Interaction Value:
An Investigation of Consumer Perceptions of the Consumer-Firm Interaction

Emma K. Macdonald, Cranfield School of Management, U.K.
emma.macdonald@cranfield.ac.uk
Mark D. Uncles, Australian School of Business, UNSW, m.uncles@unsw.edu.au

Abstract

Presented is an investigation of consumer expectations of marketing and the impact on outcomes of consumer-firm interaction. Two questions are considered: what are the relationships between consumer savvy and perceptions of value in interacting with the firm (RQ1), and are these effects moderated by product characteristics (RQ2)? A factorial experiment is conducted using a survey of online panel members (n=187). Compared to Low SAVVY consumers, High SAVVY consumers believe in attending to the interaction with the firm and that such interaction is good use of their time. No significant hedonic, utilitarian, high-tech or low-tech product moderator effects are identified. These conclusions are reached using the 19-item SAVVY scale to distinguish between low/high savvy consumers and by presenting contrasting vignettes.

Keywords: Interaction value; Value-for-access; Value-for-time; Value-for-attention; Consumer savvy; Consumer-firm interaction

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Introduction[1]

It is common to be told that firms must develop new competencies and processes to deal with savvy consumers (Day, 2003). Firms, it is argued, should offer seamless access across multiple channels (Day and Montgomery, 1999; Wind and Mahajan, 2002), provide open and unbiased information (Harker and Egan, 2004; Mitchell, 2004; Urban, 2005), offer continuity of connection (or deep engagement) (Coviello, Brodie, Danaher, and Johnston, 2002; Prahalad and Ramaswamy, 2004; Szmigin, 2003) and be responsive (Mitchell, 2004; Szmigin, 2003; Wind and Mahajan, 2002). Given these characteristics, the ideal consumer-firm interaction exists where a firm: (a) provides seamless access, service and delivery across multiple channels, (b) is open and honest about itself and provides unbiased information for decision-making, (c) desires an on going connection with the consumer, and (d) is responsive to consumer requests, to feedback and to their stored knowledge of the consumer. For simplicity we will refer to the optimal consumer-firm interaction that demonstrates these four characteristics as a '*best case scenario*'. By contrast, a '*worst case scenario*' might be an interaction where (a) a firm is accessible only via limited channels for product delivery and service, (b) where it does not appear to like receiving customer queries or does not respond to customer queries, (c) where it provides information only about the company products and does not respond to requests for unbiased information about competitors, and (d) gives an impression of being unresponsive and uninterested in the consumer. These two contrasting interaction scenarios are likely to lead to different consumer responses and actions. In the following section a number of hypotheses are presented focusing on outcomes related to perceived interaction value. These provide a platform for answering our research questions: *What is the relationship between consumer savvy and consumer perceptions of value in interacting with the firm (RQ1),* and: *Are the effects of consumer savvy moderated by the characteristics of products (RQ2)?*

Value in the Consumer-Firm Interaction Process

Perceived value has been conceptualised as the perceived net gains associated with acquired products or services (Grewal, Iyer, Krishnan and Sharma, 2003). In a literature review, four key dimensions of perceived value were identified – acquisition value, transaction value, in-use value and redemption value – however, consumers' conceptualisation and determinants of value are changing as a result of the internet and associated technologies (Grewal et al., 2003). The consumer's increased willingness to bypass traditional media and channels is said to be evidence of their search for new forms of value (Day and Montgomery, 1999; Vargo and Lusch, 2004). In addition, their greater degree of engagement in the marketplace is cited as evidence that the consumer is no longer content to play a passive role in the interaction process, but insists on being engaged (Prahalad and Ramaswamy, 2004).

As a result of the rise of web-based technology and the increasing importance of information, different forms of value are being sought by consumers (Bitner, Brown and Meuter, 2000; Grewal et al., 2003; Parasuraman and Grewal, 2000). They are much more likely to 'scrutinise' and 'assess' the consumer-firm interaction process (Prahalad and Ramaswamy, 2004) and, specifically, to evaluate it in terms of interaction value (Lawer and Knox, 2004). This is not the same as product value but, instead, focuses on the consumer perception of

[1] Our grateful thanks to Paul Chan, CEO of PureProfile.com, for his support in allowing us to conduct our study using the PureProfile.com database.

value in the process of interaction, as captured by Lawer and Knox's (2004) conceptualisation:

(1) *Value-for-access*: Most consumers today are aware of and concerned about the privacy of their personal information (ADMA, 2005, 2008). They are aware of the ability of firms to collect individual data almost anywhere, anytime, including behavioural information collected via technologies such as GPS, e-tags, sensors, smart cards and biometrics. Some commentators predict a coming battle for customer information which will be played out as customers struggle to take ownership of information about themselves and demand value in exchange for it (Hagel and Rayport, 1997; Hagel and Singer, 1999). This will be driven by their recognition that the current returns for the information they divulge are unsatisfactory and by their recognition that they have the power (either through technology, legislation or consumer collectives) to do this (Hagel and Rayport, 1997). Savvy consumers may attempt to gain control of their personal information by: (i) refusing to give permission to the firm to store their information, (ii) giving the firm permission to store their personal information but under certain conditions of security, and (iii) restricting the firm's ability to pass on this information to third parties. Lawer and Knox (2004) use the term 'value-for-access' to refer to consumers' drive to demand value in exchange for access to personal information.

H1a: In a 'best' case condition, high consumer savvy is correlated with greater perception of value-for-access from the interaction.
H1b: In a 'worst' case condition, high consumer savvy is correlated with lower perception of value-for-access from the interaction.

(2) *Value-for-time*: Consumers are time poor and increasingly prepared to pay more to save time (Lehmann, 1999). Therefore, they put a premium on services that provide value-for-time and which are delivered when and where they are needed (Nunes and Cespedes, 2003; Wind and Mahajan, 2002). This includes not just time-saving or just-in-time delivery, but also time enrichment and the provision of valuable brand experiences (Lawer and Knox, 2004). Savvy consumers expect the firms they interact with to be responsive, easily accessible, provide ongoing connection and provide unbiased information. All of these characteristics can enhance the time-value evaluation by minimising *time-spent* seeking out information/alternatives/ensuring privacy and by maximising *time-enrichment* by making the ongoing consumer-firm connection into a secure and enjoyable experience. Savvy consumers are more likely to be concerned about achieving direct benefit for use of their time.

H2a: In a 'best' case condition, high consumer savvy is correlated with greater perception of value-for-time from the interaction.
H2b: In a 'worst' case condition, high consumer savvy is correlated with lower perception of value-for-time from the interaction.

(3) *Value-for-attention*: Savvy consumers are well informed through their own networks (Macdonald and Uncles, 2007). Additionally, because of their technological sophistication, they have an abundance of information readily available should they require it. Their consumer literacy means that they 'know the game' of advertising (Szmigin, 2003), thus they are aware of the differing levels of value in various communications. Their ability to control information flow, enabled by technology, allows them to filter out, delete or ignore unwanted communications (Day and Montgomery, 1999) and enhances the value of information to the consumer. Previous research has found that a consequence of consumers perceiving themselves as being in control of information flow is the enhanced value of the information to the consumer (Ariely, 2000). These factors, along with the savvy consumer's sense of

empowerment/self-efficacy, mean they are likely to exhibit selectivity about which person, product, organisation or communication gains their attention. Their selection criteria will be based on their evaluation of what source is likely to provide them with the most benefit or value for their attention.

H3a: In a 'best' case condition, high consumer savvy is correlated with greater perception of value-for-attention from the interaction.
H3b: In a 'worst' case condition, high consumer savvy is correlated with lower perception of value-for-attention from the interaction.

Overview of the Study Design

An experimental design was implemented such that at Time 1, consumers completed an online survey to determine their consumer savvy. The 19-item SAVVY scale (Macdonald and Uncles, 2007) was administered and subjected to scale reliability analysis (Cronbach alpha for the overall scale was 0.89. Composite construct reliability on all dimensions was above 0.7 except for the expectations dimensions where one item had low reliability. As this finding could be attributed to recent activity by the panel provider, it did not preclude use of the unmodified SAVVY scale in its entirety). Some 3-4 months later, a sub-sample of these consumers participated in the Time 2 quasi-experimental vignette-based online survey. The survey comprised a brief first-person vignette of an interaction with a hypothetical unbranded firm, followed by measures of consumers' perceived value-for-access, value-for-time and value-for-attention. Respondents' composite SAVVY score allowed them to be classified as either 'high savvy' or 'low savvy' consumers. The vignettes presented either a 'best case' or a 'worst case' scenario. The resulting study was a 2 (high/low SAVVY) by 2 (best/worst condition) design. The resulting vignette-based factorial design was intended to provide a realistic, but controllable context of consumer-firm interaction, whilst enabling the comparison of interaction contexts across respondents. The 2x2 design was repeated across product categories representing hi-tech/low-tech and hedonic/utilitarian product types. Each respondent at Time 2 participated in only one out of eight vignettes (2 interaction types x 4 product types) as part of a between-subjects design.

Online Data Collection Procedure

Existing members of the *PureProfile* online consumer panel were invited to participate, either when they entered the Australian *pureprofile.com* website or by targeted email invitation. At Time 1, *PureProfile* respondents were randomly selected within gender and age categories so that the final sample was approximately representative of the Australian population (matched against 2007 census data). A total of 1459 successfully completed the Time 1 survey online in April-May 2007. For each respondent a SAVVY score was calculated as a mean of means (ranging from a minimum of 1 up to a maximum of 5) for the six SAVVY dimensions. The composite SAVVY score has an acceptable level of normality, as confirmed by the Kolmogorov-Smirnov test.

Time 2 respondents were a sub-set of the Time 1 respondents. Their responses were matched across the two time periods by a unique identification code. All respondents from Time 1 were invited to participate in Time 2, *except* those whose aggregate SAVVY score was within 0.25 of a standard deviation (S.D.) in either direction of the mean. The exclusion of the middle of the distribution (n=182) was an attempt to increase variance within the sample. This left a potential respondent pool at Time 2 of 1277 respondents and these were invited to participate in the follow-up study. A total of 679 respondents completed the Time 2 study, giving a return response rate of 53% - a reasonable return rate given the time lag of several months. Following data cleaning, the sample at Time 2 was n=628, divided as follows: (a)

those with a composite SAVVY score within one S.D. of the mean (n=441) were screened out, and (b) those at the extremes were retained for the vignette study (High SAVVY, more than one S.D.greater than the mean, n=90, and Low SAVVY, more than one S.D. less than the mean, n=97).

The Use of Vignettes

Vignette-based stimuli were used rather than relying on respondent recall of a specific previous interaction. Vignettes allow the examination of complex situations while controlling for moderating variables (Wason, Polonsky and Hyman, 2002).

Nature of interaction and vignette development: Consumer expectations of interaction were contrasted to develop 'Best' or 'Worst' interaction vignettes (see Introduction for definitions of 'best-case' and 'worst-case' scenarios). The relevance of these two generic vignette instruments was pre-tested amongst consumers in order to check the internal consistency and plausibility of the vignettes (Wason et al., 2000). Every attempt was made to ensure the variations in the vignette were sufficiently detailed to control respondents' idiosyncratic projections but not so detailed as to overburden respondents (Hox, Kreft and Hermkems, 1991). No brand names were mentioned.

Product categories. Each vignette presented an interaction in a specific product category. To obtain variety in product types, two categorisations were used: (a) technologies were distinguished as Low Tech (standard knowledge, easy to use, basic, etc) vs. High Tech (complicated, hard to understand, difficult to use, sophisticated, etc); they were also distinguished as Hedonic (fun, pleasurable, exciting, agreeable, foolish) vs. Utilitarian (useful, beneficial, important, valuable, wise) (Batra and Ahtola, 1990; Dhar and Wertenbroch, 2000). Several product categories were pre-tested using a sample of MCom students (n=22). The category for refrigerators was the only one where a clear high-tech difference existed: the internet-enabled fridge was characterised as high-tech in almost all instances and the 400 litre fridge was viewed as low-tech in all but one case. An electronic games console scored highest on hedonism and an external hard drive was more frequently rated on utilitarian dimensions.

Dependent measure. The perception of value in interacting with the firm was measured with three single-item measures (value-for-access, value-for-time and value-for-attention), based on a reading of Lawer and Knox (2004).

Experimental Procedure

Following the Time 1 survey, respondents were categorised on the basis of their composite consumer SAVVY score. Then, in Time 2, a contrastive vignette factorial survey design was used where each respondent received a randomly allocated version of the basic vignette design. Respondents were presented with the product category and the scenario and then asked a number of questions about their attitudes towards the interaction and their likely behaviours. Each respondent completed only one vignette. Thus, the 2 (High or Low Consumer SAVVY) by 2 (Best or Worst case interaction) factorial-design experiment was a between-subjects design. This design requires more subjects but there are advantages. As each respondent completes only a single vignette it: removes the bias that can arise from presentation of multiple scenarios of similar descriptions to the same individual; avoids learning effects; allows for shorter experimental sessions; makes counter-balancing unnecessary; and minimises information overload and respondent fatigue (Alexander and Becker, 1978; Wason et al., 2002).

The vignette experiment was intended to produce roughly equal cell sizes across a 2 x 2 x 4 (High/Low SAVVY by Best/Worst Vignette by Product Category) design; however, the eventual distribution was somewhat uneven. Responses were distributed across the Best-

case/Worst-case vignette condition as n=100 and n=87, respectively, and across product categories as follows: Hedonic n=54, Utilitarian n= 53, High Tech n=43, Low Tech n=37.

Results[2]

Perceived value-for-access. Results of the 2 (SAVVY) by 2 (Best/Worst Condition) ANOVA for the measure of value-for-access show the main effect of Best/Worst Condition is significant, and the value derived in the best case scenario is rated significantly higher than in the worst case scenario (H1a/b). The main effect of High/Low Consumer SAVVY is also significant; this is explained by a mean score of around 0.3 points higher for the High SAVVY respondents, regardless of the best/worst condition. No significant effect for the product moderator is found for value-for-access (H1c/d).
Perceived value-for-time. A similar finding was obtained for perceived value-for-time. The main effect of Best/Worst Condition is significant and the perceived value derived in the best case scenario is rated significantly higher than in the worst case scenario (H2a/b). This is explained by a mean score which is on average 0.3 points higher for the High SAVVY respondents in the worst case condition and 0.2 points higher in the best case condition. Once again, no significant moderating effect for product category was found (H2c/d).
Perceived value-for-attention. The main effect of Best/Worst Condition is significant for the value-for-attention item (H3a/b). The main effect of High/Low Consumer SAVVY is also significant. No significant moderating effect for product category was found on any of the three items (H3c/d).

Discussion

Overall, these findings lend support to the hypothesis that consumers who are high on savviness are more comfortable sharing their personal information and are more likely to believe that firms will make effective use of this personal information to assist them. They also believe in focusing their attention on the interaction with the firm and that such interaction with the company is a good use of their time. Collectively, these findings can be interpreted as saying that consumers high on savviness are more interested in investing in the interaction (relationship) with the firm in the scenario than low consumer savvy individuals.

A significant interaction effect was hypothesised such that High SAVVY consumers would be more extreme in their ratings of value (i.e. would rate value higher in the Best case scenario and lower in the Worst case scenario). However, no significant interaction effect was obtained across any of the three items. Instead, High SAVVY consumers rated the value in the interaction higher regardless of the type of interaction experienced. This suggests that consumers high in savviness may be more positive (optimistic).

Extensions

The focus here is the perceived value of consumer-firm interaction, but other consequences of consumer savviness deserve to be examined. Investigations are under way to assess the effect of savviness on co-creation (building on Vargo and Lusch, 2004) and on consumer activism (drawing upon Szmigin, 2003). Also of relevance are outcome measures that assess the quality of the relationship, e.g., relationship satisfaction, trust and commitment (Grewal, Hardesty and Iyer, 2004). Of longer-term interest is how the consequences of consumer savvy develop and evolve over time (e.g. how will they unfold as questions of economic and social sustainability come to the fore in future years and can we track the pace of change of consumer savvy over time?).

[2] Tables of results are available from the authors.

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