Assessment of Internet Banking Services Continued Use: Role of Socio-cognitive and Relational View

Mira Kartiwi*[1], Ali Rfieda[2]
[1]Department of Information Systems, Faculty of Information and Commination Technology,
International Islamic University Malaysia, Malaysia
[2]Faculty of Information Technology, Misurata University, Libya
*Corresponding author, e-mail: mira@iium.edu.my[1], a.rfieda@it.misuratau.edu.ly[2]

Abstract
Recently, continued use of information systems in general and particularly the context of internet banking has drawn increasing attention both in academic and trade literatures. However, different perspectives that determine the continued use of internet banking has been addressed. Given the long-term goal of any business entity is to increase its productivity, expand its customer base and maximize revenues, it is crucial for banks offering internet banking services to focus on encouraging their customers to continually use internet banking. While emerging attention had been given on the assessment of continued use of internet banking services from single view, little of attention were given from researchers to combine different views in a single comprehensive model. Yet, it is believe that combining different views would provide a better understanding to the issues surrounding the continued use. Drawing on the literature, this study developed a model to determine factors that influence the continued use of internet banking by combining factors from the socio-cognitive view and the relational view. Using a survey questionnaire, 450 questionnaires were distributed to users of internet banking in Libya. A number of interesting findings emerged, among others, is the lack of association between trust and perception to continue using the internet banking services in Libya.

Keywords: socio-cognitive view, relational view, internet banking, continued use, partial least square

1. Introduction
        Since the 1990s, rapid advancement of information technology has revolutionized the way that financial services and banks operate their businesses [1]. As a result of rapid technological progress and development in financial markets, banks heavily rely on internet in conducting their businesses and have invested huge amounts of money in technical systems [2, 3]. Internet banking is identified as "the act of conducting financial intermediation on the internet" [3]. Due to success of a service offered online depends on its continued use rather than its initial acceptance rate [4], it is thus imperative that banks assume strategies to move customers' interest beyond trial and infrequent adoption, to continued use [5].
        Although some recent studies have shed light on the factors that are influence on the continued use of internet banking from different views, little effort has been made to examine a the role of combined views within a single conceptual framework [6]. According to [7], other factors need to be taken into equal consideration which range from technological aspects and application domains to individual characteristics in order to get best understanding of technology usage. Additionally, some previous studies stated that multiple-views have advantages over a single view in explaining continued use [7].

2. Literature Review
        The way in which customers embrace internet banking can be divided into three different stages, namely pre-adoption, adoption and post-adoption. At the pre-adoption stage, customers may examine internet banking service and consider adopting it. Then, at the adoption stage, customers form an intention to adopt the service and eventually use it. Finally, at the post-adoption stage, customers choose to either continue to use the service or to leave it [6]. In this study, the

continued use of internet banking is defined as continued usage of internet banking services by adopters where a continued use decision follows an initial acceptance decision [8].

Previous studies conducted on continued use of internet banking attempt to evaluate the consumers' continued use decision by using different theories and developed different models. These models have been heavily criticized as they rely on consumers' perceptions of innovation characteristics as a significant predictor of behavioral intention and simplified notions of human factors and social factors [3]. Thus, consumers continued use of internet banking assessment may be more complex than what current theories can explain, due to the fact that consumers often need to abandon or minimize their current behavior while also contend with usual concerns that are associated with technological advancements [9].

Over the last decade, previous studies have investigated the continued use of online services from different views. For instance, [5] introduced the transactional view which focuses on the benefits for the customer, with an aim of improving business transactions through efficient and effective website design from a user's perspective. Previous research by [7], on the other hand, found the two dimensions that influence IT continuance intention and behavior from transactional view, namely IT self-efficacy and facilitating conditions. They also found that user satisfaction is an important predictors for continuance intention [7]. Nevertheless, the result of other studies have not all been consistent in findings, and one even found that satisfaction does not always predict continuous use and repeated patronage [10]. As customers gaining the experience of how to use internet banking, beliefs and needs also change [11]. Moreover, when a customer has many available choices, satisfaction will not always guarantee continued use of internet banking and will not keep the customer from switching to other alternative services [12].

Recently, a relational view of user–Web site interactions has emerged as a second view in information systems literature [13]. Different from the transactional view which emphasizes satisfaction, the relational view asserts that psychological factors and human aspects (such as trust and commitment) plays essential role in customers' continued use [7]. This view values the increased engagement of human beings in their interactions through computer-mediated communication technologies such as websites. In addition, [7] found that relational view explained more on continuous usage than what the transactional view did for the same samples.

Additionally, the socio-cognitive view appeared as another alternative view to study continued use of information system in which the emphasis is on the learning nature of an individual. The socio-cognitive view explains how people acquire and maintain certain behavioural patterns which are determined by their specific knowledge or ability [14]. Previous empirical research on technology use has determined important influences resulting from socio-cognitive factors such as self-efficacy and social influences (e.g. [5]).

Recently, IS studies adopted integrated views in one conceptual framework in order to gain extra explanatory power for the continued use of IS [7]. In the studies with the integrated or mixed view, researchers often integrate or combine factors from two different views together in one conceptual framework. For instance, a study done by Li and Chau [7] introduced an integrated model that mixed transactional view which was represented by expectation-confirmation model of continued IT usage (ECM-IT) with relational view using the commitment-trust theory (CTT). Consequently, the relative explanatory power of the two combined views was found to be stronger in explaining online service usage [7]. Similarly, Bhattacherjee [5] examined and compared the power of Expectation Diffusion Theory (EDT) and Technology Acceptance Model (TAM) in predicting the continued use of information technology (IT). His study found that the combined model of both EDT and TAM has a better explanatory power in predicting the continued use of IT than either of EDT or TAM as independent models on their own [5].

Even though recent studies have shed light on the critical role of socio-cognitive view and relational view in understanding the continued use of IS, little effort has been made to examine how socio-cognitive factors and relational factors work together to influence the customers' continued use of internet banking within a single conceptual framework. Thus, existing integrated models of continued use are not complete in terms of combining the most significant views that enriched better understanding for factors that affect consumers' decision-making [9]. Therefore, studies focussing on the continued use of internet banking by combining well examined views within a single conceptual framework are necessary for getting better understanding to issues surrounding the continued use [6].

Thus, this study develop a research model based on combining the social cognitive theory (SCT) to express the socio-cognitive view and commitment- trust theory (CTT) to express the

relational view. Moreover, those two theories have been chosen based on two considerations. Firstly, both of SCT and CTT are considered suitable for this research due to their focus on the continued use. Secondly, the integrated model that combines factors from SCT and CTT along with their different views is expected to be able enhance the understanding to the factors that affect the continued use of internet banking.

3. Research Model

An overview of the proposed research model is shown below in Figure 3. Here, the study introduces an integrated model which combines SCT and CTT to explain the factors that convey continued use of internet banking from two different views. It is hypothesized that commitment, trust and switching cost represent the relational view; whereas, perceived usefulness, recommendation and self-efficacy represent the socio cognitive view.
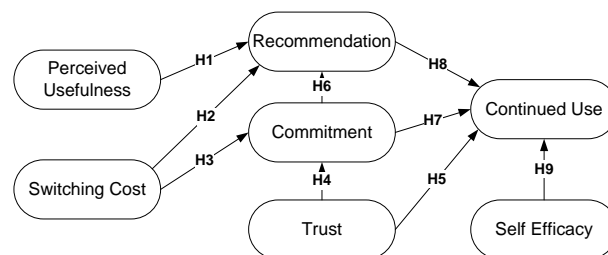

Figure 1. Proposed model of internet banking continued use.

In addition to the above associations, perceived usefulness is commonly defined as "the degree to which a person believes that using a particular system would enhance his or her job performance" [15]. According to [16], perceived usefulness acts as a persuasive tool that increases social influence on the customers' intention towards continued use. In addition, recent empirical studies have confirmed that perceived usefulness has a significant effect on other antecedes that directly affect the continued use [17]. Thus, perceived usefulness is a significant indicator that can maximize social influences on the customers' continued use intention [16]. Therefore, the following hypothesis is formulated:

H1: Users' perceived usefulness of the use of internet banking services has a significant effect on their recommendation.

Previous research shows that the long term relationship between customer and service providers is the most important factor that contribute to the profitability . Other studies shows that customer satisfaction was essential to understanding customers continued use [18]. Recently, many studies argued that ideally, banks should count on a combined strategy that makes switching cost act as a complement to satisfaction in order to gain continued use of the internet banking services that banks offer [18]. In this study, switching cost is defined as the perception of the magnitude of additional cost (psychological, physical and emotional cost) that internet banking customer needs to possess before terminating his/her relationship with an internet banking provider and switch to an alternative [19]. Hence, when switching cost are perceived to be high by customers, customers are less likely to switch to an alternative service provider. Additionally, switching costs were found to have a significant impact on customers' positive recommendation [20]. Thus, it can be postulated that:

H2: Switching costs has a significant effect on recommendation.
H3: Switching costs has a significant effect on commitment.

Previous studies shows the importance of trust in one's intention to continuously use a service or product. In this study, we adopted the definition of trust according to [21]. They defined trust as, "a psychological state which leads to the willingness of customer to perform banking transactions on the internet, expecting that the bank will fulfil its obligations, irrespective of

customer's ability to monitor or control bank's actions". In addition, there is also empirical evidence that suggested customers' perceived trust of internet banking is one of the strongest contributors to using the internet as a viable banking alternative [22]. Moreover, it was observed that trust directly impacted on the customers' commitment to internet banking services. Thus, the hypothesis can be formulated as follows:

H4: Customer trust has a significant effect on commitment.
H5: Customer trust has a significant effect on the continued use of internet banking.

In the context of business to customer (B2C) such as internet banking, commitment is defined as ''customer psychological attachment, loyalty, concern for future welfare, identification, and pride in being associated with an organization'' despite influences and efforts that may cause switching to alternatives [23]. A study conducted by Lee and Kwon [8] found that commitment has a very significant effect on customers' continued use of an online service [23, 24]. Moreover, in a recent study by [25] found that commitment can also affect customer recommendation significantly in internet service environment. Thus, the hypothesis can be formulated as follows:

H6: Customers who are committed to their relationship with their internet banking provider are more likely to recommend the service to the others.
H7: Customers who are committed to their relationship with their internet banking provider are more likely to continue using the service.

Generally, consumers tend to trust each other's testimonies and experiences more than they trust the official communication issued by the providers . Thus, recommendation exerts a strong influence on consumer choice for using internet banking as a first banking choice. Recommendation can be defined as a form of informal advice which is exchanged among customers [26]. A study conducted in Saudi Arabia found that consumers' perceptions about the beliefs and experiences of other consumers serve as a main determinant of continued use intentions [27]. In addition, the same study stated that in a highly collective culture such as the Arab World, individuals' actions are influenced by the recommendations of people around them [28]. Thus, if internet banking usage is a desirable behaviour in the society, a person in that society is more likely to use internet banking service. Hence, based on the above discussion, the hypothesis can be formulated as follows:

H8: There is a significant relationship between recommendation and the continued use of internet banking services.

Social cognitive theory gives prominence to the concept of self-efficacy, which is defined by Bandura [29] as "People's judgment of their capabilities to organize and execute courses of action required to attain designated types of performances. It is concerned not with the skills one has, but with judgments of what one can do with whatever skills one possesses." In addition, people may be strongly convinced and attracted by certain outcomes in relation to a given behaviour, but are unlikely to perform the behaviour in case they lack the confidence in their own abilities to attain the required performance level [20]. Hence, previous studies found that self-efficacy appears as a significant factor that influences the continued use of internet banking. For instance, intention to use internet banking among Malaysian customers in particular has been found to be predicted by self-efficacy [12]. Thus, the hypothesis can be formulated as follows:

H9: The higher the level of the customers' self-efficacy is the higher is the level of the continued use of internet banking services.

4. Research Methods
4.1. Instrument Development
Survey questionnaire was carried out to collect the research data. All constructs of this study were operationalized using validated items from prior similar studies and all items are considered in term of continued use as shown in Table 1. In addition, the questionnaire consists of two parts. Part I gathers demographic information, and Part II seeks the perceptions of

respondents toward using internet banking services in Libya. A five-point Likert scale was used to ensure statistical variability among survey responses for all constructs. The questionnaire was initially developed in English, and the final version was independently translated into Arabic language based on the approaches recommended by [30]. Also, the Arabic copy of questionnaire was used in the process of the pilot study undertaken among internet banking users, which was an additional opportunity for the interpretation to be checked for any missing or misunderstood words and to be corrected in the final version.

Table 1. Source of Constructs

Factor	Source/Reference
Perceived usefulness	[15, 16, 17]
Switching cost	[18, 19, 20]
Commitment	[23, 24, 25]
Trust	[21, 22]
Recommendation	[26, 27, 28]
Self-efficacy	[12, 29, 20]
Continued Use	[9, 13, 17, 20]

The drop and collect questionnaire survey was employed as the main empirical method for data collection because questionnaires can be adapted to examine and explain relationships between variables [31]. Also, questionnaires enable access to a wider spectrum of views and opinions in a shorter space of time. A two-stage cluster sampling method is used since the target population is distributed over a considerably large geographical area. To ensure that the samples originate from regular online users, only those individuals who have previously accessed their accounts online are deemed eligible for participation. In order to improve the response rate and increase the number of samples, randomly selected users are encouraged to participate on a voluntary basis. The population of interest for this study was defined as the personal banking customers of Libyan banks. The researcher limited the sampling frame to customers who are already using internet banking in Libya.

4.2. Data Collection
A total of 450 questionnaires were distributed in three big cities in Libya namely Tripoli, Misurata and Sabha. Out of the 450 distributed questionnaires, 214 were completed and returned (47.55% response rate). The 214 collected questionnaires considered to be appropriate for data analysis using SmartPLS. The majority (77.6 percent) of the data was collected from the urban areas, and the rest are from the rural areas as shown below in Table 2.

Table 2. Source of Constructs

Demographics		Frequency	Valid Percent
	Male	144	67.3
Gender	Female	70	32.7
	Primary school	1	0.5
Education	Secondary school	14	6.5
	Graduated	165	77.1
	Postgraduate	34	15.9
Age	Min	Max	Mean

The demographic profile in Table 2 showed that 67.3 percent are male, while, 32.7 percent are female. In addition, majority of the respondents found to have education up to graduate level (77.1 percent), following 15.9 percent up to post graduate level. The descriptive statistics also indicate the mean of the respondents' age is 33.7.

5. Research Methods
Partial least square (PLS) is a variance-based technique and is used in this study since the research model has not been tested in the literature and considered as complex model. Also, SmartPLS is useful for structural equation modelling in applied research projects especially when there are limited participants [32]. Thus, Smart PLS 2.0 was the software that was used to analyse the relationships defined by the theoretical model in this study. In order to assess internal

consistency, indicator reliability, convergent validity, and discriminant validity we firstly examine the measurement model. Then, we test the structural model.

5.1. Instrument Development

According to [33], construct validity is the extent to which a set of data for a measured variable is actually measuring what it is supposed to measure based on the grounded theoretical measure and therefore it can be undertaken that construct validity is a necessary condition for theory development and testing. The construct validity can be measured through convergent and discriminant validity.

Convergent validity refers to the degree where multiple items used in the research to measure the same concept are in agreement. Convergent validity of the measurements used in this research can be examined through the main loadings and value of the average variance extracted (AVE). While assessing the main loadings, two items (Trust=TR3, TR4) were deleted based on the recommended cut-off value. Afterwards, AVE of the variables was assessed. AVE criterion is defined as the grand mean value of the squared loadings of the indicators associated with the construct. An AVE value of at least 0.5 and higher indicates that a latent variable is able to explain more than half of the variance of its indicators on average, therefore it is considered as sufficient [33]. In addition, when AVE is greater than 0.50, the variance shared with a construct and its measures is greater than the error. Table 3 below shows the AVE score for each construct in this research found to be above the minimum threshold (more than 0.5).

Composite reliability (CR) was used to assess the consistency of the measurement items used in this study. Composite reliability is more suitable for PLS-SEM as compared with Cronbach's alpha, which is prioritizing indicators according to their reliability during model estimation. Composite reliability should be higher than 0.70 [33]. In this research, all composite reliability for each endogenous variable also is more than 0.80 as shown below in Table 3. Thus, it can be concluded that the measurements are reliable, and internal consistency is present.

Table 3. Summary of Construct Validity and Reliability

Constructs	AVE	CR
Commitment	0.740	0.919
Continued use	0.965	0.988
Recommendation	0.982	0.956
Switching cost	0.804	0.953
Self-Efficacy	0.793	0.964
Trust	0.611	0.887
Perceived usefulness	0.735	0.943

Finally, to grant discriminant validity, there are two methods that have been put forward to determine the constructs' discrimination validity, which are; the cross-loadings and Fornell-Larcker criterion [33]. In the cross-loadings method, firstly, the loadings and cross loadings were examined by running the PLS-algorithm analysis. Discriminant validity was ascertained when an indicator's loading pertaining to its associated latent construct was higher than all the remaining constructs. It is important for the researcher to inspect that any item should be more strongly related to its construct column than any other construct item [34]. In the next stage, Fornell-Larcker criterion was employed to ensure the discriminant validity of the model see Figure 4. In this criterion, it is required that the squared root of AVE for each latent construct should be higher than the correlations of any other latent construct. As shown in Table 4, the square root of AVE for each construct is evidently higher than the correlation for each construct indicating adequate discriminant validity for the constructs proposed in this research.

Table 4. Discriminant Validity of Constructs-Fornell-Lurker Criterion

	COM	CON	PU	RECO	SE	SC	TR
COM	0.546						
CON	0.568	0.931					
PU	0.100	0.246	0.540				
RECO	0.387	0.557	0.364	0.611			
SE	0.262	0.445	0.105	0.215	0.890		
SC	-0.159	-0.144	-0.330	-0.265	-0.002	0.896	
TR	0.165	0.234	0.043	0.161	0.071	-0.057	0.782

Note: Diagonals (in bold) represent the squared root of average variance extracted (AVE) while the other entries represent the correlations. Commitment=COM, Continued use of internet banking =CON, Perceived usefulness= PU, Recommendation=RECO, Self-Efficacy=SE, Switching Cost=SC, Trust=TR.
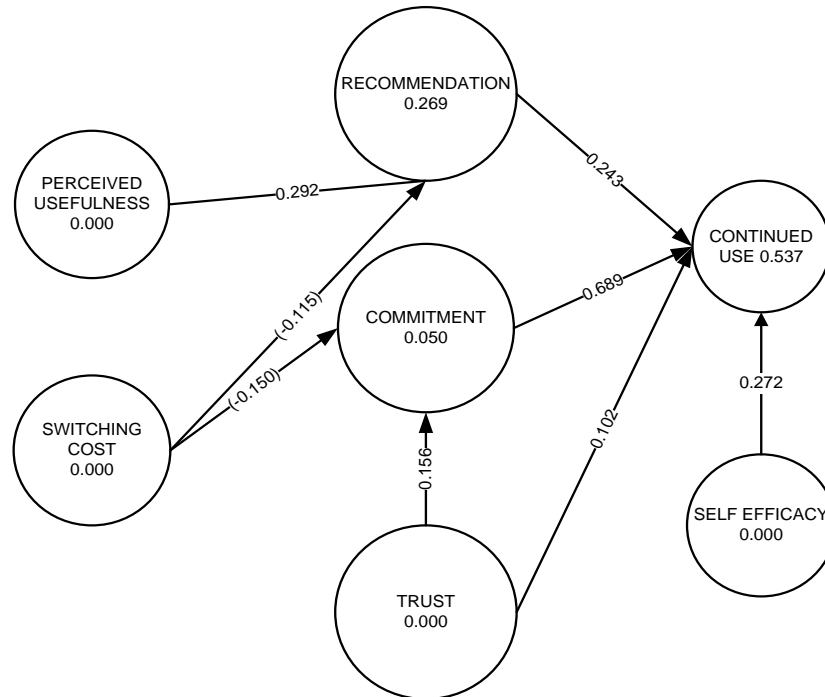

Figure 4. Measurement model

5.2. Instrument Development

According to Hair, Ringle and Sarstedt [33], construct validity is the extent to which a set of data for a measured variable is actually measuring what it is supposed to measure based on the grounded theoretical measure and therefore it can be undertaken that construct validity is a necessary condition for theory development and testing. The construct validity can be measured through convergent and discriminant validity.

After establishing the appropriateness of the measures, it is necessary to provide evidence supporting the theoretical model as exemplified by the structural portion of the model [34]. The prime evaluation criteria for the structural model are the R2 measures and the level of significance of the path coefficients as it explains endogenous latent variables variance [33]. In PLS, R2 result represents the amount of variance in the construct in question that is explained by the model.

Path coefficients represent the hypothesized relationship among the constructs. The individual path coefficients of the PLS structural model can be inferred as standardized beta coefficients of ordinary least squares regression. Paths that are non-significant or show signs of the contrary to the hypothesized direction do not support the given hypothesis in the research. The path coefficients have standardized values between -1 and +1, and estimated path coefficients close to +1 represent strong positive relationship and vice versa for negative values [33].

In this study, path coefficients of the structural model have been measured and bootstrapping analysis was performed to assess the statistical significance of the path coefficients. Bootstrapping in PLS is a nonparametric test which involves repeated random sampling with replacement from the original sample to create a bootstrap sample, to obtain standard errors for hypothesis testing [33]. Regarding the number of re-sampling, literature suggested performing bootstrapping with 1000 resamples [45]. In this study, the bootstrapping

procedure with 1000 re-samples was used to test the significance of the regression coefficients. Based on the hypotheses of this study, the direct effects between the variables were tested, and findings of the result have been given in the following Table 5.

Table 5. Direct Relationship Result of PLS Technique

Direct Relationships	Std. Beta	SE	t-value	P-value
Commitment -> Continued use	0.347	0.065	5.367	0.000
Commitment -> Recommendation	0.356	0.069	5.196	0.000
PU -> Recommendation	0.300	0.077	3.876	0.000
Recommendation -> Continued use	0.348	0.064	5.429	0.000
Self-Efficacy -> Continued use	0.272	0.046	5.891	0.000
Switching cost -> Commitment	-0.150	0.061	2.416	0.008
Switching cost -> Recommendation	-0.208	0.061	3.395	0.000
Trust -> Commitment	0.156	0.079	1.983	0.024
Trust -> Continued use	0.102	0.051	2.010	0.022
Direct Relationships	Std. Beta	SE	t-value	P-value

Regards to the effect of switching cost, perceived usefulness and commitment on recommendation the R^2 of recommendation is 0.269 and claimed to be substantial [35], which suggest that 26.9% of the variance of recommendation can be explained by commitment, perceived usefulness and switching cost. Moreover, significant positive relationship has been found between commitment with recommendation ($\beta=0.356$, $p<0.05$). In addition, significant positive relationship has been found between perceived usefulness with recommendation ($\beta=0.300$, $p<0.05$). Also, a significant negative relationship of switching cost has been found with recommendation ($\beta= -0.208$, $p<0.05$). Therefore, H1, H2 and H6 have been accepted.

With respect to the effect of switching cost and trust on commitment, the R^2 of commitment found to be 0.05, suggesting that only 5% variance of commitment can be explained by trust and switching cost. According to the guideline by [35], R^2 is weak (0.02-0.12). However, the relationship between trust and commitment is positively significant ($\beta=0.156$, $p<0.05$), and relationship between switching cost and commitment found to be negatively significant ($\beta= -0.150$, $p< 0.05$). Thus, hypotheses H3 and H4 have been accepted.

Finally, with respect to The Effect of recommendation, commitment, trust, and self-efficacy on continued use of internet banking the R^2 of dependent variable of this framework which is continued use of internet banking found to have value of 0.537, suggesting that 53.7% of the variance in continued use of internet banking can be explained by recommendation, commitment, trust, and self-efficacy. Thus, the R^2 of continued use of IB is substantial (0.26 and above) [35]. Moreover, the relationship of recommendation ($\beta= 0.348$, $p<0.05$), commitment ($\beta= 0.347$, $p<0.05$), trust ($\beta= 0.102$, $p<0.05$), and self-efficacy ($\beta= 0.272$, $p<0.05$) with continued use of internet banking found to be significant. Thus, hypotheses H5, H7, H8, and H10 were supported.

6. Discussion

This research reports several findings of potential interest for continued use research in information system field. This study has provided an illustrative proof of how the combining of different views of socio-cognitive view and relational view is able to give better understanding to the factors that affect continued use of internet banking. Most previous models related to continued use relied on consumers' perceptions of innovation characteristics as a significant predictor of behavioural intention without examining the role of combining the potential impact of psychological factors and human aspects with social factors. In some other studies, one factor from socio-cognitive or relational views was taken as an independent variable by adding it to a well-established theory or model (e.g., [6]) without exploring the potential impact of the rest of views' factors that may be related to such studies as well. The model of this study introduces antecedents beyond socio-cognitive view and relational view, substantially complementing the previous models. In this sense, the study herein helps expand the boundaries of the extent of continued use research by considering the impact of socio-cognitive factors and relational factors on the continued use of internet banking by incorporating the research constructs from social cognitive theory and commitment trust theory within continued use research. These emerging results bear tremendous potential for future research.

This study demonstrates that social cognitive theory (socio-cognitive view) and commitment trust theory (relational view) are applicable to give better understanding to issues of continued use of internet banking, just as they provide a better understanding towards other continued usage issues in some previous studies. Given that combing two different effective views of socio-cognitive view and relational view in same research model has received much less interest among continued use research, this study provides an additional validation of these views as a parsimonious yet powerful views of innovation and team knowledge formation. In addition, this study provides an additional validation for previous studies that calls for integration or mixing different views in one conceptual framework in order to gain extra explanatory power for the continued use. The results of this study confirmed that the research model increased the explanatory power of previous internet banking continued used models (53.7%), suggesting that the research model indeed provides a high explanation of the continued use of internet banking.

In summary, the findings of this study reveal that banks should advertise to their users that internet banking is not a risky service, by promoting information of security and trust on their platforms. They should also prevail upon user concerns about computer crimes, invasion of privacy, and overall, by attempting to provide transactions without errors and allocate sufficient resources to correct it, if necessary. With respect to the significant role that switching cost play in encouraging continued use of internet banking; effective switching cost strategies should be included by banks to guarantee consumers' commitment. Thus, consumers feel more committed to the internet banking service providers when they think to switch to an alternative banking service provider. Also, the results reveal that as customers become committed to internet banking, they encourage other customers to continue using internet banking through the positive recommendations that they spread among each other. In addition, banks in a highly collective culture such as the Arab World can rely on recommendations of their customers to influence individuals' actions by the people around them toward continued use of internet banking. Finally, the findings of this study provide preliminary evidence suggesting that the self-efficacy play an essential role in continued use of internet banking.

7. Limitations and Future Research

This research reports several findings of potential interest for continued use research in information system field. This study has provided an illustrative proof of how the combining of different views of socio-cognitive view and relational view is able to give better understanding to the factors that affect continued use of internet banking. Most previous models related to continued use relied on consumers' perceptions of innovation characteristics as a significant predictor of behavioural intention without examining the role of combining the potential impact of psychological factors and human aspects with social factors. In some other studies, one factor from socio-cognitive or relational views was taken as an independent variable by adding it to a well-established theory or model (e.g., [6]) without exploring the potential impact of the rest of views' factors that may be related to such studies as well. The model of this study introduces antecedents beyond socio-cognitive view and relational view, substantially complementing the previous models. In this sense, the study herein helps expand the boundaries of the extent of continued use research by considering the impact of socio-cognitive factors and relational factors on the continued use of internet banking by incorporating the research constructs from social cognitive theory and commitment trust theory within continued use research. These emerging results bear tremendous potential for future research.

8. Conclusions

Recently, internet banking continued use has become one of the most researched fields in IT/IS literature. Continued use models and frameworks are increasingly applied to various individuals in different contexts to determine factors affecting continued use of internet banking from different perspectives. However, combining the different views in one research model to gain a better understanding in the continued use phenomena has received limited attention. To address this gap, we contributed to continued use theory by offering a conceptual framework that sheds more light on the factors that affect the continued use of internet banking by combing two different views. As such, we combined CTT that represents the relational view and SCT, which represent socio-cognitive view in the research model. While we found that commitment,

recommendation, self-efficacy were the most important factors in explaining the continued use of internet banking. Thus, by combining socio-cognitive view with relational view in the research model, we added stronger determinants to explore and predict continued use of internet banking, and also provided more predictive power to existing theories.

References

[1]   M. Salehi, and M. Alipour. E-banking in emerging economy: empirical evidence of Iran. *International Journal of Economics and Finance.* 2010; 2(1): 201.
[2]   H. H. Tat, and K. M. Nor. Predictors of intention to continue using internet banking services: An empirical study of current users. *International Journal of Business and Information.* 2015; 3(2).
[3]   S. Adapa, J. Rindfleish, R. Cooksey *et al. An Empirical Investigation of Frequency of Internet Banking Usage by Australian Consumers.* Proceedings of the ANZMAC Annual Sustainable Management and Marketing Conference 2009: Sustainable Management and Marketing. 2009.
[4]   I. Elmezni, and J. Gharbi. Mediation of emotion between users' cognitive absorption and satisfaction with a commercial website. *Journal of Information Systems Technology and Planning.* 2012; 5(12): 60-71.
[5]   A. Bhattacherjee, J. Perols, and C. Sanford. Information technology continuance: A theoretic extension and empirical test. *Journal of Computer Information Systems.* 2008*;* 49(1): 17-26.
[6]   Y. Kim, and K. Crowston. *Technology adoption and use theory review for studying scientists' continued use of cyber-infrastructure.* Proceedings of the Association for Information Science and Technology*.* 2011; 48(1): 1-10.
[7]   D. Li, and P. Y. Chau. Acceptance of internet-based services: a comparison of three models. *Pacific Asia Journal of the Association for Information Systems.* 2009; 1(3): 2.
[8]   Y. Lee, and O. Kwon. *Can affective factors contribute to explain continuance intention of web-based services?.* ICEC '09 Proceedings of the 11th International Conference on Electronic Commerce. Taipei, Taiwan. 2009: 302-310.
[9]   S. Adapa. Continued and frequent use of internet banking by Australian consumers: Identification of the factor components. *The Journal of Internet Banking and Commerce.* 2011; 16(2): 1-22.
[10] R. M. Morgan, and S. D. Hunt. The commitment-trust theory of relationship marketing. *The journal of marketing.* 1994: 20-38.
[11] B. F. Blake, K. A. Neuendorf, and C. M. Valdiserri. Tailoring new websites to appeal to those most likely to shop online. *Technovation.* 2005; 25(10): 1205-1214.
[12] E. Ernovianti, N. K. N. Mat, U. Kassim *et al.* The usage of internet banking service among higher learning students in Malaysia. *American Journal of Economics.* 2012; 2(4): 105-108.
[13] V. Cho, T. Cheng, and H. Hung. Continued usage of technology versus situational factors: An empirical analysis. *Journal of Engineering and Technology Management.* 2009; 26(4): 264-284.
[14] W. Afzal, and K. M. Thompson. Conributions of cognitive science to information science: an analytical synopsis. 2012.
[15] F. D. Davis, R. P. Bagozzi, and P. R. Warshaw. User acceptance of computer technology: a comparison of two theoretical models. *Management science.* 1989; 35(8): 982-1003.
[16] J. P. Wentzel, J. M. Wentzel, D. K. Sundar *et al.* Drivers of E-Commerce/E-Business Success: Constructs, Antecedents & Moderators in Adoption of Technology Enabled Products & Services. 924-929.
[17] G. Zhang, L. Ma, Y. Yang *et al.* Understanding Customers' Continued Use Behavior of Taxi-hailing Apps: An Empirical Study in China. *Journal of Residuals Science & Technology.* 2016; 13(8).
[18] G. S. Shergill, and B. Li. Internet Banking–An empirical investigation of a trust and loyalty model for New Zealand banks. *Journal of Internet commerce.* 2005; 4(4): 101-118.
[19] C. B. Wong. The Influence of customer satisfaction and switching costs on customer retention: retail internet banking services. *Global Economy and Finance Journal.* 2011; 4(1): 1-18.
[20] M. Colgate, and B. Lang. Switching barriers in consumer markets: an investigation of the financial services industry. *Journal of consumer marketing.* 2001; 18(4): 332-347.
[21] D. M. Rousseau, S. B. Sitkin, R. S. Burt *et al..* Not so different after all: A cross-discipline view of trust. *Academy of management review.* 1998; 23(3): 393-404.
[22] M. Rambocas, and S. Arjoon. Using diffusion of innovation theory to model customer loyalty for Internet banking: A TT millennial perspective. *International Journal of Business and Commerce.* 2012; 1(8): 1-14.

[23] E. Garbarino, and M. S. Johnson. The different roles of satisfaction, trust, and commitment in customer relationships. *The journal of marketing*. 1999: 70-87.

[24] B. Suh, and I. Han. Effect of trust on customer acceptance of Internet banking. *Electronic Commerce research and applications.* 2002; 1(3-4): 247-263.

[25] Z. S. Ghorban, and H. Tahernejad. A study on effect of brand credibility on word of mouth: With reference to internet service providers in Malaysia. *International Journal of Marketing Studies.* 2012; 4(1): 26.

[26] R. East, K. Hammond, and W. Lomax. Measuring the impact of positive and negative word of mouth on brand purchase probability. *International journal of research in marketing.* 2008; 25(3): 215-224.

[27] T. Al-Maghrabi, C. Dennis, S. V. Halliday *et al.* Determinants of customer continuance intention of online shopping. *International Journal of Business Science & Applied Management.* 2011; 6(1).

[28] M. T. Jan, K. Abdullah, and A. Shafiq. The Impact of Customer Satisfaction on Word of Mouth: Conventional Banks of Malaysia Investigated. *International Journal of Information Technology & Computer Science.* 2013; 10(3): 14-23.

[29] A. Bandura. Social cognitive theory of moral thought and action. *Handbook of moral behavior and development.* Psychology Press. 2014: 69-128.

[30] J. Harkness, and A. Schoua-Glusberg. Questionnaires in translation, DEU. 1998.

[31] J. W. Creswell, R. Shope, V. L. Plano Clark *et al.* How interpretive qualitative research extends mixed methods research. *Research in the Schools.* 2006; 13(1): 1-11.

[32] K. Wong. Handling small survey sample size and skewed dataset with partial least square path modelling. *Vue: The Magazine of the Marketing Research and Intelligence Association November*. 2010: 20-23.

[33] J. F. Hair, C. M. Ringle, and M. Sarstedt. PLS-SEM: Indeed a silver bullet. *Journal of Marketing theory and Practice.* 2011; 19(2): 139-152.

[34] W. W. Chin. How to write up and report PLS analyses. Handbook of partial least squares. *Springer*. 2010: 655-690.

[35] J. Cohen. Statistical power analysis for the behavioral sciences . Hilsdale. *NJ: Lawrence Earlbaum Associates.* 1998; 2.