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Interactions in Virtual Customer Environments toward Customer Relationship Management: A Study of Tourist Hotels in Sri Lanka

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ABSTRACT

With the introduction of digitalization, virtual customer environments (VCEs) play a significant role in the business world and it has become a strategic indicator for the success of business. Consequently, business entities have established VCEs, which enable customers and firms to virtually interact and build a relationship with each other. This study examines the impact of customer interactions in such VCEs on the nature of customer-business relationships of tourist hotels in Sri Lanka. The study is significant to Sri Lankan context as no studies have been conducted in this field. The study was developed and tested a conceptual model using a scientific quantitative research methodology. According to the results, it was found that customer interactions in VCEs associate the nature of customer-business relationships of the tourist hotels in Sri Lanka while VCE mediates the said association. Thus, VCEs should be an integral element of firms' CRM strategy in the context of the tourist hotels in Sri Lanka.

Keywords: Virtual Customer Environments, Customer Interactions, Customer Experience, Customer-business Relationships, Customer Relationships Management
JEL Classification: M31

1. INTRODUCTION

Global hotel industry is one of the world's fastest growing fields which benefit from global tourism. Despite challenges, demand for global tourism remained robust. The World Tourism Organization (2018) declares that all world regions such as America, Europe, Africa, Middle East and Asia-Pacific contribute toward robust global growth in tourism and the Asia-Pacific is one of the top two well-performed regions. The Central Bank of Sri Lanka (2018) observes that direct contribution of tourism to the country's gross domestic product is 4467.7 million US dollars (5.3%), means Sri Lanka has considerably contributed to the related global tourism growth identified above. In essence, apart from the natural beauty, services such as accommodation and food and beverages have become strategic indicators for the success of tourism in Sri Lanka. It implies the vital role played by hotels in tourism of Sri Lanka. This is also evident from the high quality industry standards set by the Sri Lanka Tourism Development Authority (SLTDA) (2018), when classifying hotels from 1 to 5 stars. Therefore, the hotel industry in Sri Lanka is in a competitive nature and market survival is extremely based on high quality service delivered to customers by hotels through an unbroken value addition process. Unlike in past, with the introduction of digitalization, value addition process based on customer feedback has now become a regular function in the business world. Digitalization enables virtual knowledge transfer between customers and firms, providing simplified interaction modes on a large scale (Chu and Chan, 2009). From hotels' perspective, virtual settings are used as an effective channel to reach customers scattered all over the globe. From customers' perspective, rapid advancements in technology

enable them to interact in such virtual settings during 24 h/7 days. Accordingly, this industry is considered as the perfectly suited for virtual settings (for example, interactive websites including virtual tours, applications of social media, interactive online booking engines et cetera) which are used to transfer knowledge between customers and firms.

According to Goldsmith (2006) and cited by Cheung et al. (2008), virtual based knowledge transfer settings are known as virtual customer environments (VCEs). According to Kannan et al. (2000), the possession of VCEs can be in different ways. The domain of this research phenomenon is firm sponsored VCEs. In general, there are five different functions that can be performed by customers, when they interact with firms using any type of VCE. They are product conceptualist, product designer, product tester, product support specialist, and product marketer (Nambisan and Nambisan, 2008). Therefore, VCEs can be designed to support any of these customer roles. Further to the discussions had with an expert of hotel industry in Sri Lanka (W.N.S. Wijesena, personal communication, 30 January 2018) revealed that available VCEs are solely sponsored by tourist hotels that are considerably capable of successfully executing such virtual settings. Moreover, he confirmed that existing VCEs are to perform "product support specialist" role, where customers and firms enable to share their ideas/views on the product, rather the other customer roles performed in VCEs. Therefore, the domain of this research phenomenon is product support oriented VCEs. Additionally, he emphasized that due to the competitive nature of the online hotel sales in the industry, creating a convincing VCE is also critical in order to create a competitive advantage in terms of VCE performances. Therefore, efforts have been put by the tourist hotels to improve their VCEs in a way of enhancing customers' online journey or experience.

From a business point of view, the utilization of VCEs by customers and firms as a communication channel has now become ordinary fact. This virtual concept has led to change business models related to consumer interactions and relationships. Thus, a careful consideration needs to be paid by scholars on customer interactions in VCEs and its impact on customer-business relationships (Nambisan and Baron, 2009). In addition to that, there are hardly any research findings available in the Asia Pacific region on this context (Ho, 2018). Thus, this study is envisaged to describe whether there is an impact of customer interactions on customer-business relationships using product support oriented VCEs of the tourist hotels in Sri Lanka, and whether virtual customer interaction based experience is mediated to the said association.

2. THEORY

2.1. VCEs

Nambisan (2002) describes that the introduction of World Wide Web, people allowed to virtually club together around specific products and services. According to Cheung et al. (2008), such virtual communication settings are known as VCEs that enable both firms and customers to interact. VCEs can be initiated by firms, customers or any other third party (Kannan et al., 2000). The focus of this research phenomenon is firm sponsored VCEs which are organized by the firm with the purpose of encouraging its customers to have relationships with the firm and assist member customers through peer support services (Mathwick et al., 2008; Porter and Donthu, 2008). There are five customer roles performed in any type of VCE and they are product conceptualist, product designer, product tester, product support specialist, and product marketer (Nambisan, 2010). The domain of this research phenomenon is product support specialists, where customers interact in VCEs to share product-related knowledge or expertise to extend support to peer customers and firms.

2.2. Customer Interactions in VCEs

Nambisan and Baron (2009) assumed that there are three types of key customer interaction salient in product support oriented VCEs and respectively explained as follws. (1) Product context means customer interactions transpired on knowledge based: Product-technology knowledge, product-market knowledge, product-use knowledge (Franke and Shah, 2003; Fuller et al., 2004; Hertel et al., 2003; Wasko and Faraj, 2000). (2) Community context means customer interactions transpired for social involvement: the extent to which the interaction entities involve the community and reveal their identity to others (Burgoon et al., 2000; Fischer et al., 1996; MacAlexander et al., 2002; Muniz and O'Guinn, 2001). (3) Technology-mediation means customer interactions transpired in a computer-mediated context: human and machine interactivity (the level of potential for immediate feedback from the receiver), channel capacity (the potential to transmit a high level of cues), and adaptiveness (the ability to adapt a message to a particular receiver) (Te'eni, 2001). However, the researcher of this study recognizes that the channel capacity and adaptiveness have limited relevance to the current study based on results of triangulation. Therefore, the human and machine interactivity forms a significant consideration in this study.

2.3 Customer Experience in VCEs

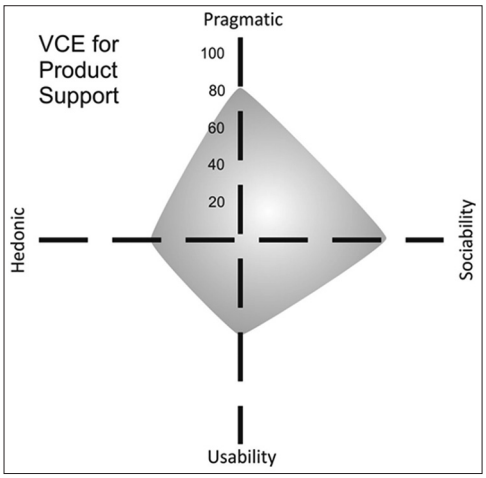
Interactions in VCEs always bring customers a virtual experience. Greater degree of customer interactions in VCEs can optimize VCE (Novak et al., 2000; Nambisan, 2002). According to Hoffman and Novak (1996), customer experience in VCEs has been defined and measured using the flow construct that describes a cognitive state occurring during virtual navigation characterised by a seamless sequence of responses facilitated by machine interactivity, intrinsically enjoyable and accompanied by a loss of self-consciousness, and self-reinforcing. The customer experience in VCEs is made up of four components: pragmatic experience, sociability experience, usability experience and hedonistic experience (Nambisan and Nambisan, 2008) and respectively explained as follows. (1) Pragmatic experience: This component relates to customers' experience in realizing product-related informational goals: product-technology knowledge, product-market knowledge and product-use knowledge. This experience is obtained through the "product-context" customer interactions in VCEs. (2) Sociability experience: This component stresses the significance of community dialogues and the social policies or rules of engagement that frame dialogues in VCEs: Enhancement of a sense of belonging (Smith and Kollock, 1999), and customers place considerable value on such social identity (social network)

and relationships (customer affiliations) (Muniz and O'Guinn, 2001; MacAlexander et al., 2002). This component is obtained through the "community context" customer interactions in VCEs. (3) Usability experience: Helms et al. (2010); Nielsen (1999) stated that usability experience is obtained through the process and functionality of the VCE: Easy navigation and presence of facilitators when things are not clear for online users. This component is obtained by the quality of computer-mediated customer interactions in VCEs. (4) Hedonistic experience: This component captures that dimension covering both the interaction with other peer customers and with tools and technologies. According to Muniz and O'Guinn (2001); Helms et al. (2010), customers get a considerable satisfaction level (enjoyment, entertainment, pleasure and fun) from communicating with one another about the product, its features, and the habits of the usage context. According to Jeppesen and Molin (2003), such positive reactions and enjoyment are similarly applicable in VCEs too.

Although the above mentioned four components provide a comprehensive view of the customer experience in VCEs, the nature of the customer's role played (product conceptualist, product designer, product tester, product support specialist, and product marketer) in the VCE would decide how significant or relevant each component than others (Nambisan and Nambisan, 2008).

Figure 1 exhibits the typical customer experience profile for product support oriented VCEs as per assent of Nambisan and Nambisan (2008). As shown in Figure 1, the pragmatic component is imperative, means product-related knowledge and learning are fundamental in product support specialist role. Further, the sociability component becomes more important since the community involvement is high in product support specialist role. It underlines the different types of customer interactions that make different types of customer experience. Thus, the customer experience in the VCE would vary depending on the nature of customer interactions and the type of their role played in VCEs.

Figure 1: Customer experience profile in product support oriented VCEs



Source: Nambisan and Nambisan (2008)

2.4. Customer-business Relationships using VCEs

It is very important to understand by a firm that its VCE initiative should be an integral element of its CRM strategy Ahearne et al., (2005); Nambisan and Baron, (2007); Nambisan and Nambisan, (2008). According to Nambisan and Baron (2007); Nambisan and Nambisan (2008), the customer interaction based experience relates to relationships customers have with the firm. As explained by Ahearne et al., (2005); Nambisan and Baron, (2007); Nambisan and Nambisan, (2008), a few several initiatives of VCEs that would strengthen customer-business relationships are listed below. (1) Customer reviews and recommendations: Customers like interacting and experiencing more in VCEs on a product or brand and their dialogues or reviews can influence other customers' attitude towards the host firm itself, which is leading to purchasing decisions as well. When firms follow proactive measures for customers' online interactions/experience, customers increase their relationships with firms using VCEs by recommending the product or the firm. (2) Customer synergy: Firms should enhance the customer experience by synergies with customers' appropriate offline product-related interactions, for instance product marketing activities that begin in the virtual environment and continue through offline events that are held in areas where customers live. If not, where product marketing activities that begin as offline events are held in areas where customers live and continue through in the virtual environment. Although these kinds of practices may not be appropriate or feasible for all companies, they do suggest potential opportunities to enhance the customer experience when customers return to the virtual environment later on.

3. RESEARCH MODEL

Based on the literature reviewed, the proposed research model depicted in Figure 2 was developed.

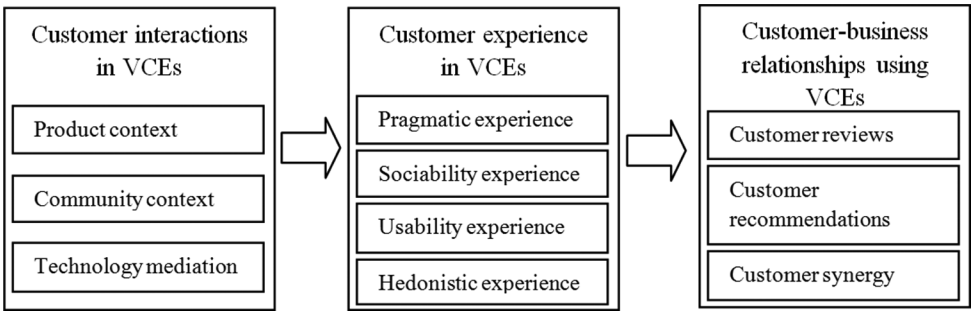
The following alternative hypotheses were tested through the research, based on the available literature that assumes a high degree of the customer interactions enable customers to experience more in VCEs and establish better customer-business relationships.

- $H1_1$ = Customer interactions in product support oriented VCEs of tourist hotels in Sri Lanka is high.
- $H2_1$ = Customer experience in product support oriented VCEs of tourist hotels in Sri Lanka is high.
- $H3_1$ = Customer-business relationships using product support oriented VCEs of tourist hotels in Sri Lanka is high.
- $H4_1$ = There is a mediating effect of customer experience on the association between customer interactions and customer–business relationships using product support oriented VCEs of tourist hotels in Sri Lanka.

4. METHODS

A survey was used to gather data using a personally-administered questionnaire**,** whereby the researcher enabled to meet respondents to respond to questionnaires at the workplace. The main advantage of this method was getting fully-completed questionnaires and if respondents got any of the doubts clarified on the spot. Participants in the study were those who are working for classified tourist hotels

Figure 2: Proposed research model



Source: Author

in Sri Lanka (as per the SLTDA hotel classification) and operating VCEs. Expert in E-marketing staff (digital marketing staff) of each selected tourist hotel was considered in the sample process. The factors such as star classification, geographical locations and descriptions of the respondents (gender, position, education and experience) of the selected tourist hotels were considered when selecting the respondents in the sample under this study. A summary of the above explained sample is provided in Table 1.

The study respondents were selected using purposive sampling (non-probability). This was a strategic choice of elements (about with whom, where and how to do the research and the required information can be gathered from specific target groups and in such cases), any type of probability sampling across a cross-section of the entire population is purposeless and not useful. Sample size of the study was 52 tourist hotels (out of 114) with the 95% confidence level and 10% precision. All participants successfully participated in the survey.

The measures for the study constructs were based on prior related studies. The measures and sources for all the study constructs are listed in Appendix. The questionnaire was reconfirmed by 05 industry experts after having group discussions with them while asking them to fill a questionnaire, where the researcher attempted to apply the triangulation concept. Further, main study data was considered for analysing purpose after doing a univariate normality test, validity test (including content validity, construct validity, convergent and discriminant validity) and reliability tests.

In the current study context, as the scale of measurement is interval or ratio (where the mean value is more considered), the appropriate parametric statistics used by the researcher for each of the hypothesis (H1, H2 and H3: One sample t-test is used as data are from a population with unknown variance and H4: Mediating hierarchical regression model as per Baron and Kenny (1986). Statistical Package for Social Sciences has been used to follow the following appropriate statistical parametric methods.

5. RESULTS

5.1. Goodness of the Data

According to the univariate normality test as shown in Table 2, equal/close mean values (3.0–4.0) and the standard deviation values (where individual responses to a question vary or deviate within the given range) of relevant dimensions under customer interactions, customer experience and customer-business relationships indicate that the data set is normally distributed.

Table 1: A summary of the sample profile

Characteristic	Frequency (%)
Star classification	
Five star hotels	14 (27)
Four star hotels	15 (29)
Three star hotels	15 (29)
Two star hotels	8 (15)
Geographical locations	
Colombo	16 (31)
Kandy	8 (15)
Nuwara Eliya	5 (10)
Beach	15 (29)
Cultural (Dambulla, Anuradhapura and Pollonnaruwa)	6 (11)
Yala	2 (4)
Participant characteristics	
Gender	
Male	22 (42)
Female	30 (58)
Position	
Managerial	28 (54)
Operational	24 (46)
Education	
Master's degree	5 (10)
Bachelor's degree	31 (60)
High school education	16 (30)
Experience	
More than 5 years	15 (29)
5 years	30 (58)
3 years	7 (13)

Sufficient internal consistency (as shown in Table 2, where Cronbach's alpha coefficients are >0.7 while inter-item correlation coefficients are >0.5) of the relevant variables enabled the researcher to combine them into single variable. Convergent validity test was covered by average variance extracted (AVE): Table 2 exhibits that AVE values of each dimension of the current study are elevated as values are >0.5. Accordingly, the convergent validity of each item used in the current study is evident. When comparing AVE values with the square of the correlation coefficients mentioned in Table 2, the square of the correlation of each construct is much lower than the AVE of the specific construct compared with any of the other constructs. Therefore, the discriminant validity of the current study was established.

Validating of measurement properties: The knowledge of people who are familiar with the construct being measured (literature sources used as shown in Appendix), were considered for the content validity. A factor analysis (with Eigen value = >"1," maximum iteration for convergence = 25 times and absolute value = above 0.45) was employed by the researcher in order to review the construct validity of the variables used. Relevant variables were substantially loaded on each factor or component as appeared in the Appendix.

5.2. Hypotheses testing

5.2.1. One sample t-tests (H1, H2 and H3)

Below mentioned scale was used to test hypotheses measured from one sample t-tests.

Low = 1–2.39;
Neutral = 2.4–3.5 and
High = 3.6–5.00

Table 3 exhibits three key findings. (1) The mean of customer interaction is higher than 3.6, which is a statistically significant difference of 0.346 (95% CI, 0.19–0.51), t(51) = 4.353, P = 0.000. So it supports to reject the null hypothesis of H1. However, the technology-mediation does not support to reject the null hypothesis of H1. (2) The mean of customer experience is higher than 3.6, a statistically significant difference of 0.173 (95% CI, 0.03–0.32), t(51) = 2.431, P = 0.019. So it supports to reject the null hypothesis of H2. However, the usability and hedonic experiences do not support to reject the null hypothesis of H2. (3) The mean of customer-business relationships is higher than 3.6, and a statistically significant difference of 0.269 (95% CI, 0.13–0.41), t(51) = 3.812, P = 0.000. So it supports to reject the null hypothesis of H3. However, the customer synergy does not support to reject the null hypothesis of H3.

Hierarchical Mediating Regression Model by Baron and Kenny (1986) (H4)

A mediation model should not be tested unless there is a significant relationship between the independent and dependent variables. Therefore, a correlation test conducted for the variables considered in the current study and revealed that each variable is correlated with other variables (shown in Table 4).

In conducting the hierarchical mediating regression model, the researcher took different equations associated with "a," "c" and "b" paths (as shown in Figure 3) respectively into account.

As per Table 5, it is proved that there is a significant linear relationship between the variables of the model associated with path "a" and "c" while the model associated with path "b" is not statistically significant (P > 0.05), means that there is a mediation effect of customer experience on the association between customer interactions and customer-business relationships.

Table 2: Means, standard deviations, validity statistics and correlations

Variable	Mean±SD	CA/*IIC	1	2	3	4	5	6	7	8
Product context	3.94±0.669	0.854	**0.725**	0.237	0.014	0.0005	0.252	0.0004	0.015	0.009
Community context	3.65±0.537	*0.671	0.487	**0.773**	0.040	0.006	0.112	0.014	0.143	0.179
Technology mediation	3.27±1.157	*0.649	0.121	0.201	**0.815**	0.065	0.023	0.023	0.034	0.0001
Pragmatic experience	3.73±0.744	0.862	0.023	0.078	0.256	**0.788**	0.006	0.0002	0.009	0.045
Sociability experience	3.67±0.510	0.833	0.502	0.335	0.154	0.079	**0.727**	0.076	0.134	0.053
Usability experience	3.24±0.907	*0.578	−0.021	0.120	−0.153	0.017	0.277	**0.673**	0.132	0.038
Hedonic experience	3.24±0.907	0.791	0.126	0.379	0.187	0.098	0.367	0.364	**0.717**	0.249
CBR		0.780	0.098	0.424	0.013	0.213	0.231	0.196	0.499	**0.696**
Customer reviews	3.83±0.760									
Customer recommendations	3.73±0.795									
Customer synergy	3.54±0.699									

CBR: Customer-business relationships, SD: Standard deviation, CA: Conbrach alpha, *IIC: Inter-item correlation. 1 - AVE values extracted are presented in bold, 2 - paired correlation coefficients are presented in the cells below AVE values, 3 - square values of the correlation coefficients are presented the cells above AVE values

Table 3: Results of one sample t-tests

Test value=3.5						
Variable	Mean	t-value	P-value (two-tailed)	Mean deference	95% CI of the deference	
					Lower	Upper
Product context	3.94	4.767	0.000	0.442	0.26	0.63
Community context	3.65	2.014	0.034	0.154	0.27	0.26
Technology mediate	*3.27	−1.439	0.156	−0.231	−0.55	0.09
Customer interactions	3.85	4.353	0.000	0.346	0.19	0.51
Pragmatic experience	3.73	2.237	0.030	0.231	0.02	0.44
Sociability experience	3.67	2.404	0.020	0.173	0.05	0.28
Usability experience	*3.24	−2.067	0.229	−0.261	−0.05	−0.47
Hedonic experience	*3.24	−2.067	0.229	−0.261	−0.05	−0.47
Customer experience	3.67	2.431	0.019	0.173	0.03	0.32
Customer reviews	3.83	3.103	0.003	0.327	0.12	0.54
Customer recommendations	3.73	2.093	0.041	0.231	0.01	0.45
Customer synergy	*3.54	0.397	0.693	0.38	−0.16	0.23
Customer-business relationships	3.77	3.812	0.000	0.269	0.13	0.41

N=52; df=51, *Do not support rejecting the null hypotheses of H1, H2, H3

6. DISCUSSION

Degree of customer interactions in product support oriented VCEs of tourist hotels in Sri Lanka: High degree of customer interactions in product support oriented VCEs of tourist hotels in Sri Lanka, consists of product and community contexts only and tally with available literature of Nambisan (2002); Nambisan and Baron (2007); Nambisan and Baron (2009). However, the current study disclosed that technology-mediation is not significant in deciding the degree of customer interactions in product support oriented VCEs of the tourist hotels in Sri Lanka, which negates available literature of Te'eni (2001); Rafaeli (1988).

Degree of customer experience in product support oriented VCEs of the tourist hotels in Sri Lanka: High degree of customer experience in product support oriented VCEs of tourist hotels in Sri Lanka, consists of pragmatic experience and sociability experience while usability experience and hedonic experience are "moderate" level. Accordingly, the current research findings concur with available literature of the customer experience profile for the product support oriented VCEs of Nambisan and Nambisan (2008).

Degree of customer-business relationships using product support oriented VCEs of the tourist hotels in Sri Lanka: High degree of customer-business relationships using product support oriented VCEs of tourist hotels in Sri Lanka, consists of customer reviews and customer recommendations only and consistent with available literature of Ahearne et al. (2005); Nambisan and Nambisan (2008). However, in this study, it is revealed that customer synergy with online and offline customer interactions are not contributing to the degree of customer-business relationships using product support oriented VCEs of the tourist hotels in Sri Lanka, which negates available literature of MacAlexander et al. (2002); Nambisan and Baron (2010); Nambisan and Baron (2007); Nambisan and Baron (2009).

Mediating effect of customer experience on the association of customer interactions and customer-business relationships using product support oriented VCEs of tourist hotels in Sri Lanka: A corresponding change in customer experience is always visible with any change in customer interactions in product support oriented VCEs by tourist hotels in Sri Lanka, which is consistent with available literature of Novak et al. (2000); Nambisan (2002). In other hand, a corresponding change in customer-business relationships is appeared with any customer interactions using product support oriented VCEs by tourist hotels in Sri Lanka, which is consistent with available literature of Ahearne et al. (2005); Nambisan and Baron (2007); Nambisan and Baron (2009). Therefore, it is observed that customer experience mediates the association between customer interactions and customer-business relationships using product support oriented VCEs by tourist hotels in Sri Lanka, which is consistent with available literature of the association of customer experience and customer relationships with firms using VCEs of Nambisan and Nambisan (2008).

Table 4: Results of correlation coefficient test

Variable	Customer interaction	Customer experience	Customer relationships
Customer interaction	1.000		
Customer experience	0.444**	1.000	
Customer-business relationships	0.342**	0.298*	1.000

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

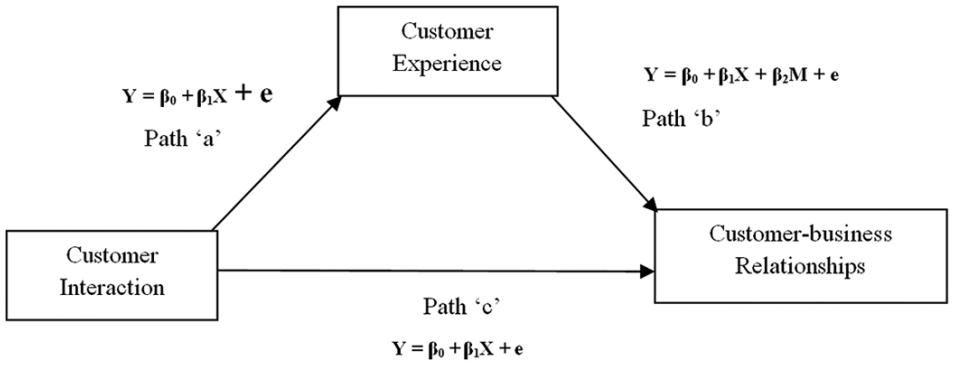
7. CONCLUSION

In essence, VCE initiative should be an integral element of the firm's CRM startegy in the context of the tourist hotels in Sri Lanka. Firms should support customer interactions in VCEs as much as possible, specially, in terms of product context and social context. It might be too costly and may not even be effective if maximizing

Table 5: Results of hierarchical regression (mediating) – H_4

Path and regression equation	R^2	df	Standardized (β)	P value
Path a: $M = \beta_0+\beta_1X+e$	0.117	51	0.342	0.013
Path c: $Y = \beta_0+\beta_1X+e$	0.089	51	0.298	0.032
Path b: $Y = \beta_0+\beta_1X+\beta_2M+e$	0.246	51	0.230 (β_1)	0.083
			0.376 (β_2)	0.006

Figure 3: Different paths in mediation effect



all the four components of customers' VCE experience. Instead, firms must identify the most important component(s) of the customer experience in their VCEs and improve them to get the maximum effect toward CRM practices. Conceding that, pragmatic experience and sociability experience should encourage by firms in terms of maximizing customer experience.

8. DIRECTIONS FOR FUTURE RESEARCH

This study has considered only the product support oriented VCEs, therefore, interested scholars can carry out studies on other types of VCEs (on availability) taking any other industry in to consideration. Furthermore, certain theoretical concepts proposed in the model indicated inter-item association, for example, pragmatic experience is obtained by product context. Thus, an extended study can be carried out to ascertain the identified associations between each variable.

REFERENCES

Ahearne, M., Bhattacharya, C.B., Gruen, T. (2005), Antecedents and consequences of customer-company identification: Expanding the role of relationship marketing. Journal of Applied Psychology, 90(3), 574-585.

Baron, R.M., Kenny, D.A. (1986), The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. Journal of Personality and Social Psychology, 51(6), 1173-1182.

Burgoon, J.K., Bonito, J., Bengston, B., Ludenberg, M., Allspach, L. (2000), Testing the interactivity model: Communication processes, partner assessment, and the quality of collaborative work. Journal of Management Information Systems, 16(3), 33-56.

Central Bank of Sri Lanka. (2018), Annual Report: 2017. Central Bank of Sri Lanka. Available from: https://www.cbsl.gov.lk. [Last accessed on 2018 Oct 15].

Cheung, C.M.K., Lee, M.K.O., Rabjohn N. (2008), The impact of electronic word-of-mouth: The adoption of online opinions in online customer communities. Journal of Internet Research, 18(3), 229-247.

Fischer, E., Bristor, J., Gainer, B. (1996), Creating or escaping community? An exploratory study of internet consumers' behavior. Advances in Consumer Research, 23, 178-182.

Franke, N., Shah, S. (2003), How communities support innovative activities: An exploration of assistance among users of sporting equipment. Research Policy, 32(1), 157-178.

Fuller, J., Bartl, M., Muhlbacher, H. (2004), Community Based Innovation: A Method to Utilize the Innovation Potential of Online Communities. Hawaii: 37th Hawaii International Conference on System Sciences (HICSS) Conference Proceedings. p5-8.

Helms, R., Ignacio, R., Brinkkemper, S., Zonneveld, A. (2010), Limitations of network analysis for studying efficiency and effectiveness of knowledge sharing. Electronic Journal of Knowledge Management, 8(1), 53-68. Available from: http://www.ejkm.com. [Last accessed on 2018 Aug 15].

Hertel, G., Niedner, S., Hermann, S. (2003), Motivation of software developers in open source projects. Research Policy, 32(7), 1159-1177.

Ho, M. (2018), Asia Pacific: Regional Tourism Trends. Horwath HTL. Available from: https://www.horwathhtl.com. [Last accessed on 2018 Oct 28].

Hoffman, D.L., Novak, T.P. (1996), Marketing in hypermedia computer-mediated environments: Conceptual foundations. Journal of Marketing, 60, 50-68.

Jeppesen, L., Molin, M. (2003), Consumers as co-developers: Learning and innovation outside the firm. Technology Analysis and Strategic Management, 15(3), 363-383.

Kannan, P.K., Chang, A., Whinston, A.B. (2000), Electronic communities in e-business: Their role and issues. Information Systems Frontiers, 1(4), 415-426.

MacAlexander, J., Schouten, J., Koening, H.F. (2002), Building brand community. Journal of Marketing, 66(1), 38-49.

Mathwick, C., Wiertz, C., De Ruyter, K. (2008), Social capital production in a virtual P3 community. Journal of Consumer Research, 34(6), 832-849.

Muniz, A., O'Guinn, T. (2001), Brand community. Journal of Consumer Research, 27, 412-432.

Nambisan, S. (2002), Designing virtual customer environments for new product development: Toward a theory. Academy of Management Review, 27(3), 392-413.

Nambisan, S. (2010), Virtual customer environments: It enabled customer co-innovation and value co-creation. In: Technology and Product Development: Annals of Information System. U.S.A, Boston, MA: Springer. p109-127.

Nambisan, S., Baron, R.A. (2007), Interactions in virtual customer environments: Implications for product support and customer relationship management. Journal of Interactive Marketing, 21(2), 42-62.

Nambisan, S., Baron, R.A. (2009), Virtual customer environments: Testing a model of voluntary participation in value co-creation activities. Journal of Product Innovation Management, 26(1), 388-406.

Nambisan, S., Baron, R.A. (2010), Different roles, different strokes: Organizing virtual customer environments to promote two types of customer contributions. Journal of Organization Science, 21(2), 554-572.

Nambisan, S., Nambisan, P. (2008), How to profit from a better virtual customer environments. MIT Sloan Management Review, 49(3), 54-61.

Nielsen, J. (1999), Designing Web Usability: The Practice of Simplicity. USA, Thousand Oaks: New Riders Publishing.

Novak, T.P., Hoffman, D.L., Yung, Y.F. (2000), Measuring the customer experience in online environments: A structural modeling approach. Journal of Marketing Science and the Internet, 19(1), 22-42.

Porter, C.E., Donthu, N. (2008), Cultivating trust and harvesting value in virtual communities. Management Science, 54(1), 113-128.

Rafaeli, S. (1988), Interactivity: From new media to communication. Sage Annual Review of Communication Research: Advancing Communication Science, 16(1), 110-134.

Smith, M.A., Kollock, P. (1999), Communities in Cyberspace. New York: Routledge.

Sri Lanka Tourism Development Authority (SLTDA). (2018), Tourism Industry Report: First Quarter of 2018. SLTDA. Available from: http://www.sltda.lk. [Last accessed on 2018 Oct 10].

Te'eni, D. (2001), A cognitive-affective model of organizational communication for designing IT. MIS Quarterly, 25(2), 251-312.

Wasko, M.M., Faraj, S. (2000), Why people participate and help others in electronic communities of practice. Journal of Strategic Information System, 9(3), 155-173.

World Tourism Organization (UNWTO). (2018), International tourism maintains strong momentum in the first half of 2018. World Tourism Barometer, 16(4), 1-4.

APPENDIX

Items were measured using a five-point Likert scale, anchored by 15strongly disagree and 55 strongly agree

Items were measured using a five-point Likert scale anchored by 1 strongly disagree and 5 strongly agree. Questionnaire consisted of three sections: Customer interaction, customer experience and relationship marketing.

Constructs/items	Factor loading	Sources
Customer interactions		
Product content is measured by three items:		Nambisan and Baron, 2009
Amount of information about product usage	0.908	Fuller et al., 2004
Amount of information about product technology	0.837	Hertel et al., 2005
Amount of information about product market	0.807	Wasko and Faraj, 2000
Community context is measured by two items:		Nambisan and Baron, 2009
Member identity of person who is interacting	0.892	Te'eni, 2001
Member involvement the community	0.867	Burgoon et al., 2000
Technology mediation is measured by two items:		Nambisan and Baron, 2009
Quick feedback from other members	0.911	Te'eni, 2001
Quick feedback from the vendor	0.895	Burgoon et al., 2000
Customer experience		
Pragmatic experience is measured by three items:		Nambisan and Baron, 2009
Product usage knowledge	0.901	Franke and Shah, 2003
Product technology knowledge	0.887	Hertel et al., 2005
Product market knowledge	0.875	Wasko and Faraj, 2000
Sociability experience is measured by three items:		
Expanding customers' level of social network	0.869	Nambisan and Baron, 2009
Enhancing customers' level of affiliation	0.857	Smith and Kollock, 1999
Enhancing customers' sense of belongingness	0.832	Wasko and Faraj, 2000
Usability experience is measured by two items:		Helms et al., 2010
Navigation	0.863	Nambisan and Nambisan, 2008
Presence of facilitators to support users	0.0831	Nielsen, 1999
Hedonic experience is measured by three items:		
Enjoyable time	0.845	Nambisan and Baron, 2009
Fun and pleasure	0.825	Franke and Shah, 2003
Entertainment	0.791	Hertel et al., 2005
Customer-business relationships		
Customer relationships is measured by three items:		Nambisan and Nambisan, 2008
Customer feedback on the product to the vender	0.896	
Customer comments that influence other customers' purchasing decisions	0.816	
VCE brand fests: Product marketing activities that begin in VCEs and continue through offline events held in areas where customers live	0.787	