DART Antecedents and Customer Loyalty Consequences of Customer Participation: An Empirical Study

David Prócel Villalba
Hua Zhong University of Science and Technology

Jing Zhang
Hua Zhong University of Science and Technology

The purpose of this paper is to examine the impact of dialogue, access, risk assessment and transparency (DART) upon customer participation (CP). It also explores how customer participation improves customer loyalty (CL) via customer perceived value (CPV) and emotion.

The model connects DART antecedents and customer loyalty consequence of customer participation in value co-creation process as established. In total, eight hypotheses are postulated and testing was conducted through structural equation modeling using PLS-SEM, utilizing data from 200 customers around the world, mainly in China and Ecuador.

INTRODUCTION

Nowadays, traditional methodologies of innovation processes are becoming saturated because there is not clear focus on new trends in marketing development. Companies which follow the conventional company-centric practices face troubles in terms of a decreased customer satisfaction and profitability (Seyedeh *et al.*, 2016). Companies are now more focusing on leveraging the external resources such as customers, rather than internal efficiency, to gain new competitive advantages (Prahalad and Ramaswamy, 2004a). For this reason, and taking care of external resources, companies are looking for the active envelopment of customers and try to generate loyalty in them. If loyalty can be managed, customers now want to show to improve a sustainable relationship with a firm (Palmatier *et al.*, 2006). Customer loyalty occupies the central place in marketing (Lewin *et al.*, 2015; Toufaily *et al.*, 2013) and, maintaining customer loyalty has already become one of the most important tasks of managers because it helps firms to increase their sales revenue and profits (Yang *et al.*, *2017*). To remain competitive in today's marketing environment, top management must explore innovative approaches of differentiating the firm from its competitors and establish long-term relationship with its customers (Ofori *et al.*, 2016). Prahalad and Ramaswamy (2001) identified the consumer as value co-creator and is a new source of competitive advantages. Taking this argument, they proposed the DART model representing dialogue, access, risk assessment and transparency to reduce the conventional asymmetry between customers and firms. However, the DART model is an important strategy to facilitate and generate a positive impact in customer loyalty through customer participation, customer perceived value and emotion.

This paper aims at exploring and validating the DART constructs and to understand its effect in customer loyalty. But, to achieve the principal objective, the study analyzes the impact of DART upon customer participation, then the impact of customer participation upon customer loyalty via customer perceived value and emotion.

This paper presents conceptual background and framework as shown in Figure 1. The framework presents the DART model engage with customer participation, customer perceived value, emotion and finally customer loyalty.

The study has five sections: the introduction in section one, the conceptual background is presented in section two, the research methodology and design in section three, based on data collected the findings are presented in section four and the paper concludes in section five with discussion pointing out conclusions, theoretical contributions, managerial implication, limitations and future research.

CONCEPTUAL BACKGROUND

The development of new marketing strategies generates curiosity in customers and they look into the market to find that special brand that fits with their desires. Nowadays, that is the principal reason why firms take care of every detail looking for loyalty of their customers. However, to get as result the customers' loyalty and to materialize this process, it requires constant connection through interaction and also participation of the customers, which signifies the value co-creation (Bharti et al., 2014). The principal change that is necessary to save is that value co-creation applies the initiatives of firms' innovation with the customers, rather than for the customers (Seyedeh et al., 2016). Prahalad and Ramaswamy (2004a) also believe that currently, competition centers mostly on the level of firm's interaction with customers to co-create value. Value co-creation describes how consumers interact with firms as an active player (Prahalad and Ramaswamy, 2004a; Tanev, 2011). It challenges the conventional value creation process through enabling the consumer to personalize its products and services (Lusch and Vargo, 2008). Scholars believe that the core of marketing has also shifted from a product-oriented perspective to a customer-oriented perspective, where value is co-created through customers and service provider interaction (Komulainen, 2014).

Loyalty can occur only if firms and customers are working in the same direction, it will happen by interaction between the firms and its consumers where they can listen to the consumers to get the idea of developing a new service or product (Lin et al., 2010). Scholars explain that the interaction between the firm and the consumer is the *locus* of value creation and value extraction (Prahalad and Ramaswamy, 2004a, 2004b) where value co-creation can satisfy the customers (Vega-Vazquez et al., 2013).

DART activities as a meaningful co-creation with customers is a systematically process that can most possibly turn consumer efforts, skills and knowledge into the unique competitive advantage (Seyedeh et al., 2016). Supposedly, the most appropriate way to interact with the consumer is *Dialogue*. It is not only the exchanging of views orally or listening to consumers. In the context of innovation and value co-creation, it emphasizes on constructive interactivity, deep engagement and a propensity to act both sides (Prahalad and Ramaswamy, 2001). Dialogue offers an opportunity of interactivity, engagement, equal communication and learning for both sides which helps the company to recognize the social, emotional and cultural context of the consumer's experience (Tanev, 2011). Dialogue benefits on development of trust among participants which facilitates the generation of common and new knowledge to enhance service development superiority (Ballantyne, 2004). According to the Grönroos (2004), dialogue is the requirement of sharing and creation of knowledge among the customers and firm. It creates a community by diversified communication channel to interject their views of value outcomes into the process of value creation (Prahalad and Ramaswamy, 2004b). The advance of technology now enables the consumers to have *Access* into company's value chain and service information (Ramaswamy, 2005). Accessibility of the consumers to the service processes gives them an opportunity to be engaged in the design, development, setting price process and quality processes across the value network (Ramaswamy, 2005). In fact, active consumers not only experience products and services but also they directly or indirectly influence what, where, when and how the products and services are being developed (Prahalad and

Ramaswamy, 2001). As consumers become co-creators of value, they want to get more information on the potential *Risk*, related to the consumption, delivery, producing of particular services and products (Seyedeh *et al.*, 2016). From the company-centric view, the company is responsible for all risks associated with the product offering (Ramaswamy, 2005). In contrast, in customer-centric view, according to Prahalad and Ramaswamy (2001), firms should make an obligation to inform to consumers on the potential risks of services and products. The obligation gives a responsibility to the managers to inform the consumers on the risk of their desired products (Ramaswamy, 2005). Informing potential risks, as well as informing the limitations of the firms' knowledge and capability established a trustworthy relationship between the company and consumers (Seyedeh *et al.*, 2016). However, the interaction is successful if the company's information is *transparent* to the individual (Ramaswamy, 2005; Tanev, 2011). To be transparent, companies should update business-related information from own initiatives such as disclosing pricing-related information (Seyedeh *et al.*, 2016). Transparency of the company's information value co-creation process enhances the consumer's willingness to accept the quality of its products and services (Prahalad and Ramaswamy, 2001). According to Grönroos (2004) to be successful, the service provider needs to align its resources, competencies and processes with the customer's value-generating processes. Prahalad and Ramaswamy (2004a) mention that co-creation value with customers becomes a new source of competence for business strategies.

In customer participation terms, researchers' interest in service-dominant logic has increased in the last decade (Vargo & Lusch, 2004). The concept of service-dominant logic (SDL) is that the customers are always active participants and collaborative partners in exchanges, customers co-create value with firm (Vargo & Lusch, 2008). As Ercsey (2016) explains the dimension of the experience are produced in part by the customers themselves through the personal thoughts, feelings and imaginations that the visitors bring with them to the leisure setting; if we encourage to co-create their service experience, each individual consumer makes it through their own experience. However, interaction and experience between customer and firm depend in the co-design process that both parts agree in terms of their own necessities. Co-creative customers are those customers who are capable of applying their competencies, providing the service for the benefit of other customers and themselves; these customers not only co-produce but also co-consume or collaborate with firms and other customers (Ercsey, 2016).

With these considerations, the hypotheses that engage DART model with customer participation are presented as follows:

H1: *Dialogue positively impacts customer participation.*

H2: *Accessibility positively impacts customer participation.*

H3: *Risk Assessment positively impacts customer participation.*

H4: *Transparency positively impacts customer participation.*

Customer perceived value concept can be understood as the involvement of the relationship between the customer and the product (Holbrook, 1996) which is strongly related to the utility or benefits the customer get in return for the money or any other cost they spend (Zeithaml, 1988) including both cognitive and affective aspect (Holbrook and Hirschman, 1982). As defined by Zeithaml (1988) the perceived value is the consumer's overall assessment of the utility of a product based on perceptions of what is received and what is given. The receive components can be referred to the benefits gotten from using the product, while the given component can be referred to the customers' sacrifice in acquiring the product including monetary and non-monetary aspects (Aulia *et al.*, 2016). However, more scholars unify this concept and, at a general level, perceived value is defined as a judgement or a validation by the customer of the comparison between the benefits or utility obtained from a product, service or relationship, and the perceived sacrifices or costs (Zeithaml, 1988; Monroe, 1990; Lovelock, 1991; Gale, 1994; Bigné *et al.*, 2000; Teas and Agarwal, 2000). An important approach defines perceived value as a

construct configured by two parts, one of the benefits received (economic, social and relational) and another of the sacrifices made (price, time, effort, risk and convenience) by the customer (Dodds *et al.,* 1991; Rapp and Collins, 1991, 1996; Grewal *et al.,* 1998; Cronin *et al.,* 2000; Bigné *et al.,* 2000). But also as an important factor, the quality of service is a fundamental element in the perception of perceived value, as it is the most difficult thing for competitors to imitate (Parasuraman and Grewal, 2000) and the base on which differentiation (Berry, 1995) and competitive advantage (Reichheld and Sasser, 1990) are sustained.

The use of products and services create emotional relationships with the people served (Rini and Absah, 2017). According to Kartajaya (2003) and Livingstone (2016), many emotional contents brought by information technology advances have influenced customers to be more emotional; human's natural needs to express emotions and feelings (sadness, happiness, awe, admiration, love, longing, amazement to someone, emphaty or satisfaction) can be relieved by a few clicks of a computer's mouse or a few presses of cellphone buttons. Emotion shapes and influences the assessment, and it forms behaviors. Therefore, companies should pay attention to customers' emotions and try to influence customers so that they have positive emotions (Rini and Absah, 2017). Rational, emotional and spiritual marketing strategies can be synergized and provide more positive benefits for consumers or customers (Rini *et al.,* 2015). Usually, one purchase based on logical or rational consideration and if people rationally want, are interested in and buy products or services, then, companies should also be able to provide something which touches the consumers' emotion (Rini and Absah, 2017).

Taking care of this concepts, we propose the next two hypotheses:

H5: Customer participation positively impacts customer perceived value.

H6: Customer participation positively impacts customer emotions.

Customer loyalty, as the main objective of the study, can be defined as the motive behavior that customers want to show to improve a sustainable relationship with a firm (Palmatier *et al.,* 2006). Customer loyalty occupies the central place in marketing and attracts the attention of scholars and practitioners (Lewin *et al.,* 2015; Toufaily *et al.,* 2013). Loyal customers may be willing to repurchase and spread a positive word of mouth (Zeithaml *et al.,* 1996). Maintaining customer loyalty has already become one of the most important tasks of managers because it helps firms to increase their sales revenue and profits (Yang *et al., 2017*). To remain competitive in today's marketing environment, top management must explore innovative approaches of differentiating the firm from its competitors and establish long-term relationship with its customers (Ofori *et al.,* 2016).
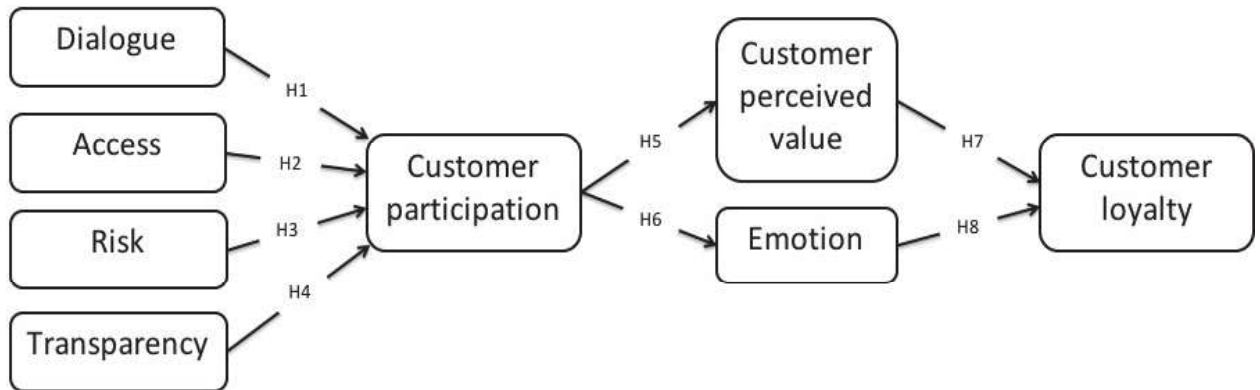
Based on the above arguments, the last two hypotheses are put forward as follows:

H7: Customer perceived value positively impacts customer loyalty.

H8: Customer emotions positively impacts customer loyalty.

By integrating all the eight research hypotheses, we establish the conceptual framework, as indicated in Figure 1.

FIGURE 1
CONCEPTUAL FRAMEWORK

RESEARCH METHODOLOGY

Measurement

This study adapted and modified multi-item for each construct of DART model from Seyedeh *et al.* (2016). The items for customer participation are adapted from Albert *et al.* (2017), customer perceived value from Bai and Niu (2016), emotion from Endang and Absah (2017) and customer loyalty from Albert *et al.* (2017).

The first step suggested by Eastman *et al.* (1999) in the development of scale is to use a solid theoretical understanding to generate a number of items that would capture the conceptual and logical composition present in the construct. Taking his advice, the study initially reviewed an extent content of literature based in all the model components. The basis of DART model of value co-creation proposed by Prahalad and Ramaswamy (2001) and also literature related to customer participation, customer perceived value, emotion and customer loyalty from (Prahalad and Ramaswamy, 2003; Vargo and Lusch, 2010; Bai and Niu, 2016; Albert *et al.*, 2017; Endang and Absah, 2017). Therefore, a 21 pool of items for DART model (Dialogue six-item; Access five-item; Risk five-item; Transparency five-item) were adapted from Seyedeh *et al.* (2016). The items that measured the DART, customer perceived value (seven-item) adapted from Bai and Niu (2016) and customer loyalty (four-item) adapted from Albert *et al.* (2017) were structured on a seven-point Likert-type scale that ranged from 1 (strongly disagree) to 7 (strongly agree). The respondents were asked to indicate the agreement that to what extent companies emphasize value co-creation with customers with these practices. The items that measure customer participation (five-item) adapted from Albert *et al.* (2017) and emotion (six-item) adapted from Endang and Absah (2017) were structures on seven-point Likert-type scale that range from 1 (very low extent) to 7 (very high extent). The respondents were asked to indicate the level of capturing these elements (see Appendix 1).

Face Validation

As a first stage, the questionnaire was sent to four experts in marketing and innovation discipline who were in charge to generate different opinions, taking their customer role, about the questionnaire. It was necessary to get their opinion to improve and validate the consistency of the questionnaire. At the same time, the items of each construct and framework were sent to an expert for validation and cross-check the quality of the research constructs and framework. Further, all the experts were asked to verify if the question items appropriately measured what it is supposed to measure in the correct level. The experts generated suggestions and changes that increased the quality of the research and also to modify the questions for a better understanding of the target. Also, interviews that were done at the beginning of the study were useful to validate the outcome and objective of the research, these interviews were recorded to ensure the quality.

Pretesting of the Measurement

As a second stage, a pretest was run with five marketing experts in China and Ecuador taking their role as a customer. The objective was to assess the questions and instruments before the study started. It is considered as an established practice for discovering errors in the questions and instructions (Cooper and Schindler, 2009). The responses from those who participated in the pretesting were excluded from the sample used in the research. The respondents in this phase responded to the questionnaire with the objective of evaluate and review:

- If the words and sentences are totally clear for a good understanding.
- If the sequence and layout of the questionnaire is correct.
- If the quality of the information and the quality of the measurement is correct looking for a customer-side response.

The respondents were asked for any extra advises and some words were changed for a better performance of the questionnaire, also the layout was modified and reorganized to make a clear pad of understanding focusing on the research objective. However, some other modifications were taken as a result of a final review of the pretesting stage. With all the applied changes, the time to fill up the questionnaire was between 8 and 12 minutes.

Data Collection

As a last stage, 289 samples were taken from customers around the world, but only 200 were used for the study, using an online platform called SurveyMonkey (50% of respondents) and face-to-face survey (50% respondents). Online respondents were principally from Ecuador and others from U.S., France and some countries from southwest Asia. Face-to-face respondents were from China. The reliability of all the scales was computed using STATA and Microsoft Excel. The reliability for scale measure internal consistency of the constructs through Cronbanch's alpha, which, "measure how well a set of variables measure a single uni-dimensional latent construct" (Schwaninger et al., 2006, p. 350). A Cronbanch's coefficient alpha greater than or equal to 0,70 is considered acceptable (Nunnally and Bernstein, 1994). The results of the reliability analysis are summarized in Table I and confirmed that all the scales display a satisfactory level of reliability.

Using the 200 respondents, data was received and used for analysis. The reason to use customers around the world, principally from China and Ecuador were based on the principal markets where the study will be representative. About 200 respondents (53,5 per cent) 107 were female and (46,5 per cent) 93 were male. The majority of the respondents age are between 26 to 35 (42,5 per cent) followed by ages between 18 to 25 (40 per cent). In terms of ethnicity (57 per cent) were Asian or Pacific Islanders followed by (31 per cent) Hispanic. Most weighted countries were (50,5 per cent) from China and (27,5 per cent) from Ecuador. Educational level shows that (59,5 per cent) hold a master degree, (25 per cent) hold a doctoral degree and (15,5 per cent) hold a bachelor degree. The working experience of the respondents were less than 5 years (69 per cent), 6 to 10 years (16 per cent), 11 to 15 years (6,5 per cent) and more than 15 years (8,5 per cent).

FINDINGS

In the study, the PLS-SEM approach was used by the SmartPLS 2.0 software (Ringle et al., 2005) to run the analysis. In PLS-SEM, assessment of measurement model and structural model are the basis of the analysis (Hair et al., 2013). Therefore, the assess of the measurement and structural model were run and the findings are explained below.

Assessment of the Measurement Model

The assessment of the quality of the measurement model determine construct viability and reliability of the measurement items through convergent and discriminant validity. In convergent validity, factor loading of the items, composite reliability (CR) and average variance extracted (AVE) are used to assess validity of the data. Convergent validity is the degree to which multiple items measuring the same concept in agreement (Kassim *et al.*, 2012). As suggested by Hair *et al.* (2009), we used the factor loadings, CR and AVE to assess convergence validity. The loadings for all items exceeded the recommended value of 0,5 (Hair *et al.*, 2009) (Appendix 2). CR values (Table II), which depict the degree to which the construct indicators, indicate the latent construct raged from 0,842 to 0,918 which exceeded the recommended value of 0,7 (Hair *et al.*, 2009). The AVE, which reflects the overall amount of variance in the indicators accounted for by the latent construct, was within the range of 0,462 and 0,706, which only the customer perceived value construct (0,462) is below the recommended value of 0,5 (Hair *et al.*, 2009). Therefore, the findings showed require the presence of convergent validity of the measurement model.

TABLE 1
SUMMARY OF THE CRONBANCH'S ALPHA SCORE OF INSTRUMENTS SCALES

Valueo co-creation	No. of items	Cronbach's alpha
Dialogue	6	0,854
Access	5	0,844
Risk	5	0,772
Transparency	5	0,829

TABLE 2
RESULT OF THE MEASUREMENT MODEL

Constructs	Items	Factor loading	AVE	CR
Dialogue	Dlg1	0,719	0,573	0,889
	Dlg2	0,848		
	Dlg3	0,740		
	Dlg4	0,798		
	Dlg5	0,704		
	Dlg6	0,722		
Access	Acs1	0,858	0,619	0,888
	Acs2	0,886		
	Acs3	0,869		
	Acs4	0,710		
	Acs5	0,565		
Risk	Rsk1	0,721	0,519	0,843
	Rsk2	0,812		
	Rsk3	0,743		
	Rsk4	0,656		
	Rsk5	0,656		
Transparency	Tsp1	0,768	0,593	0,879
	Tsp2	0,695		
	Tsp3	0,720		
	Tsp4	0,860		
	Tsp5	0,797		
Customer participation	Cp1	0,754	0,647	0,902
	Cp2	0,808		
	Cp3	0,794		
	Cp4	0,838		
	Cp5	0,825		
Customer perceived value	Cpv1	0,628	0,462	0,855
	Cpv2	0,612		
	Cpv3	0,607		
	Cpv4	0,552		
	Cpv5	0,737		
	Cpv6	0,789		
	Cpv7	0,793		
Emotion	Em1	0,759	0,651	0,918
	Em2	0,871		
	Em3	0,823		
	Em4	0,805		
	Em5	0,821		
	Em6	0,758		
Customer loyalty	Cl1	0,884	0,706	0,906
	Cl2	0,886		
	Cl3	0,755		
	Cl4	0,830		

Note: CR = composite reliability; AVE = average variance extracted

Then, we proceeded to test the discriminant validity. As Cheung and Lee (2010) defined discriminant validity is the extent to which the measures are not a reflection of some other variables and it is indicated by the low correlations between the measure of interest and the measures of other constructs. Also Fornell and Larcker (1981) recommended that discriminant validity can be examined by comparing the squared correlations between constructs and the AVE for a construct. As we can see in Table III, the squared correlations for each construct is less than the AVE by the indicators measuring that construct indicating adequate discriminant validity. As a brief, the measurement model demonstrated adequate convergent validity and discriminant validity.

TABLE 3
DISCRIMINANT VALIDITY OF CONSTRUCTS

	Access	Customer Loyalty	Customer Participation	Customer Perceived Value	Dialogue	Emotion	Risk	Transparency
Access	0,787							
Customer Loyalty	0,195	0,840						
Customer Participation	0,438	0,060	0,805					
Customer Perceived Value	0,237	0,585	0,149	0,680				
Dialogue	0,628	0,173	0,329	0,251	0,757			
Emotion	0,263	0,624	0,193	0,676	0,316	0,807		
Risk	0,598	0,237	0,435	0,355	0,465	0,431	0,720	
Transparency	0,473	0,337	0,286	0,460	0,541	0,514	0,644	0,770

Note: Bold values diagonals are the square root of AVEs while the off-diagonals are the squared correlations

## Assessment of the Structural Model

Taking Duarte and Raposo (2010) description which says that the structural model represents the cause and effect relationship between the latent variables that are hypothesized in the research model; it is necessary to provide evidence supporting the theoretical model as exemplified by the structural portion of the model (Chin, 2010). The prime evaluation criteria for the goodness of the structural model are that the R^2 measures the coefficient of determination and the level of significance of the path coefficients as it explains endogenous latent variables variance (Hair et al., 2012). As a short explanation, in PLS, R^2 results represent the amount of variance in the construct in question that is explained by the model. Also, according with Cohen (1988), the fitted multiple regression model depends on R^2, and if R^2 value lies between 0,02 and 0,12, the model is weak, 0,13 and 0,25 is moderate and 0,26 and above is good. However, Hair et al. (2012) suggested that the judgement of R^2 value is high/low depends on the specific research context. Path coefficients represent the hypothesized relationship among the constructs (Hair et al., 2013). Paying attention to those statements, and at the same time, the path coefficients and bootstrap analysis of the PLS structural model have been measured and performed to assess the statistical significance of the path coefficients. The path coefficients have standardized values between -1 and +1. The estimated path coefficients which are close to +1 represent strong positive linear relationship and vice versa for negative values (Hair et al., 2013). Collectively, the R^2 in the research model is fit based on the study context, and the path coefficients (beta and significance) specify the significance level of acceptance of the research hypotheses (Chin, 1998).

In the study, an assessment of R^2 shows that the R^2 value for customer participation is 0,241, understanding as 24,1 per cent of the variance in customer participation can be explained by DART. The R^2 value for customer perceived value is 0,022 and for emotion is 0,037, understanding as 2,2 per cent of the variance in customer perceived value and 3,7 per cent of the variance in emotion can be explained by customer participation. Also, the R^2 value for customer loyalty is 0,438, understanding as 43,8 per cent of

the variance in customer loyalty can be explained by customer perceived value and emotion. These values have been consider as moderate (for CP), not so strong but positively significant (for CPV and emotion) and good (for CL), suggested by Cohen (1988).

Then, the evaluation of the structural model testing the hypothesis in Figure 2 and Table IV shows that seven hypothesis of the eight were supported. Dialogue with $\beta = 0,067$ and $\rho < 0,01$, access with $\beta = 0,248$ and $\rho < 0,01$ and risk assessment with $\beta = 0,291$ and $\rho < 0,01$ have positive and significant influence while formulating customer participation. Therefore, H1, H2 and H3 are supported, while H4 (transparency $\beta = -0,055$ and $\rho < 0,01$) is not supported. Then, customer participation (to CPV) with $\beta = 0,149$ and $\rho < 0,01$ and customer participation (to emotion) with $\beta = 0,193$ and $\rho < 0,01$ show positive and significant influence on CPV and emotion respectively. It means, H5 and H6 are supported. Finally, customer perceived value with $\beta = 0,299$ and $\rho < 0,01$ and emotion with $\beta = 0,421$ and $\rho < 0,01$ have positive and significant influence upon customer loyalty. Having as result H7 and H8 were supported. The variance explained for each hypothesis is given in Figure 2.

FIGURE 2
STRUCTURAL MODEL
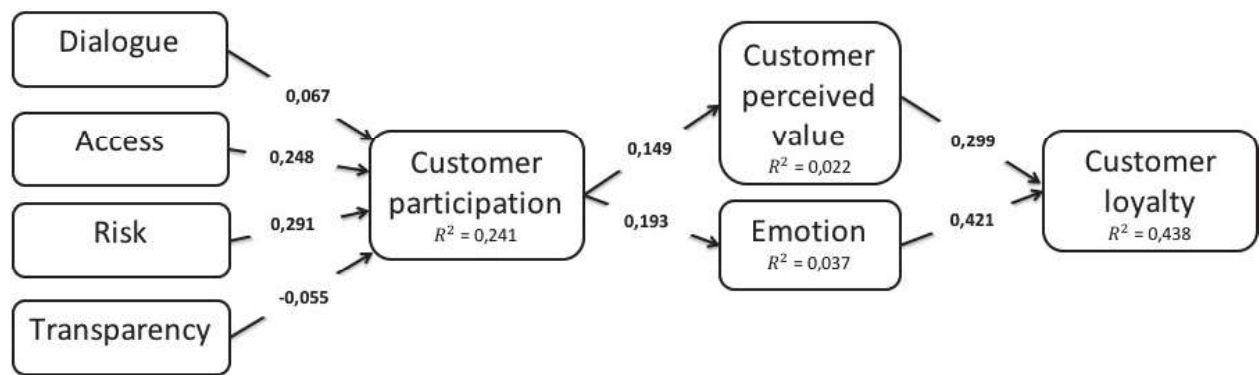
Note: $\rho < 0,01$

TABLE 4
PATH COEFFICIENTS AND HYPOTHESIS TESTING

Hypothesis	Path	SD beta*	SE	t-value	Decision
H1	Dialogue --> Customer participation	0,067	0,128	0,525	Supported
H2	Access --> Customer participation	0,248	0,131	1,896	Supported
H3	Risk --> Customer participation	0,291	0,124	2,339	Supported
H4	Transparency --> Customer participation	-0,055	0,126	0,433	Not Supported
H5	Customer participation --> Customer perceived value	0,149	0,123	1,208	Supported
H6	Customer participation --> Emotion	0,193	0,106	1,814	Supported
H7	Customer perceived value --> Customer loyalty	0,299	0,136	2,206	Supported
H8	Emotion--> Customer loyalty	0,421	0,120	3,523	Supported

Note: *$p < 0,01$

According to Henseler *et al.* (2009) The R^2 is used to assess the research model's capability to predict. But the Stone-Geisser's Q^2 indicates that is a predictive sample reuse technique that can be applied as a criterion for predictive relevance besides looking at the magnitude of the R^2. For this study, the Q^2 values for customer participation = 0,137, customer perceived value = 0,006, emotion = 0,024 and customer loyalty = 0,287 are satisfying the predictive relevance because all the numbers are above zero.

DISCUSSION

Conclusions and Theoretical Contributions

In this article, the existing DART model has been applied to different scenarios connected with customer participation, customer perceived value and emotion for influence in customer loyalty. The scale measurements for DART model of value co-creation were developed and tested for its validity and reliability. The platform used for measurement was Smart-PLS, and all items were validated. Further the effect of DART variables in customer loyalty through CP, CPV and emotion were tested. The study presents theoretical and practical contributions in markets around the world, especially in China and Ecuador. The empirical data were collected from 289 respondents who were all around the world, but mostly in China and Ecuador and only 200 of them were used. The data collection included four stages: face validation, pretesting, pilot and final study, this means that the collected data is scientific and authentic. The pure predictors for customer participation are dialogue, access and risk assessment, while transparency is not a predictor of it. Hence, customer participation is a predictor of customer perceived value and emotion, and these two (CPV and emotion) are predictors of customer loyalty as well. That means that dialogue, access and risk assessment bring an effective customer participation. Also, high level of customer participation generates a high customer perceived value and emotion, getting a high reaction in customer loyalty. The principal findings can be understood as value co-creation with customers can generate a high impact in customer loyalty and should be considered as a strong innovative competitive advantage.

The focus of this paper was first to validate a scale measurements of DART constructs and understand its effect on customer participation, then, to explore the influence of customer participation in customer perceived value and emotion, and finally, explore the influence of these two (CPV and emotion) in customer loyalty.

By applying and conceptualizing the DART model from Prahalad and Ramaswamy (2004a) and value co-creation process from Zhang and Chen (2008), this study found significant relationship between the value co-creation process and customer loyalty through customer participation, customer perceived value and emotion. Also the study indicates that customer participation through CPV and emotion can enhance customer loyalty in any kind of market. There seems to be a few empirical studies in literature to explore the relationships proposed in this study using structural equation modeling (Figure 1). The result of the analysis revealed dialogue, access and risk assessment to have a significant positive relationship with customer participation and consequently with customer loyalty through CPV and emotion. These results signified the importance of value co-creation to measure customer loyalty of the firms.

Based on the statistical results of this study, dialogue sessions with the customers can generate a positive reaction and contribute with the firm to understand the possible opportunities and generate new services development strategies. Also the engagement that the consumer can feel through dialogue session can encourage them to be more participant during co-creation processes in any way (internal or external) and enrich innovation for further product or services. It is important to emphasize that dialogue sessions have to be frequently and not only focus on dialogue. The access that firms can give to their customers is important as well. Information related with products or services, processes, designing, policies and new categories developed ensure and strengthens the close relationship in a positive incremental path. Besides, risk information take care of the harm that customers need to believe in the firm and in their product or services, as a co-creation statement, risk information can develop benefits for goods and services, and also, can clear possible doubts about any statement or policy related with firm's products or services. Risk information process with customers have to be engaged with innovation and development process. Products and services can change fast, as so do risk, and for customer perspective this information is essential for their decision making process.

On the contrary, for this study, transparency is not a good supporter in the generation of customer loyalty. Perhaps, this measurement has to fit with the contextual argument. According with this study, transparency is not a strong characteristic with companies during these days. Even when dialogue session can be applied, the transparent information about critical situations as pricing process, product

information (innovative information) or updating in any special change, customers are not feeling that firms are being one hundred per cent sincere with them and that feeling is affecting the value co-creation process in their natural way as the DART model propose, and for this study transparency is a very important fact to improve for a better customer loyalty reaction and result.

Analyzing the DART model in this study gives us the support that this building blocks of value co-creation generate a positive relationship with customer loyalty (except transparency). However, customer participation has a positive and significant relationship with CPV and emotion, and these two (CPV and emotion) have the same reaction with customer loyalty which is the main objective of the study and firms.

This study contributes to value co-creation with the engagement of different theories as CP, CPV, emotion and customer loyalty with DART model, and also, contributes understanding the importance of customer in firms decision making processes while they were innovating. Keeping the attention and developing trust with customers based on a strong and well mixed theoretical background brings value and prints a solid picture of the new model proposed in the study.

Managerial Implications

Based on the study results, there are some inferences of the findings for an application of this model in some specific market or industry. The use of the DART model in value co-creation process applied in customer loyalty is an innovative and it is new in the literature. Dialogue, access and risk assessment are the initial points for a successful implementation of new strategies and product or services analysis based on customer loyalty. The interaction of customers during all stages with CP, CPV and emotion engage a new developed process looking for the generation of customer loyalty. DART model with dialogue, access and risk assessment may be introduced as pillars of innovation and customer loyalty formulators for new strategies. Customer participation, customer perceived value and emotion have to emphasize more on customer loyalty as well.

For this study, dialogue, access and risk assessment were found to have an influential role in formulating customer loyalty through CP,CPV and emotion. Therefore, further studies need to be conducted in specific markets to explore the role of the other DART dimension (transparency) and see the influence that can generate for customer loyalty. This study was focused in a general market, and future studies will generate more segmented information depending on the industry in which is used taking culture, organization behavior or market identity as moderator variable and will add value for the research.

Limitations and Future Research Directions

The study confirms the idea of creating an innovative strategy analysis using the DART model as base to generate customer loyalty through CP, CPV and emotion. Eventually, as a pioneer study, the target is not a segmented market, industry or company and makes the study a general application that contribute strong pillars in the literature. For this reason, limitations are clear based on the direction of the results and the unsegmented target that can be helpful for a specific necessity.

Future research definitely has to be more segmented and focus in some specific necessity, innovating the process presented in this study. New theories as co-production and co-design processes can be value generators for eventual new studies focusing in customer loyalty. Emotion also can be explored and can be more specific looking for the customers' reaction. Finally, the integration of technology as a new building block in the DART model will be the next stage to innovate the theory for a better reaction and purpose with the new market characteristic.

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REFERENCES

Aulia, S., Sukati, I., & Sulaiman, Z. (2016). A Review: Customer Perceived Value and its Dimension. *Asian Journal of Social Sciences and Management Studies*, 3(2), 150-162. doi: 10.20448/journal.500/2016.3.2/500.2.150.162

Bai, Y.L., Li, C., & Niu, J. S. (2016). *Study on Customer-Perceived Value of Online Clothing Brands.* American Journal of Industrial and Business Management, 6, 914-921. Retrieved from http://dx.doi.org/10.4236/ajibm.2016.68088.

Ballantyne, D. (2004). Dialogue and its role in the development of relationship specific knowledge. *Journal of Business & Industrial Marketing*, 19(2), 114-123.

Berry, L. L. (1995). Relationship marketing of services – growing interest, emerging perspectives. *Journal of the Academy of Marketing Science*, 23(4), 236-45.

Bharti, K., Agrawal, R., & Sharma, V. (2014). What drives the customer of world's largest market to participate in value co-creation? *Marketing Intelligence & Planning*, 32(4), 413-435.

Bigne´, J. E., Moliner, M. A., & Callarisa, L. L. J. (2000). El valor y la fidelización de clientes: una propuesta de modelo dinámico de comportamien*to. Revista Europea de Dirección y Economía de la empresa*, 9(3), 65-78.

Cheung, C. M., & Lee, M. K. (2010). A theoretical model of intentional social action in online social networks. *Decision Support Systems*, 49(1), 24-30.

Chin, W. W. (1998). *The partial least squares approach for structural equation modeling*, in Marcoulides, G.A. (Ed.), Modern Methods for Business Research, New York, NY: Psychology Press, pp. 295-336.

Chin, W. W. (2010). *How to write up and report PLS analyses*. Handbook of Partial Least Squares, Berlin, Heidelberg: Springer, pp. 655-690.

Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences*, Routledge, Hillsdale, NJ: Erlbaum.

Cooper, D. R., & Schindler, P. (2009). *Business Research Method*, New York, NY: McGraw-Hill/Irwin Publishers.

Cronin, J. Jr, Brady, M., & Hult, T. (2000). Assessing the effects of quality, value, and customer satisfaction on consumer behavioral intentions in service environments. *Journal of Retailing*, 76(2), 193-218.

Dodds, W. B., Monroe, K. B., & Grewal, D. (1991, August*). The effect of price, brand and store information on buyers product evaluations. Journal of Marketing Research*, 28, 307-12.

Duarte, P. A. O., & Raposo, M. L. B. (2010). *A PLS model to study brand preference: an application to the mobile phone market*, in Vinzi, V.E., Chin, W.W., Henseler, J. and Wang, H. (Eds), *Handbook of Partial Least Squares*. Berlin, Heidelberg, pp. 449-485: Springer.

Eastman, J. K., Goldsmith, R. E., & Flynn, L. R. (1999). Status consumption in consumer behavior: scale development and validation. *Journal of Marketing Theory and Practice*, 7(3), 41-52.

Ercsey, I. (2016). Customer Participation: Mandatory or Voluntary Behaviour? *Club of Economics in Miskolc, TMP*, 12(1), 27-36.

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39-50.

Gale, B. T. (1994). *Managing Customer Value*, New York, NY: The Free Press.

Grewal, D., Monroe, K., Krishnan, R. (1998, April). The effects of price-comparison advertising on buyers' perceptions of acquisition value, transaction value and behavioural intentions. *Journal of Marketing*, 62, 46-59.

Grönroos, C. (2004). The relationship marketing process: communication, interaction, dialogue, value. *Journal of Business & Industrial Marketing*, 19(2), 99-113.

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2009). *Multivariate Data Analysis*, Prentice Hall, Upper Saddle, NJ: Pearson.

Hair, J. F., Hult, G. T. M., Ringle, C., & Sarstedt, M. (2013). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*, Thousand Oaks, CA: Sage Publications.

Hair, J. F., Sarstedt, M., Ringle, C.M., & Mena, J. A. (2012). An assessment of the use of partial least squares structural equation modeling in marketing research. *Journal of the Academy of Marketing Science*, 40(3), 414-433.

Henseler, J., Ringle, C., & Sinkovics, R. (2009). The use of partial least squares path modeling in international marketing. *Advances in International Marketing (AIM)*, 20, 277-320.

Holbrook, M. B., & Hirschman, E. C. (1982). The experiential aspects of consumption: Consumer fantasies, feelings, and fun. *Journal of Consumer Research*, 9(2), 132-140.

Holbrook, M. B. (1996). Customer value – a framework for analysis and research. *Advances in Consumer Research*, 23(1), 138–142.

Kartajaya, H. (2003). *Marketing in Venus*, Jakarta: SUN Publishers.

Kassim, N. M., Ramayah, T., & Kurnia, S. (2012). Antecedents and outcomes of human resource information system (HRIS) use. *International Journal of Productivity and Performance Management*, 61(6), 603-623.

Komulainen, H. (2014). The role of learning in value co-creation in new technological B2B services. *Journal of Business & Industrial Marketing*, 29(3), 238-252.

Lewin, J., Rajamma, R. K., & Paswan, A. K. (2015). Customer loyalty in entertainment venues: The reality TV genre. *Journal of Business Research*, 68(3), 616–622.

Lin, Y., Wang, Y., & Yu, C. (2010). Investigating the drivers of the innovation in channel integration and supply chain performance: a strategy orientated perspective. *International Journal of Production Economics*, 127(2), 320-332.

Livingston, G. (2016). *Emotion vs emotional Benefit in Marketing*. Retrieved March 12, 2016, from http://tlgonline.com/sharon/articles/030516.asp

Lovelock, C. (1991). *Services Marketing, Text, Cases and Readings*, Englewood Cliffs, NJ: Prentice-Hall.

Lusch, R. F., & Vargo, S. L. (2008). *The service-dominant mindset*, in Hefley, B. and Murphy, W. (Eds), Service Science, Management and Engineering Education for the 21st Century, New York, NY, pp. 89-96: Springer.

Monroe, K. (1990). *Pricing: Making Profitable Decisions*. New York, NY: McGraw-Hill.

Nunnally, J.C. and Bernstein, I.H. (1994). *Psychometric Theory*, New York, NY: McGraw-Hill.

Ofori, K. S., Boakye, K., & Narteh, B. (2016). Factors influencing consumer loyalty towards 3G mobile data service providers: Evidence from Ghana. *Total Quality Management & Business Excellence*, 32, 1–19. doi:10.1080/14783363.2016.1219654

Palmatier, R., Dant, R., Grewal, D., & Evans, K. (2006). *Factors influencing the effectiveness of relationship marketing: A meta-analysis*. Journal of Marketing, 70(4), 136–153.

Parasuraman, A., & Grewal, D. (2000). The impact of technology on the quality-value-loyalty chain: a research agenda. *Journal of the Academy of Marketing Science*, 28(1), 168-74.

Prahalad, C. K., & Ramaswamy, V. (2001). The value creation dilemma: new building blocks for co-creating experience. *Harvard Business Review*, 18(3), 5-14.

Prahalad, C. K., & Ramaswamy, V. (2003). The new frontier of experience innovation. *MIT Sloan Management Review*, 44(4), 12-18.

Prahalad, C. K., & Ramaswamy, V. (2004a). Co-creating unique value with customers. *Strategy & Leadership*, 32(3), 4-9.

Prahalad, C. K., & Ramaswamy, V. (2004b). The future of competition. *Harvard Business School*, 26(3), 1-8.

Ramaswamy, V. (2005). Co-creating experiences with customers: new paradigm of value creation. *The TMTC Journal of Management*, 8, 6-14.

Rapp, S., & Collins, T. (1991). *El nuevo rumbo del marketing*. Madrid: McGraw-Hill.

Rapp, S., & Collins, T. (1996). *El nuevo maxi-marketing*. Madrid: McGraw-Hill.

Reichheld, F. F., & Sasser Jr., W. E. (1990). Zero defections: quality comes to services. *Harvard Business Review*, 68, September/October, 105-11.

Rini, E. S., & Absah, Y. (2017). Rational, emotional and spiritual marketing strategies in Shariah banking in Medan, Indonesia. *Banks and Bank Systems*, 12(2), 68-77. doi:10.21511/bbs.12(2).2017.07.

Ringle, C. M., Wende, S., & Will, A. (2005). *SmartPLS* [E-reader Version]. Retrieved from: www.smartpls.de

Rini, E. S., & Absah, Y. (2017). *Rational, emotional and spiritual marketing strategies in Shariah banking in Medan, Indonesia*. Banks and Bank Systems, 12(2), 68-77. doi:10.21511/bbs.12(2).2017.07

Rini, E. S., Sulistya, E., & Absah, Y. (2015). Analysis Creation Through Customer Loyalty Effect Marketing Strategies Rational, Emotional and Spiritual towards Customer Satisfaction PT. Bank Islamic North Sumatra Me- dan Main Branch. *Journal of Management Studies and Business*, 2(1), 63-76.

Schwaninger, A., Vogel, J., Hofer, F., & Schiele, B. (2006). A psychophysically plausible model for typicality ranking of natural scenes. *ACM Transactions on Applied Perception (TAP)*, 3(4), 333-353.

Taghizadeh, S. K., Jayaraman, K., Ismail, I., & Rahman, S. A. (2016). Scale development and validation for DART model of value co-creation process on innovation strategy. *Journal of Business & Industrial Marketing* 31(1), 24-35. Retrieved from: https://doi.org/10.1108/JBIM-02-2014-0033

Tanev, S. (2011). How do value co-creation activities relate to the perception of firms' innovativeness? *Journal of Innovation Economics*, 1(7), 131-159.

Teas, K., & Agarwal, S. (2000). The effects of extrinsic product cues on consumers' percepcions of quality, sacrifice and value. *Journal of the Academy of Marketing Science*, 28(2).

Toufaily, E., Ricard, L., & Perrien, J. (2013). Customer loyalty to a commercial website: Descriptive meta-analysis of the empirical literature and proposal of an integrative model. *Journal of Business Research*, 66(9), 1436–1447.

Vargo, S. L., & Lusch, R. F. (2004). Evolving to a new dominant logic for marketing. *Journal of Marketing*, 68, 1–17. doi: http://dx.doi.org/10.1509/jmkg.68.1.1.24036

Vargo, S. L., & Lusch, R. F. (2008). Service-Dominant Logic: Continuing the Evolution. *Journal of the Academy of Marketing Science*, 36(1), 1-10. Retrieved from: http://dx.doi.org/10.1007/s11747-007-0069-6

Vargo, S. L., & Lusch, R. F. (2010). From repeat patronage to value co-creation in service ecosystems: a transcending conceptualization of relationship. *Journal of Business Market Management*, 4(4), 169-179.

Vega-Vazquez, M., Revilla-Camacho, M. Á., & Cossío-Silva, F. J. (2013). The value co-creation process as a determinant of customer satisfaction. *Management Decision*, 51(10), 1945-1953.

Yang, A., Huang, Y., & Chen, Y. (2017). *The importance of customer participation for high-contact services: evidence from a real estate agency*. Total Quality Management & Business Excellence, doi: 10.1080/14783363.2017.1341814

Zeithaml, V., Berry, L., & Parasuraman, A. (1996). The behavioral consequences of service quality. *Journal of Marketing*, 60(2), 31–46.

Zeithaml, V.A., (1988). Consumer perceptions of price, quality, and value: A means-end model and synthesis of evidence. *Journal of Marketing*, 52(3), 2-22.

Zhang, X., & Chen, R. (2008). Examining the mechanism of the value co-creation with customers. *International Journal of Production Economics*, 116(2), 242-250.

APPENDICES

APPENDIX 1
SCALE MEASUREMENT

Constructs	Measurement items
Dialogue	This brand uses diversified communication channels to have dialogue sessions with me.
	This brand conducts dialogue session frequently with me.
	This brand involves internal parties of the company during the dialogue session with me.
	This brand involves external parties during the dialogue session with me.
	This brand recognizes their consumer's experience regarding to the service or product.
	This brand emphasizes the employee's effort to individual consumers during dialogue session.
Access	This brand offers me the opportunity as a consumer to share in the design process of service or product.
	This brand offers me the opportunity as a consumer to share in the development process of service or product.
	This brand offers me the opportunity as a consumer to share in the price setting process of service or product.
	This brand emphasizes me on providing experiences as a consumer more than the ownership of service or product.
	This brand provides me all the necessary service or product-related information as a consumer.
Risk	I, as a consumer, receive potential risk information of the service or product.
	I, as a consumer, receive information about the limitations of the firm's knowledge and capability.
	The company recognizes the changing dynamics of my needs (consumer's needs).
	The company accepts my complaints (consumers' complaints) on the service or product offerings.
	The company shoulders all the risk-related responsibilities upon themselves.
Transparency	This brand makes me clear, as consumer, about the service or product-related information.
	This brand discloses me, as a customer, pricing related information.
	The company gets benefit from the information symmetry between me, as a consumer, and the firm.
	This brand builds trust among consumers through transparent information.
	This brand provides up-to-date information to me as consumer.
Customer participation	I spend a lot of time sharing information about my needs and opinions with the staff during the service process.
	I put a lot of effort into expressing my personal needs to the staff during the service process.
	I always provide suggestions to the staff for improving the service outcome.
	I have a high level of participation in the service process.
	I am very much involved in deciding how the service should be provided.
Customer perceived value	The product or service that I buy is not the only important fact in my decision, the experience during my purchase time is important t
	Buying using on-line store saves me time and effort.
	Buying using real store generates a different experience in product or service value.
	Staff (on-line or not) has more expertise to answer questions.
	Product or service offered can make me feel comfortable and confident in my social interactions.
	The price that I pay is fair against the experience with the product or service that I received.
	I feel having a better relationship with this brand rather than other brands.
Emotion	This brand induces me to a "Closeness" feeling.
	This brand induces me to a "Comfort" feeling.
	This brand induces me to a "Security" feeling.
	This brand induces me to a "Benefit" feeling
	This brand induces me to a "Honesty" feeling.
	This brand induces me to a "Product or service quality" feeling.
Customer loyalty	I have to say positive things about the product or service to other people.
	I have to recommend this product or service to someone who seeks my advice.
	I have to encourage friends and relatives to do business with the company.
	I have to consider this company my first choice to buy products or services.

APPENDIX 2
LOADINGS

	Access	Customer Loyalty	Customer Participation	Customer Perceived Value	Dialogue	Emotion	Risk	Transparency
ACS1	0,858	0,174	0,376	0,201	0,601	0,195	0,468	0,369
ACS2	0,886	0,168	0,341	0,204	0,518	0,156	0,517	0,375
ACS3	0,869	0,088	0,460	0,088	0,482	0,173	0,530	0,347
ACS4	0,710	0,235	0,273	0,196	0,450	0,284	0,447	0,433
ACS5	0,565	0,163	0,193	0,388	0,445	0,336	0,390	0,432
CL1	0,145	0,884	0,040	0,520	0,166	0,578	0,221	0,319
CL2	0,181	0,886	0,000	0,454	0,147	0,518	0,225	0,279
CL3	0,179	0,755	0,133	0,355	0,161	0,460	0,112	0,242
CL4	0,159	0,830	0,044	0,602	0,115	0,530	0,220	0,287
CP1	0,286	-0,039	0,754	0,121	0,247	0,104	0,276	0,169
CP2	0,306	0,046	0,808	0,164	0,196	0,135	0,328	0,156
CP3	0,299	0,027	0,794	0,125	0,240	0,155	0,353	0,224
CP4	0,348	0,064	0,838	0,083	0,276	0,169	0,342	0,266
CP5	0,478	0,111	0,825	0,110	0,340	0,195	0,422	0,306
CPV1	0,114	0,404	0,044	0,628	0,117	0,369	0,129	0,227
CPV2	0,245	0,342	0,145	0,612	0,203	0,357	0,254	0,314
CPV3	0,000	0,366	-0,108	0,607	0,089	0,390	0,085	0,206
CPV4	0,105	0,256	0,142	0,552	0,090	0,316	0,220	0,202
CPV5	0,201	0,424	0,210	0,737	0,191	0,490	0,271	0,357
CPV6	0,184	0,474	0,075	0,789	0,172	0,569	0,330	0,405
CPV7	0,231	0,469	0,162	0,793	0,284	0,645	0,347	0,412
DLG1	0,405	0,148	0,179	0,308	0,719	0,225	0,271	0,390
DLG2	0,480	0,090	0,295	0,192	0,848	0,217	0,326	0,418
DLG3	0,482	0,050	0,226	0,009	0,740	0,170	0,318	0,267
DLG4	0,513	0,140	0,327	0,210	0,798	0,271	0,402	0,450
DLG5	0,513	0,282	0,115	0,333	0,704	0,349	0,391	0,505
DLG6	0,488	0,172	0,242	0,188	0,722	0,267	0,417	0,481
EM1	0,194	0,453	0,194	0,496	0,259	0,759	0,356	0,375
EM2	0,145	0,568	0,115	0,634	0,226	0,871	0,364	0,385
EM3	0,246	0,496	0,164	0,528	0,247	0,823	0,346	0,425
EM4	0,194	0,503	0,179	0,549	0,260	0,805	0,370	0,414
EM5	0,294	0,459	0,223	0,567	0,277	0,821	0,379	0,463
EM6	0,208	0,533	0,069	0,491	0,266	0,758	0,273	0,431
RSK1	0,357	0,123	0,364	0,206	0,250	0,282	0,721	0,314
RSK2	0,480	0,080	0,396	0,216	0,364	0,281	0,812	0,438
RSK3	0,471	0,282	0,244	0,404	0,389	0,373	0,743	0,569
RSK4	0,343	0,264	0,239	0,292	0,310	0,341	0,656	0,593
RSK5	0,521	0,193	0,267	0,228	0,397	0,323	0,656	0,520
TSP1	0,367	0,260	0,208	0,405	0,414	0,454	0,541	0,768
TSP2	0,334	0,140	0,187	0,232	0,301	0,258	0,403	0,695
TSP3	0,268	0,224	0,214	0,232	0,451	0,256	0,422	0,720
TSP4	0,432	0,323	0,297	0,485	0,455	0,538	0,587	0,860
TSP5	0,423	0,351	0,143	0,371	0,461	0,424	0,499	0,797