Proceedings





MAIRIME & MANAGEMENT CONFERENCE 2013

SUSTAINABLE BUSINESS STRATEGIES: SHAPING THE FUTURE OF ASIA PACIFIC REGION

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CONFERENCE PROCEEDINGS

Asia Pacific Marketing and Management Conference 2013



Sustainable Business Strategies: Shaping the Future of Asia Pacific Region



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PREFACE

The Asia Pacific Marketing and Management Conference 2013 (APMMC2013) continues its tradition of promoting multidisciplinary business research. The conference theme "Sustainable Business Strategies: Shaping the Future of Asia Pacific Region" is indeed timely and highly relevant.

The Asia Pacific region which is home to more than 60 per cent of the world's population has transformed itself by pursuing rapid economic growth and social development. These pursuits have made great impacts to people's lives. In the context of business growth, the progress of the Asia Pacific region is phenomenal not only the region grows rapidly, but also manages to address worsening income distribution in the process. However, as the result of resource-intensity production structures, our regional environment also paid a high price for rapid growth. More specifically, the Asia Pacific region has seen increasing frequency and severity of extreme weather, and become more vulnerable to climate change-related natural disasters. Further, economic growth has become more volatile and susceptible to external shocks, and structural impediments are increasingly becoming stumbling blocks to the sustainability of growth. In view of these challenges, businesses need to strengthen their strategies by focusing on sustainability, corporate governance, corporate responsibility, innovation and value added.

The Asia Pacific Marketing and Management Conference 2013 (APMMC2013) continues to focus on new and stimulating research works that place strong emphasis on discussing many contemporary and challenging business issues in the context of Asia Pacific Region. This conference as an international forum and platform for academics and practitioners has achieved its main objective to gather and disseminate current research works relevant to the conference theme. This proceedings brings together a collection of 60 research contributions from various business disciplines and research areas such as: marketing communication; marketing research; services marketing; consumer behavior; organizational behavior; human capital development; technology; strategy & competitiveness; entrepreneurship; tourism and hospitality; accounting & finance; and also economics.

The editorial team would like to acknowledge the contribution of the review committee in providing their critical views and comments to authors to improve and strengthen their final papers for publication. We also would like to express our gratitude to many individuals (presenters, authors, colleagues) and also organizations for their continuing support and encouragement.

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CO-CREATION ACTIVITIES IN HIGHER EDUCATION SERVICES: THE MEDIATING ROLE OF TRUST

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ABSTRACT

The study of customer co-creation expanded to some areas; however, little in literature addresses how mediating effect of trust and moderating effect of extroversion and openness on the relationship of customer co-creation and satisfaction. This study aims to investigate the mediating effect of trust as well as moderating effect of personality traits (extroversion and openness) on the relationship. The research design is a cross-sectional survey design, in which the population is higher education customers or students at a university in Indonesia selected by purposive sampling method. The findings of this research show that trust fully mediate the relationship between co-creation activities and satisfaction. Attendance, information provision and co-production are important element of co-creation activities. Also, the other finding indicates that partially co-creation have relation to satisfaction. The managerial and research implication are also discussed in the paper.

Keywords: co-creation activities, trust, satisfaction, higher education marketing, personality traits

INTRODUCTION

At traditional marketing, initially it was seen that consumers were passive parties who just received value created by company, but at further development, along with the development of SD Logic in marketing, customers become an active parties to create or co-create of value. In marketing literature, terminology reflecting customer participation or customer involvement in value creating activities originally occurred in public health sector with motivation to manage risk in a medical decision (Vertinsky and Uyeno 1971). In the next development, customer participation is developed and it was emerged a few terms indicating type and extent of involvement, such as customer participation, co-production, value creation, co-creation, and prosumtion. The terms usually relate to other marketing terminology including satisfaction, trust or loyalty.

In marketing literature, there are inconsistency conclusions on the relationship of participation on satisfaction and trust. Some studies show that participation increases satisfaction (eg Chan et.al 2010; Casalo et.al 2007), but in another studies show that customer participation actually reduce transaction behavior (Algheiseimer et al 2010) and increasing negative intentions (Cermak et.al 1994). Also in relation to the role of customer participation on trust, it was found that participation increases trust (Casalo et.al 2007), eventhough another study found participation was not significantly related to trust (Mizrahi et.al 2010). Also, other studies found that trust is positively associated with participation and satisfaction also positively related to trust (Casalo et.al 2008).

The objectives of this study are to investigate the mediating role of trust on the relationship of co-creation and satisfaction, and to analyst the moderating role of personality traits (extroversion and openness) on the relationship of co-creation activities on trust. For the discussion, there are three sections on this paper. In the first section, it discusses the literature review of co-creation, trust and personality traits. The second section is discussing research method, analysis and discussion, and the last section is conclusion, limitation and the implication.

LITERATURE REVIEW

Co-creation

The concept of co-creation originally is value creation performed by a company and its 'customers. It enables the customers to construct experiences, defines and solves problems together, and creates an environment where customers can actively engage in dialogue (Prahalad and Ramesway 2004). Furthermore, high-quality interactions that enable an individual customer to co-create unique experiences with the company are the key to unlocking new sources of competitive advantage, in which value will have to be jointly created by both the firm and the consumer. In further development, McColl- Kennedy et. al (2012) define customer value co-creation as "benefit realized from integration of resources through activities and interactions with collaborators in the customer's service network." That is, a multiparty all-encompassing process including the focal firm, and potentially other market-facing and public sources, private sources, as well as customer activities (personal sources).

Co-creation is conceptualized in two perspectives, namely the focus on company and on customer. In the perspective focusing on company, co-creation is seen as company's activities managing customer involvement in creation of value, regarded as outsiders in value creation. So that, co-creation is originally conceptualized as including the company cannot create unique values without involving customers (Prahalad and Ramaswamy 2004), the company may be co-create value with customers (Gronroos 2008); and co-creation of value in which company creates value proposition and consumers determine value through consumption (Payne et.al 2008). In the perspective focusing on customer, co-creation was based on what customer need, with an understanding that customers are equal with company in creating value. In this perspective, the conceptual domains are customer value creation, joint value creation, customer co-production, co-creation of value, and prosumtion.

Comparing co-production and co-creation will be seen a comparison of some aspects of the concepts (Chathoth et.al 2013). Co-production is creation of value through achievement of economic value and quality of product, customer role is passive (more as resources), participations of key customers are at the end of value chain, consumer expectations are matching their needs with available supply, it is focusing on the production and company, it is directed by the company's innovation, and communication is performed as listening to consumers and less transparent. While on co-creation concept, a creation is done by creating value with unique experiences, customers play active roles as information provider and creator of value, customer participation is in repeated interactions, customer is viewed as operant resources, customer expectations is co-creation of products, it focus on the activities and customer experience, it engage customers with high level of information, innovation and design innovation is shared with customers, as well as communication is done in an open and transparent dialogue.

Trust

Commitment-trust theory appears in relationship marketing theme in the marketing discipline. The theory is widely recognized from Morgan and Hunt (1994) study. It provides a theoretical foundation to every effort to build long-term relationships, where commitment and trust become the key mediating variables in determining the success of a long-term relationship. The theory has been confirmed in a study of ten marketing relationships with suppliers, service suppliers, competitors, non- profit organizations, government, the final buyer, intermediary buyer. It has characteristics including explanation of the perspectives of psychology and behavior, relationship marketing suggests that activity is directed to establish, develop and maintain relationships, to explain the formation of long-term relationships through the key mediating variables namely trust and commitment. In the next development, commitment and trust theory has been adopted and tested in many studies RM. Mukarjee and Nath (2007) conducted a re-examination of the theory in the context of online retail environment, and modification measurement of the constructs reflecting the dynamics of digital environment. In addition, testing and adoption made to build long-term relationships in different research settings, for example in international business-to-business relationship (Friman et.al 2008), non-profit service organization (MacMillan et.al 2005), and information technology outsourcing management (Goo and Huang, 2008).

The Mediating Effect of Trust

Relationship between co-creation activities with trust can be identified from both conceptual and empirical studies conducted by several researchers. Trust occurs when someone believes in the integrity and reliability of partners (Morgan and Hunt 1994). In the conceptualization connecting customer engagement and trust, it was described that the high consumer engagements will increase trust because the company cares about customer needs (Vivak et.al 2012). Empirical studies on brand virtual community service indicate that community involvement or participation encourage trust to brand or marketer (Casalo et.al 2005) because the community members interact each other, they will gain more information and knowledge in the community, they get helps from other members if they encounter difficulties, and it can reduced uncertainty. A relationship of trust and satisfaction is reflected in how the increase in the level of trust will increase customer satisfaction. An empirical study has provided support for this hypothesis. On satisfaction, empirical studies show that trust is antecedent of satisfaction. Kassim and Abdullah (2013) study in e-commerce was suggesting that verbal communication encourages trust and rebuying behavior. Similarly, interactions in web services are positively related to brand trust and brand loyalty (Lin and Lee 2013). Trust also increases satisfaction in services such as: banking (Shainesh 2012) or pharmacy (Jambulingam 2011). Thus, the mediating role of trust to co-creation activities and satisfaction relationship has received empirical support.

Hypothesis 1. Relationship of co-creation activities (attendance, information provision, and coproduction) and satisfaction is mediated positively by trust.

Direct Effect of Co-creation

Empirical studies provide support for the direct relationship of co-creation activity or participation on satisfaction (Wu 2011). In service recovery, participation make customers more satisfied (Dong 2008), and co-creation allows customers to help in shaping services or customizing their experience. Furthermore, it effects on customer satisfaction by better recovery efforts (Roggeveen et.al 2012). Co-creation enables marketers do their own marketing, exchange information, technology, and risk with customers in production, and offers access to brand experience, so this will be satisfactory to both parties (Spena et.al 2012). Co-creation in communication studies indicate that these activities impact on the success of products and markets (Gustafsson et.al 2012). Also, Casalo et.al (2007) showed that subscriber participations in virtual communities have increased satisfaction to brand developed by community.

Hypothesis 2. Co-creation activities (attendance, information provision, co-production) influence positively on satisfaction.

Moderating Effect of Openness and Extroversion

Co-creation through service encounter is a social transaction, so it will be strongly influenced by cultural aspects and personalities of each person involved. For example, collectivism (individualism) as an aspect of culture will determine the extent to which a person likes engaging in social activities. Similarly, extroversion as personality traits will give effect on co-creation process. Those who are extroverted reflected on talkative, firm, like a challenge, and energetic will give greater opportunities on how co-creation activities will benefits for them, compared with those who are introvert. In other words, extraversion will moderate the influence of customer co-creation on trust. Also related to the nature of openness, it will occur where the influence of co-creation activity on trust will be influenced by person's openness. Those who are open minded will be able to benefit from imagination ability, as well as a lot of vocabulary and ideas ownership and easy to understand will encourage a creative way to look at the situation, and will give greater effect of co-creation on trust. So associated with extroversion and openness, then the hypothesis of this study are as follows.

Hypothesis 3. Personality traits of: a) extroversion or b) openness is positively moderate the relationship between co-creation activities (attendance, information provision, and co-production) and trust. Individuals with personality trait of :a) high extroversion (extrovert) or b) high openness will show stronger relationship between co-creation activities and trust than individuals who have traits of a) low extroversion (introverts) or b) low openness (closed-mindedness).

Co-Creation
Activities:
Attendance
Information Provision
Co-production

H₁
H₂

Satisfaction

Figure 1. Research Model

METHOD

Population and Data

The population is university students, in which the sample was selected by purposive sampling method, i.e. non-probabilistic sampling method in which the samples were selected because they meet certain criterion. The criterion is the respondents are those who have been a student for more than a year, because they have already got enough service from the university. The study involves 224 students as respondent, with 37.9 percent male and 62.1 percent female at a business collage in Indonesia. The data source in this study is respondents, the people who respond or answer questions of research. The approach used to collect data is communications made through questioning and recording their responses for analysis, called a survey method or direct questioning technique. The communication approach has advantages, namely the approach: 1) can be used to obtain large number of data from respondents at one time, 2) has versatility meaning; 3) can be used in many research settings and adaptive for the research requiring descriptive designs, and 4) is more efficient and economical than other approach (Cooper and Schundler 2010)

Measurement

There are seven constructs used in this study, including customer co-creation (attendance, information provision, and co-production), trust, extroversion, openness, and satisfaction.

Co-creation. Co-creation in this study consists of three dimensions, namely attendance, information provision and co-production. Attendance is the frequency of students meeting or interaction with other students and faculty / staff on campus. The information provision is degree to which students provide information, innovative suggestions, and other information to both campus and other students. Co-production is an activity in which students participate in campus activities beyond expected role, provide services to other students, and involve in service delivery process. This each construct is measured by four-item statements developed by Claycomb et.al (2001).

Trust. Trust is degree to which customers having a confidence and belief on integrity, service and brand (Harris and Goode 2004). To measure these constructs, the study was using the items developed and adopted by Harris and Goode (2004).

Satisfaction. Satisfaction is a condition in which what is gained by consumers is higher than their previous expectations (Kotler and Keller 2010). To measure this construct, it was used four items developed by Chan et. al (2010), which consists of the student satisfaction on the campus services, the perception that the campus is a good place to learn with, the services meet student expectations, and the overall satisfaction feeling with campus services.

Openness. Openness is the personality traits involves active imagination, aesthetic sensitivity, attentiveness to inner feelings, preference for variety, and intellectual curiosity (McCrae. 1999). The trait distinguishes imaginative people from down-to-earth, conventional people. People who score low on openness are considered to be closed to experience and they prefer familiar routines to new

experiences, and generally have a narrower range of interests (Cucu-Ciuhan and Raban-Motounu 2012).

Extraversion. Extraversion is personality traits reflected by having positive emotions, tend to find outside stimulation or cooperation with other parties. To measure this construct, its used four items developed by Gosling et. al (2003) which consist comfortable feeling to be around people, often starting in conversations, talk to different people at meeting, and being not a problem to be a center of attention.

All of the constructs were be measured by Likert summated rating scale, which ranges from "strongly disagree" (1) until "strongly agree" (7), in which higher score value indicates higher level of the constructs. Measurement of constructs in the study is described as in Table 1.

Table 1 Constructs, Items, Mean and Standard Deviation

Constructs (ά Cronbach)	Items	Mean	SD
Attendance	The frequency of my presence in lectures	6.32	0.90
0.60	The frequency of my presence in student activities	5.50	1.13
0.00	The frequency of my presence in getting a student administrative services	5.15	1.24
	The frequency of my presence in consulting lecturer.	4.93	1.43
Information	I am always ready to help or provide information to those around		
provision	me about the activities / services campus.	5.33	1.14
0.69	I am willing to give my time to share information about		
	activities / campus service.	5.23	1.11
	I always suggest improvements for activities / services campus	5.38	1.13
	I give suggestion how should the activities / services should be	<i>5</i> 20	1 11
	performed by campus	5.20	1.14
Co-production	In campus activities / services, I used to participate to help		
0.70	other students even though not required	5.21	1.13
0.72	Campus inspires me to participate to help other students on	<i>5</i> 20	1 12
	campus. I really want to participate in helping campuses serve students	5.30 5.19	1.13 1.12
	I am actively involved in serving the students on campus.	4.70	1.12
Trust	I am interested in this campus because they are maintaining the	1.70	1.32
0.87	quality of services to students.	5.15	1.30
0.87	I feel that the campus cares about the my satisfaction	4.88	1.29
	What was said by the campus about their services are correct	4.77	1.29
	I think the campus estimation for their services is not excessive	4.88	1.12
	In my experience, the campus is reliable	5.21	1.15
Satisfaction	I am satisfied to the campus services.	4.52	1.51
0.86	This campus is a good place to learn with	5.62	1.11
	The campus services meet my expectations	4.82	1.39
	Overall, I'm satisfied with the campus services	4.74	1.38
Openness	I have a vivid imagination	5.42	1.18
0.73	I have a rich vocabulary in conversations	5.03	1.18
	I am full of ideas	5.18	1.17
	I am quick to understand things	5.05	1.35
Extroversion	I feel comfortable being around people I often start conversations	5.42 5.03	1.18 1.18
0.82	I talked to a lot of different people at meeting	5.18	1.18
	I don't mind being the center of attention	5.05	1.35
	C		

Based on the data, descriptive analysis was conducted to find information of the responds. It is conducted through analysis of mean scores and standard deviation as depicted in Table 1. The table describes the customer responds to the items, which is reflected in the average score of items. In general, the responses score range from the lowest score of 4.52 (I am satisfied with campus services) to the highest score of 6.32 (the frequency of my presence in lectures). Standard deviation of the items varied from lowest variation (the frequency of my presence in lectures, 0.9 SD) to the highest one (the frequency of my presence in lecture; 1.52.SD).

ANALYSIS

Mediating Effect

To answer the research questions, researchers used Structural Equation Models (SEM), a set of statistical techniques that allows testing of series of relationships that are relatively "complex" simultaneously. SEM involves an entire family of models known by several names, such as covariance structure analysis, latent variable analysis, confirmatory factor analysis, and often simply called Lisrel analysis (Hair et. al. 2010). Its advantage compared to other multidimensional analysis tools is ability to test more than one dependent variable simultaneously. There are several computer programs that can be used as program analysis, in which this study used Amos software to analyze both overall measurement and structural model.

Measurement validity testing was performed by confirmatory factor analysis resulting items used as indicators of each construct. The criterion used is the regression weights of latent constructs to indicators have to be significant ($p \le 0.05$) or the critical ratio value is greater than t-table. Initial indicator of the testing was the fulfillment of criteria for goodness-of-fit of the model, which subsequently it was seen from the significance level of each item in the construct. The analysis of measurement model shows that at the initial model, the goodness-of-fit value is mostly more than the cut of value. After modify the initial model, the final model showed better goodness-of-fit (RMSEA 0.052, GFI 0.908, CMIN/DF 1.607, TLI 0.943, CFI 0.952, and NFI 0.884). Thus, the measurement model is generally accepted.

The next stage in the structural equation models analysis is to estimate the model and then interpret the results of the model estimation. Based on the estimation and interpretation of the results, researchers modified the initial model based on the modification indices and theoretical justification. The estimation results of the initial model in this study showed that some value of goodness-of-fit did not meet the recommended value. Based on these values, it could be concluded that the proposed model in this study could not be accepted; therefore it was necessary to modify the initial model to get the most appropriate alternative model or have good value of goodness-of-fit. Table 2 depicts the final estimation results and goodness-of-fit value. The final model shows good estimations, in which the goodness-of-fit values are: Chi-square = 130.689 (DF = 84), CMIN / DF = 1,556, RMSEA = 0.050, GFI = 0.929, TLI = 0.962, CFI = 0.970 and NFI = 0.921. Overall goodness-of-fit criteria have been met cut of value, except probability (p=0.001).

Table 2. Model Estimation

No	Relations	SRW^*	Estimate	SE	CR	P
1	Co -creation \rightarrow Trust	0.539	1.349	0.340	3.969	0.000
2	Trust → Satisfaction	0.870	1.107	0.113	9.824	0.000
3	Co-Creation → Satisfaction	0.013	0.042	0.217	0.194	0.846

*SRW: Standardized Regression Weights; SE: Standard Error; CR: Critical Ratio; P: Probability

Table 2 describes results of model estimation by SEM analysis using AMOS software. The estimation results indicate that majority of the relationship between variables is supported, for example the relationship between co-creation and trust (0539, p <0.0001) and trust to satisfaction (0.870, p <0.0001). However, the relationship between co-creation of satisfaction was not supported (0.013, p> 0:05). Thus, hypothesis 1 which states that trust mediates the relationship between co-creation and satisfaction is supported, in which the mediating role of trust is a full-mediation.

Direct Effect of Co-creation

Simple linear regression analysis was used to test the hypothesis stating there is a direct relationship between co-creation and satisfaction. The statistical analysis shows the regression coefficient of co-creation on satisfaction is of 0.383 (p <0.001), with adjusted R Square of 0.143. Thus hypothesis 2 stating there is a relationship between co-creation and satisfaction is supported.

Moderating Effect

In order to estimate the hypothesized moderating effects of the personality traits on the relation between co-creation activities and trust, a regression analysis was used. The average of constructs score was regressed on a model including co-creation score, trust score and multiplications of the co-creation with extroversion and openness. The outcomes of each regression are shown in Table 3. In both personality traits, the regression model were found to predict a highly significant of the variance (extroversion, R²=0.147, p<0.01 and openness, R²=0.145, p<0.01). Simple regression analysis describing the relationship between independent variable and trust shows that all variables are having positive relationship (extroversion 0,377, p<0.001; openness 0.268, p<0.001). However, multiple regressions examining interaction between independent variables and personality traits indicates that the results are not as expected in which the interaction was not significant (co-creation*extroversion, 0.001, p>0.05; co-creation*openness, 0.054, p>0.05). Thus, the hypothesis 3 is not supported.

Table 3 Result for Regression of Co-creation, Trust and Personality Traits and Their Interaction

	Simple					
Independent Variable	Regression		Multiple Regression			
	β	p	β (EI)	p	β (OC)	p
Co-creation	0.377	0.000	0.308	0.000	0.325	0.000
Extroversion (EI)	0.292	0.000	0.145	0.043	-	-
Co-creation * extroversion	0.381	0.000	0.001	0.985	-	-
Openness (OC)	0.268	0.000	-	-	0.139	0.053
Co-creation*openness	0.376	0.000	-	-	0.054	0.407
Adjusted R Square	-	-	0.147	-	0.145	-

FINDINGS AND DISCUSSIONS

This study addressed the role of trust as mediating variable on the relationship of co-creation activities and satisfaction. Based on the data analysis, there are two findings of this research. Firstly, the fully mediating effect of trust on the relationship of co-creation activities and satisfaction is consistent with the previous studies. The argument behind this effect is that co-creation is an activity involving interaction of both customers and providers intensively during transaction, which it enables customers to construct experiences, define and solve problems together, and create an environment where customers can actively engage in dialogue (Prahalad and Ramesway 2004). Furthermore, by being active customer, they meet and interact with marketers and other customers, to obtain and share information, participate in helping marketers in delivering services to other customers, as well as try to be closer personally, and then customers will get an attachment to marketers or other customers. The attachment can be reflected in the recognition of competence, honesty, commitment and willingness to fulfill their promise, and belief on provider's good intentions. Attachment will ultimately result in customers feeling that their expectations are fulfill. Also, it will cause a reduction in feelings of fear, be confident with provider, reduce perception of the risk, and know what to expect or at later it will affect the level of satisfaction (Chiou and Droge 2006). This finding is consistent with and confirm to the commitment trust theory (Morgan and Hunt 1994) explaining that trust is one of key mediating variable in order to maintain sustainable relationship with customer.

Related to the influence of trust on satisfaction, this research provides empirical supported. Trust was proved to effect on satisfaction, which means that trust was an important aspect to build

customer satisfaction in university services. Students would be satisfied and happy and having the right choice feeling in choosing a university, because they assume that the university was care to the student, provided true information or an appointment, and was reliable. These results also were consistent with the finding of research conducted by Bejou et. al (1998), showed that one element of satisfaction is trust.

Secondly, the other finding is related to the phenomenon of co-creation activities connected with satisfaction. There is a positive relationship between co-creation activities and satisfaction, in which it means that the more the students do co-creation activities, the higher their satisfaction is. Those who always ready to help or provide information for campus, give time to share information, suggest improvement for campus activities, and participate in helping campus or other students, they will be more satisfied. This finding is consistent with hypothesis and the finding of previous study (Wu 2011; Dong 2008; Roggeveen et.al 2012; and Spena et.al 2012). By doing co-create value, customer will get more value because they will get economic, relationship and enjoyment (Yin et.al 2012) value by interaction with provider.

CONCLUSION, IMPLICATION AND LIMITATION

From the model estimation in this research, it can be concluded as follows: *First*, the conceptual model developed based on the developing theory related to co-creation, trust and satisfaction shows that there is an empirical support through data. Trust is fully mediating the relationship between co-creation and satisfaction. This indicates that whatever is applicable in any background and settings in the previous researches is also applicable in education. *The second*, in relation to testing the hypothesis, this research supports that there is a direct positive influence between co-creation and satisfaction. However, the moderating effect of personality traits was not supported in this study. Thus, the two hypotheses as proposed in this research have been supported empirically.

Managerial implications of this research were that co-creation and satisfaction in university is important to be developed. Trust is the important aspect of university, but trust only would not guarantee to customer satisfaction. Trust in university was something that could not be avoided, thus building and maintaining trust would be a must. There was important for university to enhance trust with a variety of ways and to keep the customer satisfaction.

This study admits some limitations particularly from methodology point of views. The sampling technique used is purposive technique, in which although practical advantaged, the researchers cannot generalize the results. However, the results are still applicable for university where the research conducted. The future use of sampling technique with probability will helps the research can to be generalized. It is advisable for further research to use more personality traits constructs to be analyzed, in order to explore more holistic view of co-creation in relation to personality traits.

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