage in the emerging technology. Given the diversity of cloud-based applications, this study focuses on the adoption of a generic, simple cloud-based application, Google Docs, so that the research findings may be broadly applicable in general business settings before examining the adoption of industry and firm specific complex cloud-based applications. Thus, the research question we address in this paper is: How different is the adoption model for generic, simple cloud-based applications compared to that for traditional, on-premise applications?

2 THEORETICAL BACKGROUND

2.1 Trust and Adoption of Systems and Applications

Past studies on the adoption of systems and applications has frequently focused on variables of trust. In the context of organizational studies, trust is defined as "the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party" (Mayer et al., 1995a). At the individual level, trust is defined often in the context of buyer-seller transaction settings as "the buyer's intentions to accept vulnerability based on her beliefs that the transaction will meet her confident expectations" (Pavlou et al., 2007). The central underpinning of trust is thus the situation in which one depends on the other with the expectation of fair transaction outcomes. Trust has two main dimensions: benevolence and credibility (Dimoka, 2010, Ba et al., 2002). Benevolence is the "belief that one partner is genuinely interested in the other partner's welfare and has intentions and motives beneficial to the other party even under adverse conditions for which a commitment was not made" (Ba et al., 2002). Credibility can further be divided into competence, honesty and integrity (Dimoka, 2010).

We can view trust through the perspective of commitment-trust theory (Morgan et al., 1994), in which two parties use trust to foster continuing commitment to maintain a mutually beneficial relationship.

2.2. The Influence of Perceived Risks on the Increase of User Trust in Cloud Computing Technology

Many users consider cloud computing technology (e.g. storage, email, e-learning systems) essential because they can have remote access to their files and applications. As a result of the perceived benefits, many users are adopting cloud technology without considering all potential risks. After assessing the different risks of cloud technology, a study concluded that the "expectation of trustworthiness may be unrealistic" (Neumann, 2014). Issues raised by the study include, but are not limited to, confidentiality, system integrity, data integrity, reliability, robustness, resilience, surveillance, denials of service, and unstable business models. These issues could result in the theft of personal information as users confer the ownership of personal information to a third party cloud technology provider (Dial et al., 2014). The simplicity of the cloud abstraction has affected many general users' judgement, leading them to make a quick adoption decision without properly assessing the impact of the potential risks. Perceived risk is a user's assessment of the risk inherent in an uncertain situation (Sitkin et al., 1992). Cloud technology involves many uncertain risks that could be caused by the provider's lack of competence and interest in protecting the confidentiality of users. Therefore, high perceived risks could eventually result in users' having a negative attitude (Benlian et al., 2009) toward and decreased trust in cloud technology.

H1: High perceived risks have a negative impact on the increase of user trust in cloud technology

2.3 The Influence of Perceived Privacy Control on the Increase of User Trust in Cloud Computing Technology

The privacy calculus model is a salient theory commonly adopted to examine consumer's privacy perceptions and behaviors (Laufer et al., 1977). In the face of using a novel technology, users need to decide whether to disclose their personal information based on the results of a calculation from disclosure

needs and privacy concerns (Xu et al., 2009). Before adopting the cloud computing technology, users often form expectations about its positive and negative outcomes. One positive outcome perceived by users is their ability to control their personal information on the cloud. As a result of the perceived privacy control, users are more willing to trust and share their personal information (e.g. intimate messages, pictures, videos) on the cloud. On the other hand, users will lose trust in cloud computing service providers if the providers fail to protect their privacy even with claimed privacy control mechanisms. Hackers were able to hack into Apple's cloud service suite iCloud to take advantage of personal information (e.g. intimate pictures and videos) of many celebrities in 2014. This incident ascertains the importance of increasing perceived privacy control in order to gain the trust of users in cloud technology. Hence, we hypothesize:

H2: High perceived privacy control has positive impact on the increase of user trust in cloud computing technology

2.4 The Influence of System Quality on the Increase of User Trust in Cloud Computing Technology

A user's overall evaluation of the entire system is perceived system quality (Bharati, 2003). System quality consists of quality in the front-, back-end, and middleware systems. A user-friendly interface and system flexibility are system quality attributes in the front-end (Emery, 1971). System reliability and system response time are quality attributes in the back-end (Hamilton et al., 1981). Middleware connects both front- and back-end systems. A quality middleware can help optimize the overall performance of the entire system, thereby enhancing all engineering-oriented performance attributes (DeLone and McLean, 2003). Users are more likely to trust in cloud computing technology when it has superior system quality that meets user expectations.

H3: Improved system quality has positive impact on the increase of user trust in cloud computing technology

2.5 The Influence of Familiarity on the Increase of User Trust in Cloud Computing

Trust can be generally categorized into familiarity- and regularity-based trust (Minsky et al., 2005).
Cloud computing technology lacks of comprehensive regulation or the guarantee of trusted vendors because the technology continues to evolve and has open nature. Regularity-based trust appears to be less important than familiarity-based trust for cloud technology adoption. Familiarity level or personal experience can affect the process of building trust in system for users (Rufín et al., 2014). This factor is critical to instilling trust of users in novelty systems (Gefen et al., 2000). Building user trust in a system involves a transference process that occurs when new users receive positive signals or use inferences from personal or others' experiences (Stewart, 2006). Ensuring that users are familiar with using cloud technology is indispensable to the increase of user trust in the technology. Therefore, we propose:

H4: System familiarity level has positive impact on the increase of user trust in cloud computing technology

2.6 The Influence of User Satisfaction on the Increase of User Trust in Cloud Computing Technology

The initial adoption of a new technology often begins with satisfactory experiences shared by early adopters (e.g. critics). These early adopters could be given a freeware (e.g. Dropbox, Google Docs) to test the system's limits and assess its overall performance. When the early adopters' expectations are confirmed with the usage experience, they tend to form a set of beliefs and make inferences to the effective performance of the system in other situations (Louis et al., 1991). The majority and late adopters are more likely to trust in adopting the new system with positive signals issued by the early adopters based on their past experiences. Personal positive experiences of the late adopters can further enhance their confidence and trust in the system in question. Many studies consider the confirmed positive experience or user satisfaction an ethos of a quality new system, which is often treated as a core element of trust. Therefore, it is important to create satisfactory experiences for users in order to help them form positive perception (Ganesan, 1994) about the benevolence, integrity, and reliability (Mayer et al., 1995b) of cloud computing technologies to perform expected functions. Thus, we propose:

H5: User satisfaction has a positive impact on the increase of user trust in cloud computing technology

2.7 The Influence of User Trust on the Intention to Use

Trust in a system can have a positive and significant effect on system continuance usage (Idemudia et al., 2014). Trust has a strong predictive power for the use of both offline (Bendapudi et al., 1997) and online services because of its ability to reduce the degree of social complexity (Gefen et al., 2003). Trust plays a dual role by directly influencing system use intentions or indirectly influencing it via social relationships (Turel et al., 2013). The strong influence of trust on system use is evident for Internet technologies (Jones et al., 2002), including social media (Ridings et al., 2002). Cloud computing is an open Internet technology and involves an unlimited number of people sharing information via the same platform. One effective way to encourage the use of cloud technology is to reduce undesirable, yet possible behaviors (e.g. stealing personal information, infecting others with malicious software) via the perceived trust (Gefen et al., 2003) of cloud technology. Therefore, we propose:

H6: User trust has a positive impact on the increase of the intention to use cloud computing technology

The aforementioned discussion leads us to a theoretical research model (Figure 1) that incorporates five antecedents for the increase of user trust in cloud computing technology. These predictors are perceived risks, perceived privacy control, system quality, familiarity, and satisfaction. Users are more likely to adopt the technology along with the increase of trust via these five factors.

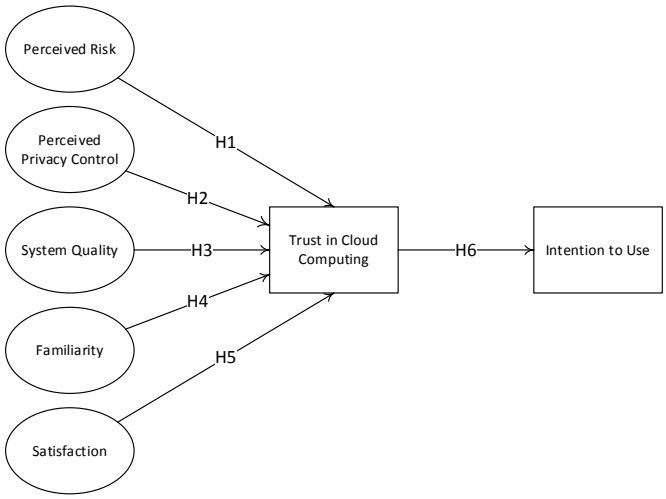

Figure 1. Conceptual Research Model

3 RESEARCH METHODOLOGY

3.1 Participants

A total of 224 college students in the southeast region of the U.S. participated in the study. The participants were taking an introductory MIS course, where they learned to use Google Docs for a group project. Toward the end of the semester, students were asked to complete an online survey about their usage experiences. Participation was voluntary. A final sample of 202 were used in the present study. Google Docs is an effective proxy to understand the real user experiences of cloud technology, particularly in virtual office settings.

3.2 Survey Instrument

All items used to develop the questionnaire were adapted from existing scales. Three items were used to measure adoption intention (Gefen et al., 2003). To measure the familiarity level of Google Doc., we used three items (Gefen, 2000). The user's perceived privacy of using Google Doc was measured using three items adapted from Mekovec (2010). To measure the perceived risk construct, we modified the original questions from Pavlou and Gefen's study into three items. Satisfaction was measured adapting two items from Oliver (1997). System quality was measured with three items from McKinney et al.'s (2002) study. Perceived trust of Google Doc was measured with three items from Jarvenpaa, Tractinsky and Vitale's (2000) study. All questionnaire items were measured on a five-point Likert scale: (1) = strongly disagree, and (5) = strongly agree.

SmartPLS was adopted to run a path analysis of constructs in our theoretical model. After removing items with loadings less than 0.7, we conducted the Cronbach's alpha test. Table 1 shows that all constructs' Cronbach's alpha values exceed 0.7 and have a very high reliability (Straub, 1989). In addition, we conducted convergent and discriminant validity tests based on the average variance

extracted (AVE) value for each construct reported on the diagonal. Table 2 shows that all constructs' AVEs are larger than the correlations with other constructs. This test result indicates that all questions used to measure constructs in the model have high discriminant and convergent validities.

Constructs	Questions	# of items	Cronbach's Alpha
Adoption Intention	• I would use Google Docs to archive my class assignments. • I am very likely to archive my class assignments using Google Docs. • I intend to use Google Docs for archiving class assignments in the future.	3	0.923860
Familiarity	• I am familiar with storing class assignments in Google Docs. • I am familiar with using Google Docs to complete class assignments. • I am familiar with organizing my class assignments on Google Docs.	3	0.925018
Privacy	• Google Docs should not disclose any personal information, unless they are explicitly given the right to do so. • Google Docs should not use personal information for any reasons other than the sole purpose of information sharing. • Google Docs should never sell personal information from its database to any other organizations.	3	0.691479
Risks	• There is a high potential for loss involved in using Google Docs for archiving class assignments. • There is a considerable risk involved in using Google Docs for archiving class assignments. • A decision to use Google Docs for archiving class assignments is risky.	3	0.919140
Satisfaction	• I am satisfied in general with my experiences of using Google Docs to complete my class assignments. • Overall I am pleased with Google Docs.	2	0.873116
System Quality	• In general, Google Docs provides good access. • In general, Google Docs is user friendly. • Google Docs is easy to navigate. • In general, Google Docs can help me productively deliver my class assignments.	4	0.877246
Trust	• Overall I believe Google Docs is trustworthy. • Google Docs wants to be known as one who keeps promises and commitments. • I trust Google Docs to keep my best interests in mind.	3	0.868628

Table 1. Reliability Test Results

Constructs	Continuance Intention	Familiarity	Privacy	Risks	Satisfaction	System Quality	Trust
Adoption Intention	0.9316	0	0	0	0	0	0
Familiarity	0.5662	0.9324	0	0	0	0	0
Privacy	0.0915	0.1998	0.8716	0	0	0	0
Risks	-0.2722	-0.2599	-0.0241	0.9280	0	0	0
Satisfaction	0.5607	0.6518	0.2948	-0.3548	0.9420	0	0
System Quality	0.5113	0.5820	0.3671	-0.2936	0.7981	0.8553	0
Trust	0.4910	0.4132	0.1657	-0.3914	0.5997	0.6392	0.8899

Table 2. Convergent and Discriminant Validity Test Results

4 HYPOTHESIS TESTING RESULTS

After confirming the acceptance of the reliability and validity of the survey instrument, we entered the data into the path analysis to test our hypothesized relationships. Table 3 shows the path analysis results, including path coefficients and their respective t-statistics. As shown in Table 3, Hypothesis 1 (H1) was supported indicating that perceived risks have significantly negative effect on the increase of user's trust in cloud computing applications (β=-0.177; $p<0.01$). Hypothesis 2 (H2) was supported, indicating that perceived privacy controls have a negative effect on user trust in cloud computing applications (β=-0.075; $p<0.1$). Hypothesis 3 (H3) was supported statistically, indicating that system quality has a positive influence on the increase of user trust in cloud computing applications (β=0.480; $p<0.01$). Hypothesis 4 (H4) was not supported, indicating that familiarity does NOT have a positive influence on the increase of user trust in cloud computing applications (β=0.032; $p>0.1$). Hypothesis 5 (H5) was supported indicating that user satisfaction has a significantly positive effect on the increase of trust in cloud computing applications (β=0.225; $p<0.01$). Hypothesis 6 (H6) was supported indicating that trust has a significantly positive effect on the increase of users' intention to use cloud computing applications (β=0.491; $p<0.01$).

Hypothesized Relationships	Path Coefficients (Beta)	T-Statistics
H1: Perceived Risks → Trust	-0.177	3.276***
H2: Perceived Privacy Control → Trust	-0.075	1.774*
H3: System Quality → Trust	0.480	7.221***
H4: Familiarity → Trust	-0.018	0.334
H5: Satisfaction → Trust	0.225	3.404***
H6: Trust → Adoption Intention	0.491	11.427***

Table 3. Path Analysis Results

5 DISCUSSION

There are several major implications of this study. First, the familiarity of the application is not significant for its adoption. Previous studies incorporate this antecedent as "prior factors" such as situational involvement, prior usage or experience, and self-efficacy (King et al., 2006). While not all studies empirically test or provide the significance of these prior factors, Gefen et al. (2003) report that the knowledge-based familiarity is not significant for trust in online shopping. Interestingly, the ease of use of the organizational application system increased with time/experience for men but decreased for women (Venkatesh et al., 2000). These results imply application familiarity matters when the application system is complex and organizational, but it does not when it is relatively standardized in its designs and functionality. Given Google Docs is rather simple and easy to operate, according to *PC Magazine* (Duffy, 2014) reviews on Google Docs and its counterparts. In addition, many participants commented that it was easy to use. Our results confirms the findings from previous studies in this sense.

Second, system quality has a strong positive effect ($\beta = 0.60$) on trust while risk perception has a negative influence ($\beta = -0.22$) on trust. That makes sense from the students' perspective because students should have positive impressions on the functionality of Google Docs with less security concerns in order to trust Google Docs. Remarks from the participants echo such sentiments. Out of 186 remarks, only one noted privacy risk as a negative aspect of Google Docs. In contrast, the majority (53%) of participants pointed out that Google Docs was useful in handling group assignments and in collaborating with their classmates. Easy to use and user-friendly were noted by 22% of the participants as the positive reason to use Google Docs; only 4% commented that Google Docs was not user-friendly or hard to understand. On the other hand, there were a few comments such as: "I have heard of multiple situations in which people's work is lost in google docs and that part needs to be repeated again due to a glitch in the system;" "Sometimes it can be complicated and I have lost some of my data before because of networking issues;" and "Having to have an Internet connection to use it." Third, privacy was not a factor for trust. Indeed, many participants gave no negative concerns in using Google Docs. However one participant did remark, "I'm not certain all my stuff is safe. I never put confidential information on there for that reason." Overall, only 3% expressed concern on security risks.

In summary, the findings highlight that the general benefits and challenges of cloud applications as applied in this study. However, familiarity and privacy concerns are not significant issues for trust and in turn continuance use of the application. The application system adoption and its continuing use depend on the details of the application system, while the general characteristics of an application system may predict adoption behaviors to some extent.

6 LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

There are several limitations of this study. First, students were used as subjects. While the application is generic, the generalizability of the findings may not be applicable to older business application users who are less familiar with computing than younger users. The next logical step of future studies would be to examine older users with less IT experience. Second, the findings may not necessarily be germane to much more complex business applications that require significant training and familiarization periods for their users. In such circumstances, familiarity and perceived risk may be positively significant for trust and the intention of continuous use. Thus, we need to conduct similar studies using more complex applications at firms in a few different industries. Third, the brand image of Google may play a role of

relatively low perceived risk and privacy control. Future studies may want to use cloud-based applications with less well-known brands.

7 IMPLICATIONS

The overall results (Figure 2) show that the adoption of generic, cloud-based applications depends on (a) low to no perceived risk and application familiarity, and (b) high system quality and satisfaction from use.

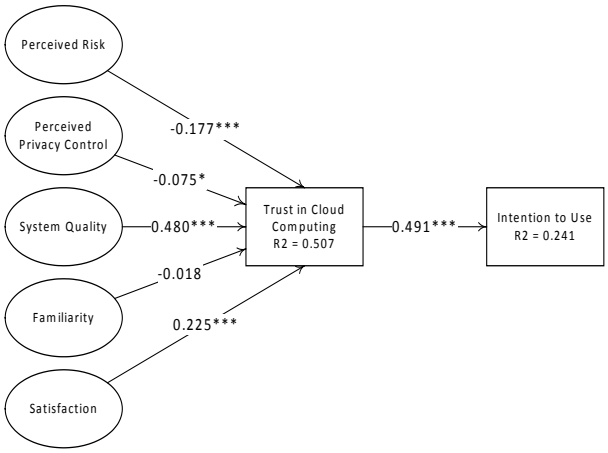

Figure 2. Graphical Representation of the Results

7.1 Implications

As younger working populations see older generations retire, workplaces will change as the proportion of younger generations are more tech-savvy with IT use than their older counter parts. At the same time, the user interfaces of cloud-based applications may well be more streamlined and functionality improved. Thus, the future application users may be free from the high uncertainty and risk perceptions arising from the "unknowns" of complex, hard-to-become-familiar legacy applications that their counter parts in the previous computing era faced. On the other hand, cloud-based applications may not be completely free of system unavailability and security breaches. This applies to even relatively simple-to-use, generic, cloud-based applications.

8 CONCLUSIONS

We began this study with the research question: How different is the adoption model for generic, simple cloud-based applications compared to that for traditional, on-premise applications? The results indicate that traditional adoption key issues such as application familiarity and perceived risks are no longer hindering issues for generic, simple cloud-based applications. Instead, the main driving factor for system adoption depends on the quality of systems. Also important is that the end-users expect satisfaction

coming from the ease of application use as a key step before trusting the application and then to use it continuously. Therefore, if firms use standardized cloud-based applications more, their organizational renewals may be easier than if they continue relying on traditional, on-premise applications for the majority of business processes.

References

Ba, S. & Pavlou, P. A. (2002). Evidence of the effect of trust building technology in electronic markets: Price premiums and buyer behavior. MIS quarterly, 26**,** pp. 243-268.

Bendapudi, N. & Berry, L. L. (1997). Customers' motivations for maintaining relationships with service providers. *Journal of retailing,* 73**,** pp. 15-37.

Benlian, A., Hess, T. & Buxmann, P. (2009). Drivers of SaaSadoption: an empirical study of different application types," Business & Information Systems Engineering, 5. 1 SRC - GoogleScholar**,** pp. 357-369.

Bharati, P. (2003). People and Information Matter: Task Support Satisfaction from the Other Side. *Journal of Computer Information Systems,* 43**,** pp. 93-102.

Bustard, D. Beyond mainstream adoption: from agile software development to agile organizational change. Engineering of Computer Based Systems (ECBS), 2012 IEEE 19th International Conference and Workshops on, 2012. IEEE, 90-97.

Davis, F. D. (1989). Perceived Usefulness, Perceived Ease Of Use, And User Accep. *MIS Quarterly,* 13**,** pp. 319-340.

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

Dial, A. A. & Moye, J. M. (2014). Trade secrets in the cloud: Assessing and mitigating the risks. *Internet Law,* 17**,** pp. 15-23.

Dimoka, A. (2010). What does the brain tell us about trust and distrust? Evidence from a functional neuroimaging study. *MIS Quarterly,* 34**,** pp. 373-396.

Doherty, E., Carcary, M. & Conway, G. (2015). Migrating to the cloud: Examining the drivers and barriers to adoption of cloud computing by SMEs in Ireland: an exploratory study. *Journal of Small Business and Enterprise Development,* 22**,** pp. 512-527.

Duffy, J. 2014. *Google Drive* [Online]. PC Magazine. Available: http://www.pcmag.com/article2/0,2817,2403546,00.asp [Accessed October 22 2015].

Emery, R. S. (1971). Disappearance of methionine from the rumen. *Journal of dairy science,* 54**,** pp. 1090-1.

Ganesan, S. (1994). Determinants of Long-Term Orientation in Buyer-Seller Relationships," Journal of Marketing (2), pp. 58 SRC - GoogleScholar**,** pp. 1-19.

Géczy, P., Izumi, N. & Hasida, K. (2012). Cloudsourcing: managing cloud adoption. *Global Journal of Business Research,* 6**,** pp. 57-70.

Gefen, A., Chen, J. & Elad, D. (2000). Optimization of design and surgical positioning of inflatable penile prostheses. *Annals of biomedical engineering,* 28**,** pp. 619-28.

Ha, S. & Stoel, L. (2009). Consumer e-shopping acceptance: Antecedents in a technology acceptance model. *Journal of Business Research,* 62**,** pp. 565-571.

Hamilton, C. A. & Reid, J. L. (1981). Changes in alpha-adrenoceptors during long-term treatment of rabbits with prazosin. *Journal of cardiovascular pharmacology,* 3**,** pp. 977-85.

Hsu, P.-F., Ray, S. & Li-Hsieh, Y.-Y. (2014). Examining cloud computing adoption intention, pricing mechanism, and deployment model. *International Journal of Information Management,* 34**,** pp. 474-488.

Idemudia, E. C. & Raisinghani, M. S. (2014). The Influence of Cognitive Trust and Familiarity on Adoption and Continued Use of Smartphones: An Empirical Analysis. *Journal of International Technology & Information Management,* 23**,** pp. 69-94.

Jones, M. A., Mothersbaugh, D. L. & Beatty, S. E. (2002). Why customers stay: measuring the underlying dimensions of services switching costs and managing their differential strategic outcomes. *Journal of Business Research,* 55**,** pp. 441-450.

King, W. R. & He, J. (2006). A meta-analysis of the technology acceptance model. *Information & Management,* 43**,** pp. 740-755.

Laufer, R. S. & Wolfe, M. (1977). Privacy as a concept and a social issue: A multidimensional developmental theory. *Journal of Social Issues,* 33**,** pp. 22-42.

Lee, Y., Kozar, K. A. & Larsen, K. R. (2003). The technology acceptance model: Past, present, and future. *Communications of the Association for information systems,* 12**,** pp. 752-780.

Lian, J.-W., Yen, D. C. & Wang, Y.-T. (2014). An exploratory study to understand the critical factors affecting the decision to adopt cloud computing in Taiwan hospital. *International Journal of Information Management,* 34**,** pp. 28-36.

Louis, M. R. & Sutton, R. I. (1991). Switching Cognitive Gears: From Habits of Mind to Active Thinking," Human Relations (1), pp. 44 SRC - GoogleScholar**,** pp. 55-76.

Mayer, R. C., Davis, J. H. & Schoorman, F. D. (1995a). An integrative model of organizational trust. *Academy of Management Review,* 20**,** pp. 709-734.

Mayer, R. C., Davis, J. H. & Schoorman, F. D. (1995b). An Integrative Model of Organizational Trust. *Academy of Management Review,* 20, pp. 709-734.

Mekovec, R. (2010). Online privacy: overview and preliminary research. *Journal of information and organizational sciences,* 34**,** pp. 195-209.

Minsky, N. H., Kim, S. S., Malhotra, N. K., Narasimhan, S. & A. (2005). Regularity-based trust in cyberspace. *In Proceedings of the First International Conference on Trust Management iTrust03 and Two Competing Perspectives on Automatic Use and Empirical Comparison Information Systems Research 4 pp,* 16 SRC - GoogleScholar**,** pp. 418-432.

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

Narasimhan, B. & Nichols, R. (2011). State of cloud applications and platforms: The cloud adopters' view. *Computer***,** pp. 24-28.

Nerur, S., Mahapatra, R. & Mangalaraj, G. (2005). Challenges of migrating to agile methodologies. *Communications of the ACM,* 48**,** pp. 72-78.

Neumann, P. G. (2014). Inside risks: Risks and myths of cloud computing and cloud storage. *Communications of the ACM,* 57**,** pp. 25-27.

Oliveira, T., Thomas, M. & Espadanal, M. (2014). Assessing the determinants of cloud computing adoption: An analysis of the manufacturing and services sectors. *Information & Management,* 51**,** pp. 497-510.

Pavlou, P. A. (2003). Consumer acceptance of electronic commerce: Integrating trust and risk with the technology acceptance model. *International Journal of Electronic Commerce,* 7**,** pp. 101-134.

Pavlou, P. A., Liang, H. & Xue, Y. (2007). Understanding and mitigating uncertainty in online environments: a principal-agent perspective. *MIS Quarterly,* 31**,** pp. 105-136.

Ridings, C. M., Gefen, D. & Arinze, B. (2002). Some antecedents and effects of trust in virtual communities. *The Journal of Strategic Information Systems,* 11**,** pp. 271-295.

Roy, S. K., Kesharwani, A. & Singh Bisht, S. (2012). The impact of trust and perceived risk on internet banking adoption in India: An extension of technology acceptance model. *International Journal of Bank Marketing,* 30**,** pp. 303-322.

Rufín, R. & Molina, C. M. (2014). Moderating Effects of Familiarity and Experience in the Relationships of Trust with Its Antecedents and Consequences. *e-Service Journal,* 9**,** pp. 19-42.

Sitkin, S. B. & Pablo, A. L. (1992). Reconceptualizing the determinants of risk behavior. *Academy of Management Review 1,* 17 SRC - GoogleScholar**,** pp. 9-38.
Stewart, G. L. (2006). A meta-analytic review of relationships between team design features and team performance. *Journal of management,* 32**,** pp. 29-55.
Su, N. 2011. Emergence of cloud computing: an institutional innovation perspective. *International Conference on Information Systems (ICIS).* Shanghai, China.
Turel, O. & Gefen, D. (2013). The Dual Role of Trust In System Use. *Journal of Computer Information Systems,* 54**,** pp. 2-10.
Venkatesh, V. & Morris, M. G. (2000). Why don't men ever stop to ask for directions? Gender, social influence, and their role in technology acceptance and usage behavior. *MIS Quarterly,* 24**,** pp. 115-139.
Wu, K., Zhao, Y., Zhu, Q., Tan, X. & Zheng, H. (2011). A meta-analysis of the impact of trust on technology acceptance model: Investigation of moderating influence of subject and context type. *International Journal of Information Management,* 31**,** pp. 572-581.
Xu, H., Teo, H.-H., Tan, B. C. & Agarwal, R. (2009). The role of push-pull technology in privacy calculus: the case of location-based services. *Journal of Management Information Systems,* 26**,** pp. 135-174.