



Exploring the interplay between customer perceived brand value and customer brand co-creation behaviour dimensions

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Abstract

As value co-creation continues to gain traction as one of the most influential concepts in contemporary marketing, it is worthwhile to explore the role of the customer in the realisation of value. This paper considers that customer participation in a range of active customer behaviours, including development, feedback, advocacy and helping, can co-create customer perceptions of brand value. In particular, the research examines the interplay between the dimensions of quality, emotional, price and social value with respect to co-creation behaviour dimensions. Overall, the results indicate potentially positive impacts of advocacy and development behaviours, little influence from feedback and seemingly negative impacts from helping behaviour, upon brand value dimensions. This paper offers initial insight into the potential impacts of different behaviours upon forms of value, enhancing theoretical understanding and offering direction for brand management applications.

Keywords Customer brand co-creation · Co-creation behaviour · Value co-creation · Customer perceived value · Brand management

Introduction

Value has long been acknowledged as fundamental to enduring customer relationships and ongoing firm success (Smith and Colgate 2007). In the co-creation ecosystem, value is created in a shared relationship between brands, customers and stakeholders (Iglesias et al. 2013; Payne et al. 2008). The customer is an active creator of value both within and outside of the traditional purchase and consumption experience (Vargo and Lusch 2004), making the customer–brand interaction a key focus for firm success (Cova et al. 2015). Customer brand co-creation behaviour is an active form of customer–brand interaction which provides value to the firm and, thus, becomes a useful focus of co-creation research. The importance of brand value co-creation is widely supported at a philosophical level (Biraghi and Gambetti 2017; Brodie et al. 2011; Merz et al. 2018; Vargo and Lusch 2004), yet there is less certainty about the mechanisms by which

value emerges. In particular, there is scarce empirical investigation of brand value co-creation (Merz et al. 2018), particularly in relation to the active customer brand co-creation behaviour.

Theoretical discussions suggest that customer participation in a range of voluntary, active and interactive brand behaviours will enhance value perceptions (France et al. 2015; Ind et al. 2013). In fact, emerging evidence supports the general link between customer co-creation behaviour and an increase in customer perceived brand value (France et al. 2018). However, the concepts of both brand co-creation and brand value are notably multi-faceted. Therefore, a research opportunity lies in the close examination of the relationship between the elements of co-creation and value. This study begins to pursue this opportunity, in particular the research aims to consider how different forms of co-creation behaviour could differently manifest in brand value realisation for the co-creating customer. As an example, discussing and recommending a brand is a form of advocacy co-creation, which due to its social nature may be posited to have greater implications for social value, rather than feedback which may occur in less public settings. This paper uses structural equation modelling to examine the specific relationships between types of co-creation behaviour and forms of customer perceived brand value. In doing so, the research

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begins to isolate mechanisms of value co-creation, bridging middle range theory and practical theory to provide new insight for theoretical development and practical brand management application.

Literature review

Stakeholder influence upon the brand is not new to marketing (Ind and Coates 2013). Yet, academic and industry attention has been piqued since the seminal work of Vargo and Lusch (2004) which highlighted that value is both defined and co-created by the customer. This idea of collaboration between the brand and the customer provides value for all (Ind et al. 2013), with increasing evidence supporting the broad notion of value co-creation for the firm (Ramaswamy and Ozcan 2016; Skålén et al. 2015) and the customer (France et al. 2018). Resultantly, there is a change in brand thinking which emphasises the participatory process (Domegan et al. 2013) and the major role played by customers in the realisation of brand value (Grönroos 2008). Thus, the customer's experience with the brand in a range of circumstances allows value to emerge (Merz et al. 2009). Within this framework of value emergence, Dong and Sivakumar (2017) acknowledges voluntary customer participation and engagement as particularly valuable mechanisms of customer value co-creation.

Until recently, this explosion in the value co-creation literature somewhat neglected the branding domain (Galvagno and Dalli 2014). An emerging literature, however, builds upon understanding of the role of the customer in active brand participation and brand co-creation (France et al. 2018; Ind et al. 2019) providing a foundation for knowledge extension.

Closer examination of the interaction between brand co-creation and brand value within this branding domain requires consideration of the basis of the two concepts. While there are broad conceptualisations offered in the brand co-creation (France et al. 2015) and brand value (Smith and Colgate 2007) researches, precise customer-centred conceptualisations are critical to our research focus and the practical application of findings. Therefore, customer perceived brand value and customer brand co-creation behaviour become the focal concepts. We now examine the brand value co-creation literature before considering the value and co-creation concepts independently to understand how brand value may emerge from customer co-creation.

Customer brand value co-creation

The customer has emerged as an increasingly active participant in the brand domain, where brand management and governance are heavily influenced by the customers' voice and actions (Hatch and Schultz 2010). Increasing evidence

supports the notion of increased value for the firm derived from customer co-creation (Ramaswamy and Ozcan 2016; Skålén et al. 2015). Here, an organic view of brand is beginning to replace the traditional firm-controlled view, highlighting that the brand is co-created in conjunction with stakeholders (Iglesias et al. 2013). This transition in the marketing system highlights the role of the brand as a customer tool to create meaning and value for the individual (Conejo and Wooliscroft 2015). In this co-creation setting, the role of the customer in realisation of brand value becomes increasingly important (Grönroos 2008). While firms and scholars now seek to foster increased participation, many firms are not realising their co-creation potential due to the metaphorical and less actionable focus of co-creation discussions (Biraghi and Gambetti 2017).

Emerging actionable evidence shows that co-creating customers differ significantly in the way they use and interact with the brand (Guzmán et al. 2019), and different customers are differently motivated by a range of intrinsic and extrinsic drivers (France et al. 2015; Ind et al. 2019). Consequences of co-creation behaviour are increasingly discussed, demonstrating that customer actions towards the brand lead to adjustments of the brand (Ind et al. 2012). Further, customer co-creation influences brand performance (Vermette and Hamdi-Kidar 2013), enhances employee behaviour (Yi et al. 2011) and offers cost advantages (Chathoth et al. 2016). Customer participation in co-creation may also lead to enhanced value perceptions (France et al. 2018; Ind et al. 2019) and enhanced loyalty (Cossío-Silva et al. 2016) for the co-creator.

While these advancements in brand co-creation provide stronger understanding of the implications of co-creation behaviour, there remains a need for further actionable research to guide theoretical development and brand management application. Specifically, consideration of the types of co-creation behaviour and the resultant value implications for the customer provide a potentially fruitful area for exploration.

Customer perceived brand value

Brand value is generally conceptualised as either the value received by the customer (customer perceived) or the value of the customer to the firm (firm perceived) (Smith and Colgate 2007). As a central concept in motivating customer behaviour, customer perception is crucial to this research and to brand strategy management (Cronin et al. 2000). Early conceptualisations of customer perceived value are based on Zeithaml's (1988) notion of the customer's overall evaluation of what is given to, and received from, the brand. The customer's appraisal of the brand's worth is part of their decision-making process and emphasises the importance of value to the firm and to the customer.



Table 1 Co-creation value and behaviour definitions

Construct	Definition
Quality value	“The utility derived from the perceived quality and expected performance of the product” (Sweeney and Soutar 2001, p. 211)
Emotional value	“The utility derived from the feelings or affective states that a product generates” (Sweeney and Soutar 2001, p. 211)
Price value	“Price is what is given up or sacrificed to obtain a product” (Zeithaml 1988, p. 10)
Social value	“The utility derived from the product’s ability to enhance social self-concept” (Sweeney and Soutar 2001, p. 211)
Co-creation feedback behaviour	“Feedback includes solicited and unsolicited information that customers provide” to the brand (Yi and Gong 2013, p. 1280)
Co-creation advocacy behaviour	“Advocacy refers to recommending the business...to others” (Yi and Gong 2013, p. 1280)
Co-creation helping behaviour	“Helping refers to customer behaviour aimed at assisting other customers.” (Yi and Gong 2013, p. 1281)
Co-creation development behaviour	“Voluntary customer participation in the generation of new ideas and resources for the brand” (France et al. 2018, p. 336)

Although there is general support for the concept of customer perceived brand value, Sánchez-Fernández and Iniesta-Bonillo (2007) identify the differing unidimensional and multidimensional perspectives, highlighting the challenges for consistent conceptualisation. Indeed, perceived value conceptualisations diverge, even regarding the stage of realisation (i.e. during purchase or consumption) (Boksberger and Melsen 2011). However, the four-dimensional view of customer perceived brand value (PERVAL) offered by Sweeney and Soutar (2001) remains one of the most comprehensive and widely supported views of brand value, applicable across various brand categories and diverse stages of the brand experience. These four critical dimensions relate to the customer’s evaluation of a brand’s ability to provide *emotional*, *social*, *financial* and *quality* value (Sweeney and Soutar 2001). Customers may draw value from the brand in relation to *emotional value*, where utility is derived from feelings towards the brand (Sweeney and Soutar 2001). *Social value* relates to value drawn from the social credibility of the brand in enhancing social self, while *financial value* and *quality value* are more functional and relate to value for money and perceptions of the brand’s excellence, respectively (Sweeney and Soutar 2001). Given the diverse mechanisms through which value can be realised for customers, it is desirable to explore the impact of customer participation in brand co-creation behaviour on the particular dimensions of value realisation, as shown in Table 1.

Customer brand co-creation behaviour

Co-creation behaviour is also identified as a diverse multidimensional concept, encompassing a range of active behaviours which generate value (Vermette and Hamdi-Kidar 2013; Yi and Gong 2013). Co-creation behaviours go beyond the general purchase and consumption exchange and include the voluntary active behaviours customers choose to perform in relation to the brand (France et al. 2018).

Building upon the multidimensional view of Yi and Gong (2013), France et al. (2018) empirically verify a four-dimensional view of customer brand co-creation behaviour which considers diverse brand-related customer activities (see Table 1). *Feedback behaviour* involves customers providing feedback to brands (Yi and Gong 2013) and is a relatively intimate behaviour, conducted largely in a customer-to-brand setting (France et al. 2018). *Advocacy behaviour* is another widely accepted form of co-creation behaviour (Payne et al. 2009), whereby the customer endorses the brand to others, in-person or online (Wirtz et al. 2013). Advocacy may be highly visible in social settings and involves more affective responses. *Helping behaviour* also involves social situations, with one customer supporting another. However, helping is often more linked to cognitive problem solving (France et al. 2018). The final dimension of co-creation behaviour is that of *development behaviour* which also involves significant cognitive processing on behalf of the customer (France et al. 2018). Customer participation in development of new ideas and resources for the brand (Hoyer et al. 2010) may occur in direct customer-to-brand settings but may also involve customer-to-many settings which are more publicly visible. Overall, if considered within the value co-creation framework (Vargo et al. 2008), customers’ brand co-creation behaviours provide an opportunity for realisation of value for the brand (Prahalad and Ramaswamy 2004) and can potentially boost customer perceived value for the co-creator (France et al. 2015).

Given the importance of both brand value and brand value co-creation and the aforementioned differences in the types of co-creation behaviours, there is merit in considering the links to particular forms of customer perceived value. Understanding the intersections between value and co-creation dimensions will pinpoint the influence of particular co-creation behaviours upon customer perceptions of value, advancing theoretical knowledge and bolstering managerial application of co-creation.



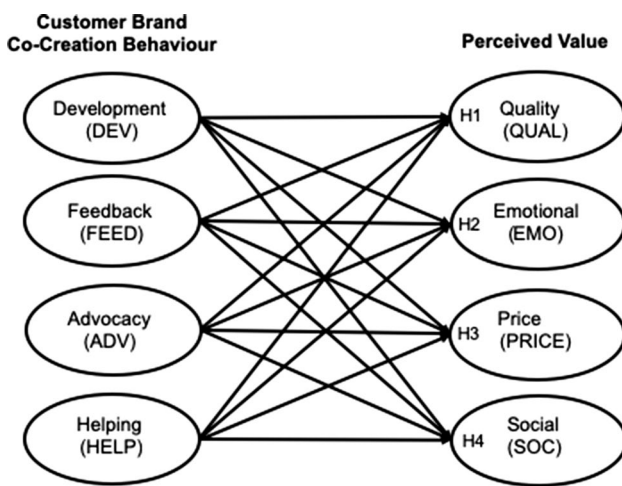


Fig. 1 Hypothesised model

Customer brand value co-creation model development

The aforementioned discussion demonstrates the depth of consensus that customer co-creation behaviour provides value to the brand. The act of participating in brand behaviours may create real enjoyment (France et al. 2015), additional emotional fulfilment (So et al. 2014), enhanced products (Ramaswamy and Gouillart 2010) and allow customers to enhance their social identities (van Doorn et al. 2010). Further, interaction with the firm and other likeminded customers (Zhou et al. 2012) may provide new brand experiences which influence perceptions of value (Minkiewicz et al. 2014). These benefits are closely linked to different forms of value, leading to an increase in social, price, quality and emotional value which forms the basis of the hypothesised model (see Fig. 1). We now look more closely at the value dimensions to isolate which forms of value are influenced by co-creation behaviour.

Hypotheses development

Quality value

Value is synonymous with quality (Cronin et al. 2000), whereby customers perceive and derive value from the performance of the brand (Sweeney and Soutar 2001). This may be linked to particular forms of co-creation behaviour, where customers may be involved in brand-related cognitive processing to improve brand performance. Participation in such behaviours may lead customers to affirm their brand quality perceptions. Additionally, the increased exposure to specific information about brand quality may have a transformative effect, whereby quality-related information is transferred to brand evaluations (Mehta et al.

2008), from a variety of co-creation behaviours. Overall, co-creation behaviour is predicted to enhance perceptions of quality value. However, it is useful to consider how the co-creation subdimensions will interact with quality.

Co-creation development, as a more intensive co-creation behaviour, is expected to be a dominant source of influence on quality (France et al. 2018). Customer ideation involves deep-level cognitive activation (Liu and Shrum 2002) which may increase neural processing (Daugherty et al. 2018) and strengthen brand associations of quality. Therefore, co-creation development has a heightened cognitive emphasis (in comparison with other co-creation behaviours) which may increase the impact of the transformative effect (Mehta et al. 2008). When a customer participates in co-creation development, they spend considerable time and cognitive resources developing brand enhancements (Ramaswamy and Gouillart 2010). By sharing ideas for brand innovation and development, customers may expect performance enhancements and may experience real improvements in perceived brand quality (Fang et al. 2008). This process may provide the customer with additional awareness of sources of brand quality and an expectation of performance improvements. Therefore, it is hypothesised that due to the high level of information processing and the increased exposure to quality associations for the brand, development behaviour will have a direct influence on perceived quality value (H1a).

Closely related to development, the provision of feedback directly links the customer and brand in an evaluative process (Yi and Gong 2013). The provision of feedback may lead to expectations of improvement (Celuch et al. 2015), resulting in enhanced expectations of quality. Therefore, feedback is expected to increase perceptions of quality value (H1b).

Further, advocating the brand may allow customers to crystallise their judgements of brand quality value (Dichter 1966). Advocacy is also known to create value for the brand (De Vries and Carlson 2014) and is expected to increase quality value where word of mouth is commonly related to perceptions of quality (Harrison-Walker 2001). The act of recommending the brand to another may reinforce these perceptions of quality, strengthening associations and leading to an increase in perceived quality value (H1c).

Finally, by identifying and explaining quality features and functionalities to other customers, the transformative effect (Mehta et al. 2008) may reinforce perceptions of quality for the co-creator. Therefore, by helping other customers, perceptions of brand quality may be increased (H1d).

H1 (a) Co-creation development (DEV) will have a positive influence on perceived quality value (QUAL).

H1 (b) Co-creation feedback (FEED) will have a positive influence on perceived quality value (QUAL).



H1 (c) Co-creation advocacy (ADV) will have a positive influence on perceived quality value (QUAL).

H1 (d) Co-creation helping (HELP) will have a positive influence on perceived quality value (QUAL).

Emotional value

Emotional responses are known to be powerful influences on consumer behaviour (Butcher et al. 2016). Indeed, the feelings generated by a brand can produce significant sources of value for the consumer (Sweeney and Soutar 2001). Emotional value is derived from a mix of sources, including relational sources, as well as pleasure and enjoyment sources (Smith and Colgate 2007) which could be influenced by participation in co-creation behaviour.

Co-creation behaviour is driven by the customers' passion and immersion in the brand and the category (France et al. 2015). Therefore, participation in a range of active co-creation behaviours may provide new sources of enjoyment for the customer (Ind et al. 2019), leading to enhanced perceptions of emotional value (Payne et al. 2009). Furthermore, participation in co-creation behaviour may allow the customer to deepen relational connections with the brand and members of the brand community. Thus, by working with the brand and brand community, additional sources of relational value may be realised, leading to enhanced emotional value.

When looking at the influence of development behaviour, there is potential for the engaged and passionate customer (Hollebeek et al. 2014) to derive real enjoyment from the development process. Working with a brand and category of interest to the co-creator may provide an additional source of emotional value from the brand (H2a). Further, the evaluative nature of feedback, whereby passionate customers express feelings and responses to the brand, may increase the emotional outcomes for the co-creator. Providing feedback to the brand serves to maintain and enhance the customer connection with the brand, eliciting empathic processing from the co-creator which may increase perceptions of closeness (Liu and Gal 2011) and lead to increased emotional value (H2b).

Likewise, advocacy behaviour is largely emotional in nature (France et al. 2018), where the customer endorses the brand to others. Providing recommendations of the brand to others may be perceived by the co-creator as passing on a gift, providing emotional fulfilment from sharing valuable information (Dichter 1966). Therefore, by participating in advocacy behaviour, the co-creator is able to draw rich emotional value from the behaviour (H2c). Helping behaviour is also performed by engaged customers, in broad customer support networks (Black et al. 2014). By helping, the co-creator may express their interest and passion for the brand, which strengthens their relationship connection and provides deeper immersion. Further, helping likeminded individuals

may activate emotional responses from fulfilling reciprocity needs (Rosenbaum, and Massiah 2007), thereby providing an additional source from which to derive emotional value from the brand (H2d). It is hypothesised that the rich emotional connection from development, feedback, advocacy and helping will have a significant positive influence on emotional value, as follows:

H2 (a) Co-creation development (DEV) will have a positive influence on perceived emotional value (EMO).

H2 (b) Co-creation feedback (FEED) will have a positive influence on perceived emotional value (EMO).

H2 (c) Co-creation advocacy (ADV) will have a positive influence on perceived emotional value (EMO).

H2 (d) Co-creation helping (HELP) will have a positive influence on perceived emotional value (EMO).

Price value

Price value is a functional form of value, derived predominantly from financial costs (Sweeney and Soutar 2001) and evaluated from a cost-to-benefit ratio perspective (Smith and Colgate 2007). Therefore, in this area, price value is generally derived from reduced costs or increased benefits, both of which could be possible outcomes of co-creation behaviour.

Customers are increasingly incentivised to participate in a range of co-creation behaviours through firm-incentive rewards (Jaakkola and Alexander 2014). For example, a customer may recommend the brand to a friend and receive a financial return from the brand as a result (Füller 2010). In such situations, price value perceptions may be adjusted by participating in co-creation behaviour, which can be linked to financial returns or increased brand benefits. Additionally, by participating in co-creation programs, the customer may enhance the operational benefits of the brand (Ramaswamy and Guillard 2010), thus improving the real offering as a source of increased price value. Participation in development may provide the co-creator with new enjoyment as an extra benefit of the brand. Thus, when a customer is involved in development, and when price remains constant, the increase in perceived benefits may lead to increased price value perceptions for the co-creator (H3a). Further, the provision of feedback may lead to expectations of financial rewards or refunds in some circumstances and may increase assumptions of improvement (Celuch et al. 2015) and resolution of issues. Therefore, providing feedback to the brand may initiate a process to enhance the price value (H3b).

Financial incentives are increasingly offered to customers for participation in advocacy behaviours (Stephen and Lehmann 2013). Therefore, advocating customers may



receive immediate discounts and rewards or may expect future rewards for their behaviour. This incentivisation of advocacy is expected to lead to increased benefits or decreased costs, which increases price value. Further, the additional social and emotional fulfilment provided, at a constant price, may increase the benefits of the offering relative to expense, thus increasing perceived price value (H3c). Similarly, the fulfilment of helping other customers by being socially and community minded (Jung et al. 2014) may provide additional value to the customer. An opportunity to participate in a community provides additional value connected to the brand, with a constant price, heightening perception of brand benefits and increasing price value for helping customers (H3d). Therefore, the additional benefits derived by the customer from co-creating may increase the cost-to-benefit ratio involved in the price value assessment.

H3 (a) Co-creation development (DEV) will have a positive influence on perceived price value (PRICE).

H3 (b) Co-creation feedback (FEED) will have a positive influence on perceived price value (PRICE).

H3 (c) Co-creation advocacy (ADV) will have a positive influence on perceived price value (PRICE).

H3 (d) Co-creation helping (HELP) will have a positive influence on perceived price value (PRICE).

Social value

The final dimension of value, social value, is increasingly linked to co-creation behaviour as a mechanism for self-expression (Gyrd-Jones and Kornum 2013). Social value can be increased when a customer uses the brand to influence how others perceive them (Smith and Colgate 2007) which may form a role in co-creation behaviours. Given the social nature of co-creation behaviour, all types of co-creation are expected to increase social value.

In particular, being a part of development may provide the customer with social credibility relating to their expertise (Mahr et al. 2014). By socially aligning with (Merz et al. 2009) and supporting the brand, the customer fulfils identity needs and creates additional sources of social value from the brand, beyond the in-use context. Further, a co-creation development may strengthen associations between the brand and self-concept (Berthon et al. 2008). Thus, by co-creating, the customer may connect themselves to a desirable category or brand and may derive increased social value from doing so (H4a).

Similarly, by providing feedback to the brand, the customer is involved in a direct social exchange with the brand which may result in direct social benefits (Celuch et al.

2015). While feedback may occur in a customer-to-brand setting, it may also be more exposed in online environments, and thus a customer may additionally draw social credibility from the act of providing feedback to the brand (H4b).

Advocacy is particularly powerful in relation to social value, where the customer endorses the brand in social settings. Advocating customers are highly passionate about the brand and see the brand as a reflection of their self-image (Wirtz et al. 2013) which can be leveraged as a tool for self-expression (Dichter 1966). Therefore, when a customer advocates the brand, the highly social and visible nature of advocacy allows an increase in social value derived from the brand (H4c). Likewise, helping other customers occurs largely in social settings, specifically customer-to-customer environments and brand communities. In these settings, helping may provide additional social status and shared rituals among members (Muñiz and O'Guinn 2001) and allow the helpers to express their brand narrative (Merz et al. 2009). Therefore, by helping other customers, the co-creator receives additional social value from the brand (H4d).

H4 (a) Co-creation development (DEV) will have a positive influence on perceived social value (SOC).

H4 (b) Co-creation feedback (FEED) will have a positive influence on perceived social value (SOC).

H4 (c) Co-creation advocacy (ADV) will have a positive influence on perceived social value (SOC).

H4 (d) Co-creation helping (HELP) will have a positive influence on perceived social value (SOC).

Methodology

The research design involved the development of an online survey to address the hypotheses of the study. Initially, respondents were asked to select one brand (from a range of well-known computer and telecommunications brands) to use as their reference brand for their survey answers. Computers and telecommunication services¹ were chosen as appropriate representations of both goods and services brands. The personal computer (Dell, Apple and HP) and telecommunications (AT&T and Verizon Communications) brands were selected for being widely known brands and market leaders in their categories. The survey comprised of a total of 34 items to measure the constructs of

¹ This decision was based on the (in)tangibility spectrum proposed by Shostack (1977).



interest. Specifically, the four dimensions of co-creation behaviour were measured via 16 items from France et al. (2018) and perceived value was measured via 18 items adapted from the Sweeney and Soutar (2001) PERVAL scale. All scale items were captured using 7-Pt Likert scales ranging from (1) strongly disagree to (7) strongly agree. To validate the integrity of the survey responses, we included an instructional manipulation check variable (from Oppenheimer et al. 2009). Finally, for the purpose of sample profiling, demographic variables such as age, gender, household income and education were included at the end of the survey.

Online survey data were collected by soliciting respondents from the USA and Canada through Microworkers, an international online platform which enables “employers” to pay individuals for simple tasks such as survey completions. Respondents were offered a payment of \$1.50 USD for each validated survey. The instructional manipulation check variable included a question stating “This is not about [BRAND] but a check to ensure you are still paying attention, so please select somewhat disagree”. This manipulation provided a validator, and only those responses that passed the manipulation check were included in the final data set. Approximately 15% of received responses were eliminated through this process. The final sample of 311 comprised of 272 US residents and 39 Canadian residents. Responses relating to computer brands (i.e. 163 responses) and telecommunication brands (i.e. 148 responses) were relatively evenly split, as was gender with 52% male and 48% female respondents. Average age of respondents was 35.1 years (ranging from 18 to 72 years), with 53% having household income less than \$50,000, 22% ranging from \$50,000 to \$75,000 and the remaining 25% having household income greater than \$75,000. In relation to education, 32% of respondents had finished high school, 15% had additional certificate qualifications, 38% had completed a bachelor degree and 15% had completed a postgraduate degree.

Results

The analytical approach adopted to address the hypotheses in this study was partial least squares (PLS-SEM). Unlike covariance-based SEM (CB-SEM), PLS-SEM is used when the nature of the study is exploratory rather than confirmatory (Hair et al. 2016), as is the case with this study. In addition, PLS-SEM enables the stringent evaluation of both inner (path) and outer (measurement) models, which is an important aspect to consider given that some pre-existing measures (i.e. PERVAL) required adaptation for this study (Navarro et al. 2011).

Outer (measurement) model results

Prior to hypotheses testing, it was important to establish the reliability and validity of the measurement model (i.e. outer model). As the hypothesised model comprised of eight reflective constructs (DEV, FEED, ADV, HELP, QUAL, EMO, PRICE and SOC), SmartPLS 3.0 (Ringle et al. 2015) was used to evaluate the reflective measures at the indicator level, i.e. means (standard deviation), factor loadings (t values), factor loading bias-corrected confidence intervals (see Table 2), bivariate correlations (see “Appendix”) and indicator reliabilities. The results indicate that all factor loadings ranged from .74 to .95, thus exceeding the recommended threshold of .70 (Chin et al. 2003), and were significant ($t > 1.96$). In terms of indicator reliability, all items were above the recommended cut-off of 0.708 and no items reduced alpha.

At the construct level, all AVEs were above the recommended level of .50 (Fornell and Larcker 1981), ranging from .79 to .89. As the measures accounted for more than 50% of their respective constructs, evidence of convergent validity is established.

To test for discriminant validity, we used the heterotrait–monotrait (HTMT) method, a stringent method of testing for discriminant validity in that it “offers the best balance between high detection and low arbitrary violation (i.e. false positive) rates” (Voorhees et al. 2016, p. 119). Evaluation, using this method, involves the examination of the HTMT ratio whereby discriminant validity is established if the ratio is significantly different to one, with the most conservative evaluative criterion being HTMT .85. The results of HTMT assessment show that HTMT ratios ranged from .23 to .83, thus confirming discriminant validity. Finally, to check for multicollinearity issues, we examined the VIFs. As the VIFs were well under the recommended level of 5 (i.e. ranged from 1.64 to 2.26), data integrity was further established.

Inner (structural) model results

The structural (inner model) was evaluated using SmartPLS 3.0 (Ringle et al. 2015) through bootstrap sampling. In relation to the value dimension QUAL of the four co-creation dimensions, ADV (H1c) had the only significant path (.78) to QUAL. This was against expectation that DEV, FEED and HELP would exert a significant influence. On this basis, H1c was supported while H1 (a, b and d) were not supported.

In relation to value dimension EMO, the path results indicate that ADV had the strongest effect on EMO (.85), followed by DEV (.15) and HELP (−.12). In respect to DEV and ADV, the results confirm H2a and H2c. Although the path HELP/EMO was significant, the effect was negative rather than positive as expected, while the FEED/EMO path was not significant. On this basis, H2b and H2d are not supported.



Table 2 Outer (measurement) model results

CODE	ITEM WORDING (Abbreviations are presented in some instances)	Mean (SD)	Loading (<i>t</i> value)	CI BCa ^a	Sig.
<i>Customer brand co-creation behaviour: DEVELOPMENT (DEV)</i>					
DEV1	I take photographs of myself with xxx and share them with xxx and others.	2.93 (1.95)	.74 (22.9)	[.67; .80]	✓
DEV2	I create advertising for xxx and share it with xxx and others.	2.24 (1.75)	.93 (82.1)	[.91; .95]	✓
DEV3	I develop new products or services for xxx.	2.20 (1.74)	.93 (76.8)	[.91; .85]	✓
DEV4	I create online content about xxx.	2.26 (1.80)	.91 (82.1)	[.85; .95]	✓
DEV5	I develop ideas for xxx (e.g. when participating in competitions).	2.25 (1.76)	.92 (76.9)	[.88; .94]	✓
		AVE .79	C.R. .95		
<i>Customer brand co-creation behaviour: FEEDBACK (FEED)</i>					
FEED1	When I have a positive xxx experience, I provide them feedback.	3.97 (1.96)	.87 (52.4)	[.84; .91]	✓
FEED2	I provide useful ideas on how to improve xxx.	3.29 (1.92)	.91 (63.4)	[.88; .93]	✓
FEED3	If I notice a problem with xxx, I tell an employee, even if it doesn't affect me.	3.71 (1.99)	.89 (59.2)	[.86; .92]	✓
FEED4	I tell xxx my ideas for improvement.	3.20 (1.98)	.89 (55.2)	[.86; .92]	✓
		AVE .80	C.R. .94		
<i>Customer brand co-creation behaviour: ADVOCACY (ADV)</i>					
ADV1	I recommend xxx to others.	5.00 (1.70)	.94 (96.2)	[.92; .96]	✓
ADV2	I say positive things about xxx to others.	5.02 (1.64)	.95(135.0)	[.94; .97]	✓
ADV3	I spread the good word about xxx.	4.73 (1.74)	.94 (81.2)	[.91; .96]	✓
ADV4	I encourage my friends and relatives to use xxx.	4.73 (1.81)	.94(103.6)	[.92; .96]	✓
		AVE .89	C.R. .97		
<i>Customer brand co-creation behaviour: HELPING (HELP)</i>					
HELP1	I help other xxx customers if they seem to have problems.	3.96 (1.95)	.92 (69.7)	[.87; .94]	✓
HELP2	I give advice to other customers about xxx.	3.95 (1.92)	.92 (61.3)	[.88; .94]	✓
HELP3	I tell others about new things with xxx.	4.17 (1.91)	.92 (84.1)	[.89; .94]	✓
		AVE .84	C.R. .94		
<i>Perceived value: QUALITY (QUAL)</i>					
QUAL1	Xxx has consistent quality.	5.47 (1.40)	.91 (71.1)	[.88; .93]	✓
QUAL2	Xxx is well made/performs well.	5.51 (1.35)	.93 (71.8)	[.90; .95]	✓
QUAL3	Xxx has an acceptable standard of quality.	5.57 (1.32)	.91 (65.0)	[.88; .94]	✓
QUAL4	Xxx lasts a long time.	5.41 (1.43)	.88 (44.1)	[.84; .91]	✓
QUAL5	Xxx performs consistently.	5.46 (1.42)	.89 (48.0)	[.86; .93]	✓
		AVE .82	C.R. .96		
<i>Perceived value: EMOTIONAL (EMO)</i>					
EMO1	Xxx is one 'category' that I enjoy.	5.34 (1.51)	.91 (68.5)	[.88; .93]	✓
EMO2	Xxx makes me want to use it.	5.10 (1.62)	.92 (71.2)	[.89; .94]	✓
EMO3	Xxx is one 'category' that I feel relaxed about using.	5.19 (1.53)	.90 (56.9)	[.87; .93]	✓
EMO4	Xxx makes me feel good.	4.93 (1.62)	.93 (92.4)	[.91; .95]	✓
EMO5	Xxx gives me pleasure.	4.67 (1.74)	.86 (45.4)	[.82; .89]	✓
		AVE .82	C.R. .96		
<i>Perceived value: PRICE (PRICE)</i>					
PRICE1	Xxx is reasonably priced.	4.80 (1.65)	.89 (43.7)	[.84; .92]	✓
PRICE2	Xxx offers value for money.	5.08 (1.50)	.93 (71.9)	[.89; .94]	✓
PRICE3	Xxx is a good product/service for the price.	5.12 (1.52)	.92 (66.8)	[.89; .94]	✓
PRICE4	Xxx is economical.	4.71 (1.60)	.89 (59.8)	[.86; .92]	✓
		AVE .82	C.R. .95		✓
<i>Perceived value: SOCIAL (SOC)</i>					
SOC1	Xxx helps me to feel acceptable.	4.22 (1.83)	.93(109.5)	[.92; .95]	✓
SOC2	Xxx improves the way I am perceived.	4.10 (1.85)	.95(153.5)	[.94; .96]	✓
SOC3	Xxx makes a good impression on other people.	4.43 (1.69)	.92 (72.9)	[.89; .94]	✓
SOC4	Xxx gives me social approval.	3.99 (1.79)	.93 (86.7)	[.91; .95]	✓
		AVE .87	C.R. .96		

CR composite reliability

^aBias-corrected confidence intervals

Table 3 Inner (structural) model results

Structural path	Hypothesis	Path coefficient	<i>t</i> value	CI bias-corrected	Significant?
DEV → QUAL	H1a (not supported)	.02	0.34	[−.07; .11]	No
FEED → QUAL	H1b (not supported)	−.03	0.66	[−.15; .06]	No
ADV → QUAL	H1c (supported)	.78	21.43	[.71; .85]	Yes
HELP → QUAL	H1d (not supported)	−.11	1.88	[−.23; −.01]	No
DEV → EMO	H2a (supported)	.15	3.82	[.07; .23]	Yes
FEED → EMO	H2b (not supported)	−.04	0.96	[−.15; .00]	No
ADV → EMO	H2c (supported)	.85	23.62	[.78; .92]	Yes
HELP → EMO	H2d (not supported)	−.12	1.98	[−.25; .01]	Yes
DEV → PRICE	H3a (supported)	.13	2.62	[.04; .23]	Yes
FEED → PRICE	H3b (not supported)	.04	0.64	[−.08; .16]	No
ADV → PRICE	H3c (supported)	.71	15.10	[.62; .82]	Yes
HELP → PRICE	H3d (not supported)	−.21	2.87	[−.34; −.08]	Yes
DEV → SOC	H4a (supported)	.36	7.35	[.26; .46]	Yes
FEED → SOC	H4b (not supported)	.01	0.09	[−.12; .16]	No
ADV → SOC	H4c (supported)	.45	7.17	[.30; .54]	Yes
HELP → SOC	H4d (not supported)	.01	0.19	[−.12; .14]	No

Table 4 Variance explained by co-creation behaviours on all four PERVAL dimensions: comparing goods and services

	Aggregate sample <i>R</i> ²	Computer (e.g. goods) <i>R</i> ²	Telecoms. (e.g. services) <i>R</i> ²	Comments
QUAL	.51	.40	.55	Stronger for telecommunications
EMO	.68	.51	.75	Stronger for telecommunications
PRICE	.45	.24	.75	Stronger for telecommunications
SOC	.46	.38	.55	Stronger for telecommunications

In relation to the value dimension PRICE, DEV (.13) and ADV (.71) were significant, confirming H3a and H3c. HELP (−.21) was also significant, but the HELP/PRICE path was negative, thus not supporting H3d. The FEED/PRICE pathway was not significant, thus H3b was not supported.

In relation to the value dimension SOC, the strongest effect came from ADV (.45) followed by DEV (.36) with non-significant paths for FEED and HELP. On this basis, H4a and H4c were supported, while H4b and H4d were not supported. For clarity, Table 3 outlines all the outer model results relating to the hypothesised paths.

Additional analysis

To determine whether there were differences across goods and services, we compared the *R*² values of the computer sample (*n* = 163) and the telecommunications sample (*n* = 148). In both samples, all *R*² values were significant; however, co-creation behaviour was a much stronger predictor of *all* the PERVAL dimensions for the telecommunications (i.e. service) sample (see Table 4).

General discussion

Overwhelmingly, co-creation research acknowledges that customers now play an active role in creating and controlling the brand (Schmeltz and Kjeldsen 2019). Yet, most empirical investigations consider the creation of firm value (Kumar et al. 2010), with limited investigation of customer value creation. Findings of this study offer support for the co-creation of value which is derived by the co-creator from participation in active customer–brand behaviour. These results support the consensus that brand value is co-created (Grönroos 2008; Vargo and Lusch 2004), indicating that when a customer participates in co-creation behaviour, their perception of customer perceived brand value may be enhanced.

Advocacy emerges as the dominant behaviour in co-creation of value and, in fact, is the only co-creation behaviour which had a significant positive influence upon all forms of customer perceived brand value. In particular, advocating the brand was especially strong in the creation of emotional value, supporting the long-held notion that sharing valuable brand-related information provides emotional fulfilment (Dichter 1966). Results align with the idea that endorsing the brand in community



settings may provide a sense of emotional involvement (Algeheimer et al. 2005). Further, the relational importance of advocacy is highlighted, particularly in the co-creation setting.

While advocacy also had a significant influence on social value, the influence was less intense than the emotional connection. Results may be influenced by the nature of the brands explored in the research with telecommunications and computing potentially not being highly social categories, thus minimising this influence. Therefore, these results may indicate that advocacy behaviour reinforces existing sources of brand value, rather than generating new sources of value for the brand. This notion of fortification aligns with previous conceptualisations that advocacy emphasises perceived brand merits (Chawdhary and Dall'Olmo Riley 2015) and concurs with the results of advocacy in relation to the other value dimensions. For example, advocacy was the only direct source of enhancement to quality value perceptions for the co-creator. The powerful results highlight the potential of advocacy to provide an influential value co-creation tool for brand managers. Brand managers seeking to grow brand equity can offer intrinsic motivators, such as increasing engagement and brand interactivity (Dwivedi 2015), or extrinsic incentives to increase advocacy behaviour (King et al. 2014). As word of mouth shifts from peer-to-peer to online group exchanges (Alon and Brunel 2018) and with evidence of the positive influence upon the advocator, savvy brand managers can embrace word of mouth strategies as a mechanism for value co-creation.

While it was expected that the increased levels of cognitive processing (Liu and Shrum 2002), expectations of performance enhancement (Fang et al. 2008) and transformative influences (Mehta et al. 2008) of development behaviour would create additional perceptions of quality value, this was not the case. It is posited that the time spent considering brand issues and areas for improvement in development may emphasise brand problems, as well as opportunities for quality improvement. Therefore, it is reasoned that increased cognitive processing may occur but may encompass both positive and negative implications for quality perceptions.

Despite its lack of influence on quality value, co-creation development still performed strongly overall, having a significant influence on customer perceived social, emotional and price value. The strongest connection for development was with social value, showing that development may allow customers to demonstrate expertise and enhance social credibility (Mahr et al. 2014). Coupled with the potential brand benefits from customer innovation received directly by the firm (Ramaswamy and Gouillart 2010), development is supported as a strong tool for brand co-creation.

Another interesting finding relates to the limited effect of feedback as a co-creation source of value, i.e. while there was an overall influence on value, feedback had a non-significant impact upon the other dimensions of customer perceived brand value. Both positive and negative feedback are

expected to provide relational and social benefits (Celuch et al. 2015) which could enhance customer value. However, results did not support this, suggesting that perhaps participation in co-creation may initiate the social exchange but does not complete the process. Feedback is a goal-directed behaviour, contingent on brand response (Singh and Wilkes 1996). Therefore, without the brand response, enjoyment and enhancement of the customer–brand relationship may not be realised sufficiently to impact upon the value dimensions. While these findings require further exploration, they may highlight the importance of the brand response as an essential component of effective feedback. Therefore, brand managers soliciting customer feedback as a co-creation tool to enhance customer relationships and build emotional value should do so with caution and should consider the potential importance of their ongoing contribution to the exchange. Potential firm value may be derived from feedback but as a tool to improve the customers perception of value, this may be less useful.

The findings relating to helping behaviour were unanticipated, indicating destruction of customer perceptions of brand value in some instances. When customers help other customers, perceptions of price and emotional value were negatively impacted, while social and quality value were non-significant. Previous inter-customer support research shows the co-creation of value to the customers who receive support (Black et al. 2014; Rosenbaum 2008). However, results indicate that providing support may negatively impact perceptions of value for the helper. While results need further exploration at this early stage, the indicative findings may suggest that brand managers could benefit from offering highly engaged and loyal customers other co-creation outlets. In particular, if brand managers are seeking to enhance relationships through emotional and social value, advocacy and development may be better suited.

Finally, a comparison of the overall influence of co-creation behaviour on the perceived value dimensions between the goods and services brands showed consistent trends, with both goods and services demonstrating strong contributions to all dimensions of value. The service brands performed more strongly overall, showing more intense relationships with the value dimensions. In particular, emotional and price value were stronger for telecommunications, while emotion and quality value were more strongly influenced for computer brands. Further, emotional value is highlighted as being most strongly connected to co-creation behaviour across both goods and services. However, we also see that in telecommunications versus computers, there is some variation in the strength of the relationship between types of value created, suggesting that there may be potential implications due to the nature of the offering, either goods or services. Overall, findings indicate that active customer behaviour can be a valuable mechanism for the co-creation of various forms of customer perceived brand value in both goods and service settings.



Contributions

With increasing evidence of co-creation strategies employed in marketing practice (Crandell 2016), it is crucial to capture a view of co-creation beyond the direct return on firm value. This study offers a unique theoretical perspective on value co-creation, by considering the value implications for the customer performing co-creation behaviour, extending from France et al. (2018). The research builds upon the widespread notion that customers actively co-create value (Grönroos 2008; Merz et al. 2009; Vargo and Lusch 2004). This view of co-creation may be useful to avoid firms pursuing co-creation strategies which provide direct value but then damage valuable customer–brand relationships.

Further contribution lies in the discovery that different forms of active customer behaviour may create or destroy value in different ways. Theoretical merit lies in examining the four dimensions of value in relation to development, feedback, advocacy and helping behaviours to isolate some of the underlying sources of value creation. Specifically, advocacy and development were exceptional in enhancing perceived brand value for the co-creator. While advocacy and development are established as generating value to the firm (Gruen et al. 2006; Ramaswamy and Gouillart 2010), little is known about the implications for the co-creator (King et al. 2014). This research shows managers that advocacy and development contribute to enhanced brand value perceptions for the co-creator.

A major contribution of this study is the indication that some forms of co-creation behaviour may negatively impact perceived value for the co-creator. Helping behaviour appeared to have negative implications for emotional and price value perceptions for the co-creator and did not significantly influence quality or social value. Therefore, the study begins to highlight the potential complexities of co-creation behaviour, where creation or destruction of value may emerge differently for the firm and for the co-creator. Although destruction was restricted to helping behaviour in this study, the findings offer new insight into potential consequences of active customer participation.

Finally, initial findings provide several new insights which may improve current managerial understanding of co-creation. While findings are offered with caution at this early stage, the identification of both positive and negative implications for specific co-creation behaviour provides useful insight in the relationship management domain.

Conclusion, limitations and further research

Overall, the research takes a unique approach, exploring the connection between dimensions of active customer participation and perceptions of brand value. The research

draws upon the view that the brand is actively co-created by the customer (Grönroos 2008; Vargo and Lusch 2004) and extends knowledge by considering the implications for the co-creator. The initial findings offer useful indicators of the potential value of different behaviour types and provide a foundation for further examination.

The research is exploratory in nature, and as such, findings are indicative rather than conclusive. The current study is conducted in more highly involved goods and service categories which limits the generalisability of results to other less-involved brand categories. Furthermore, the use of online survey methods in conjunction with technology-related brands may further limit generalisation to other brand categories. The brand categories may represent utilitarian offerings, with potential for different results for more hedonistic and symbolic brands. Therefore, future research should consider and measure the implications of diverse brands and categories, considering how the nature of different brand settings may impact upon value co-creation.

While every effort is taken to maximise the applicability of results, online survey research has limitations. Respondents are drawn from a US and Canadian sample, with many in lower-income groups, which may skew results. The use of established multi-item scale measurements, inclusion of an instructional manipulation check and a rigorous approach to data analysis provide confidence in the integrity of the data. However, future research could adopt an experimental approach with a refined sample to measure the impact upon customer perceived brand value. Further, future studies may explore other cultures to consider the implications of cultural variation, such as collectivism and power distance, as influences upon outcomes of customer participation in co-creation.

Finally, the study deliberately isolates the interplay between brand co-creation behaviour and customer perceived value to understand the relationship between dimensions. Thus, further examination of value realisation within a more comprehensive network model could provide a broader perspective of customer brand value co-creation. While understanding of active customer participation is still in its infancy, this research increases our knowledge and provides directions for future avenues to pursue.

Compliance with ethical standards

Conflict of interest On behalf of all authors, the corresponding author states that there is no conflict of interest.

Appendix

See Table 5.



Table 5 Measurement model correlation matrix

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
DEV1	1																
DEV2	.67	1															
DEV3	.66	.86	1														
DEV4	.65	.84	.86	1													
DEV5	.63	.82	.84	.87	1												
FEED1	.55	.46	.47	.48	.50	1											
FEED2	.54	.56	.58	.62	.62	.74	1										
FEED3	.39	.35	.37	.39	.40	.65	.66	1									
FEED4	.53	.55	.56	.57	.61	.70	.74	.69	1								
ADV1	.36	.29	.26	.25	.28	.44	.39	.34	.36	1							
ADV2	.34	.26	.23	.22	.25	.42	.36	.34	.34	.86	1						
ADV3	.42	.33	.32	.28	.34	.49	.44	.39	.43	.80	.86	1					
ADV4	.37	.31	.30	.26	.32	.44	.40	.34	.40	.81	.85	.86	1				
HELP1	.48	.42	.43	.42	.43	.54	.54	.55	.58	.47	.45	.50	.47	1			
HELP2	.48	.43	.44	.43	.46	.52	.58	.52	.61	.46	.45	.54	.48	.81	1		
HELP3	.49	.43	.42	.40	.45	.55	.55	.53	.55	.60	.59	.65	.62	.69	.73	1	
QUAL1	.13	.10	.07	.06	.08	.21	.15	.08	.13	.56	.56	.49	.49	.20	.16	.26	
QUAL2	.19	.16	.14	.13	.15	.22	.18	.10	.13	.58	.62	.54	.57	.20	.18	.32	
QUAL3	.15	.10	.08	.07	.09	.18	.12	.06	.07	.53	.56	.49	.49	.16	.15	.29	
QUAL4	.22	.19	.17	.17	.18	.20	.19	.09	.16	.45	.45	.41	.44	.18	.21	.24	
QUAL5	.11	.08	.07	.06	.09	.14	.09	.08	.08	.51	.52	.46	.42	.16	.16	.21	
EMO1	.19	.15	.14	.12	.16	.24	.18	.15	.15	.66	.69	.60	.61	.24	.22	.37	
EMO2	.29	.25	.24	.22	.25	.29	.25	.17	.22	.67	.67	.61	.63	.29	.26	.42	
EMO3	.28	.21	.18	.17	.20	.28	.25	.17	.21	.64	.65	.59	.61	.30	.26	.40	
EMO4	.29	.25	.24	.22	.26	.31	.27	.20	.25	.68	.69	.65	.65	.32	.30	.46	
EMO5	.36	.31	.30	.26	.30	.39	.32	.23	.30	.60	.61	.60	.57	.37	.37	.49	
PRIC2	.16	.12	.11	.09	.12	.27	.17	.15	.16	.51	.53	.49	.47	.20	.17	.28	
PRIC3	.18	.15	.14	.13	.15	.26	.20	.16	.16	.53	.56	.53	.50	.21	.18	.30	
PRIC4	.19	.20	.20	.18	.20	.25	.23	.18	.21	.41	.42	.39	.37	.23	.19	.26	
SOC1	.43	.43	.44	.40	.44	.39	.39	.31	.40	.53	.52	.52	.51	.41	.38	.45	
SOC2	.44	.45	.46	.42	.45	.41	.42	.31	.39	.53	.51	.52	.53	.43	.39	.47	
SOC3	.41	.42	.40	.36	.41	.42	.42	.31	.39	.58	.55	.57	.56	.41	.38	.50	
SOC4	.47	.47	.47	.43	.47	.44	.46	.32	.45	.52	.47	.50	.51	.44	.42	.51	
	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33

DEV1
DEV2
DEV3
DEV4
DEV5
FEED1
FEED2
FEED3
FEED4
ADV1
ADV2
ADV3
ADV4
HELP1
HELP2



Table 5 (continued)

	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
HELP3																	
QUAL1	1																
QUAL2	.78	1															
QUAL3	.74	.86	1														
QUAL4	.59	.62	.56	1													
QUAL5	.77	.69	.69	.62	1												
EMO1	.67	.71	.67	.52	.64	1											
EMO2	.64	.70	.64	.53	.60	.76	1										
EMO3	.67	.70	.68	.52	.61	.72	.76	1									
EMO4	.59	.66	.60	.48	.52	.73	.75	.76	1								
EMO5	.49	.53	.46	.41	.41	.60	.64	.62	.75	1							
PRIC2	.55	.56	.55	.49	.54	.60	.56	.56	.52	.48	1						
PRIC3	.59	.62	.60	.53	.55	.62	.60	.61	.54	.49	.86	1					
PRIC4	.44	.41	.38	.43	.44	.47	.46	.46	.44	.41	.73	.73	1				
SOC1	.34	.39	.34	.39	.33	.44	.56	.52	.65	.64	.39	.44	.41	1			
SOC2	.33	.40	.34	.37	.31	.44	.55	.50	.63	.60	.35	.40	.35	.87	1		
SOC3	.38	.45	.39	.39	.35	.50	.57	.54	.65	.62	.37	.41	.37	.75	.80	1	
SOC4	.31	.36	.29	.36	.26	.41	.52	.45	.59	.57	.29	.33	.32	.77	.83	.80	1

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