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Should digital marketing practices be more transparent? An empirical investigation on the roles of consumer digital literacy and privacy concerns in self-service technologies

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Abstract

The growth of self-service technologies has led to an increasing demand for transparency. More and more services are delivered online and require that, in this information asymmetry situation, customers overcome their lack of technical knowledge and risks associated with their personal data disclosure and dissemination. This article proposes a three dimensional conceptualization of digital transparency (objectivity, limpidity, openness) and examines how customer's digital literacy and privacy concerns influence the way they perceive their provider's transparency and, indirectly, their engagement to their provider. Based on an empirical research study in e-commerce (N=445), this research demonstrates the differential effects of objective and subjective digital literacies on perceived transparency and examines how customers' privacy concerns lower each dimension of perceived transparency. Finally, since each dimension of perceived transparency actually influence customer engagement, this paper urges firms to pay a specific attention to customer segments with a lower digital literacy and a higher concern for privacy.

Keywords: transparency, digital literacy, customer engagement

Introduction

The digitization of service relationships with consumers thanks to numerous tools (virtual agents, social networks, mobile apps, etc.) and the growing development of smart services are rising many reflections on the accountability of marketing in the society and on the transparency of platforms and algorithms. Many are calling for more transparency. From a regulation point of view, the General Data Protection Regulation (GDPR) urges firms to question their data and CRM practices by imposing new ethical, responsible and transparent requirements. Beyond the regulatory aspects, the underlying issue is the transparency that firms display to their customers. To what extent firms' transparency about their data utilization and digital marketing practices is a pre-requirement to their customers' engagement, i.e. beneficial behaviors to the firm which go beyond repeat patronage (word of mouth, helping other customers, etc.)? And to what extent customers' abilities and concerns about their data-rich and digital environment (digital literacy and privacy concerns in particular) influence the way they develop relationships with their providers (engagement in particular)?

In the literature, it is commonly accepted that a lack of transparency does not generate engagement and may even lead to consumer resistance (anti-spam software installation, false personal information sharing, and creation of multiple online identities). Martin, Borah, and Palmatier (2017) also point out that data transparency reduces or eliminates negative consumer attitudes towards the brand, such as information falsification or negative word of mouth. However, we still miss a deeper understanding of how digital transparency is actually perceived throughout different sub-evaluations, such as objectivity, limpidity and openness of the firm data and digital marketing practices. Most empirical studies refer to a one-dimensional conceptualization of transparency which does not correctly apprehend the richness of this concept and does not allow for a more subtle understanding of its antecedents and consequences.

Moreover, the literature on transparency does not pay a sufficient attention to populations who are unfamiliar with data and digital marketing practices and who might be more suspicious when their provider intensively uses these techniques and tools. While more and more consumers buy online and have an access to digital tools (social networks, mobile apps, etc.), some of them still do not exhibit a high level of knowledge, efficiency and performance and feel confused when confronted to this digital environment. There is still a digital gap (or divide) between consumers according to their access, utilization, abilities and performance in this - sometimes invasive digital environment. Even though they may have

concerns for their privacy and may feel a loss of control on their personal data and digital practices, they must overcome their reluctance to obtain an access to products and services. Can firms count on their customers' engagement while information asymmetry increases? A real call for research on transparency has recently been launched by Boerman, Kruikemeier, and Zuiderveen Borgesius (2017) to deal with the relative opacity of digital practices and restore the relationship. This paper aims at:

(1) Proposing a three-dimensional conceptualisation and operationalization of digital transparency: in line with Dapko's conceptual work (2012, p71) which defines transparency as "the extent to which a stakeholder perceives a firm's conduct is forthright and open regarding matters relevant to the stakeholder", we focus on three dimensions - objectivity, limpidity, openness - and develop our conceptualization in relation to data and digital marketing practices.

(2) Investigating their relative impact on engagement: we conceptualize engagement as the actions carried out by the consumer during his interaction with the brand, also taking into account the social interactions between consumers.

(3) Understanding the influence of the customer relationship to the digital environment. Consumers contribute to the establishment of transparency, as active individuals who, through their knowledge and actions, shapes transparency online (through online word of mouth for instance). We hereafter investigate how the digital divide influences the way the firm's transparency is perceived.

Theoretical background and Perceived Digital Transparency Conceptualization

The theory of information asymmetry sheds light on the foundations of transparency and its origins. Transparency is seen as a way to make the market more balanced and fair in terms of information sharing between brands and consumers. The marketing literature attaches great importance to the accessibility and objectivity of information (Liu, Eisngerich, Auh, Merlo, and Chun, 2015) and has also added another dimension called "openness" (Murphy, Lazniak, and Wood, 2007; Rawlins, 2009). Leitch (2017) also incorporates several facets but did not run any empirical study: proactively sharing information, sharing positive as well as negative information, sharing updated, accurate, unequivocal information and taking responsibility. Enriching the work of Dapko (2012), we posit ourselves in an e-commerce context and take into account the need for instantaneous and contextualized information. Thus, a firm will be more transparent (limpidity, objectivity, openness respectively) if it:

- discloses intelligible (clear, relevant, concise), visible (easily accessible in terms of navigation, prioritization) and contextualized information (when needed),
- offers objective information (comparable and unmanipulated), both negative and positive customer opinions, so as not to alter decision-making; and offers the possibility of obtaining feedback from other consumers (thanks to a chat on its website for example),
- and is open-minded by giving consumers the freedom to discuss with them on every channels (social networks, website, e-mail, phone, etc.), allowing immediate, instantaneous interactions (automatic call back, etc.) and allowing the participation and collaboration of its community to develop its offer.

Transparency is perceived by consumers who evolve in a constantly mutating environment. Also, it seems relevant to question the control of the consumers on the digital environment in terms of their objective and subjective digital knowledge, and in terms of risk perception.

Conceptual Model and Hypotheses Development

Consumers must face a certain ambivalence towards technologies that is likely to push them towards more insights and skills, but at the same time increase the perceived risks related to their personal data (Mick & Fournier, 1998).

The influence of consumer digital literacy on perceived transparency

Not all consumers have the same level of abilities and control in our data-rich and digital environment (Eshet, 2012; Gilster, 1997). The Organisation for Economic Co-operation and Development (OECD) defines digital literacy as “the ability to understand and use digital technology in the digital world, in the everyday life, at home, at work and in the community, to achieve personal goals and expand skills and abilities”. Digital literacy can be measured through objective and subjective indicators. Indeed, a consumer can be persuaded to master the digital environment without effectively using digital tools in his/her everyday life. Then, we use two types of measurement scale in order to evaluate the customer digital literacy: a subjective measure, which refers to its self-perception of expertise regarding the digital environment; and an effective measure regarding its use of mobile app, social networks and online shopping (use of digital tools).

In a digitized context, Martin, and al. (2017) show that data transparency can reduce negative consumer attitudes to the brand, such as information falsification. This shows that consumers are waiting for information from brands regarding their personal data. Limpidity seems influenced by the consumer digital knowledge. Digital literacy, therefore, appears to

have positive effects on limpidity and may, by extension, potentially influence the perception of the other two dimensions of transparency.

The influence of privacy concerns on perceived transparency

Privacy concerns become a strategic issue for brands and involve using CRM techniques to propose, distribute and adapt personalized offers (Goldfarb & Tucker, 2011, Martin and al., 2017). Nowadays, these marketing techniques are very often algorithms (invisible to consumers) and consumers have concerns about their loss of control of the digital environment. Based on the work of Lancelot Miltgen, Henseler, Gelhard, and Popovic (2016), we propose the following definition of privacy concerns: “any perception of risk by the consumer related to harvesting, use, dissemination to partners, and combination by algorithms of his data from various online sources to rebuild an identity to offer him commercial offers closer to his interests”.

Various empirical research (Baek & Morimoto, 2012; Stanaland, Lwin, and Murphy, 2011) have shown that individuals with low privacy concerns have a more positive attitude towards advertising and, more generally, towards the brand. By extension, we assume that individuals concerned about the protection of their privacy will have a negative view of the brand and will potentially perceive less transparency.

The effect of perceived transparency on customer engagement

The role of transparency has been widely recognized in the marketing literature as a prerequisite for the improvement of relationship quality (trust and commitment) and the development of customer engagement. In this paper, we solely focus on behavioral effects of transparency and consider its behavioral consequences which go beyond repeat patronage, such as word of mouth (likes, retweets, comments, and sharing) (Vivek, Beatty, and Morgan, 2012). We conceptualize engagement as behavioral manifestations of individuals towards a brand or a firm during their interactions with the brand thanks to various touchpoints, also taking into account the social interactions between consumers (Van Doorn and al., 2010). According to Morales (2005), acts of engagement represent consumers' rewards for brands that make additional efforts for transparency. This author asserts that more transparency leads to more engagement. By extension, we assume that the three dimensions of transparency have a positive impact on engagement.

The hypotheses H1, H2, H3, H4 which relate the theoretical relationships between customer engagement, transparency, digital literacy and privacy concerns, are summarized in Appendix 1.

Methodology

After a qualitative study (16 respondents), a quantitative study has been conducted in an e-commerce context (N=445) with a panel of 445 respondents representative of Amazon's buyers, provided by the firm Creatests. More specifically, we considered customers' perceptions of Amazon and its services (premium service, premium video, amazon music, etc.), a pure player of e-commerce, leader in the field and pioneer in the massive exploitation of data and utilization of digital marketing practices (recommendation engines, customization, etc.). We developed the perceived digital transparency measurement scale and the measurement scale of subjective digital literacy was adapted from the expertise measurement scale of Flynn & Goldsmith (1999). The privacy concerns measurement scale of Lancelot Miltgen and al. (2016) was chosen for our research because it incorporates concerns related to algorithms and data combination. Finally, to measure engagement, a score out of 10 has been developed (ten contributions beneficial to the brand were proposed, such as positive WOM).

Results

Objective digital literacy has a negative effect on perceived objectivity ($\beta = -.15$, $p < .01$) while it has a positive effect on perceived limpidity ($\beta = .12$, $p < .05$) and no effect on perceived openness ($\beta = .01$, $p > .10$). Using digital tools on an everyday basis, being familiar with mobile applications, social networks and e-commerce websites helps consumers to perceive more limpidity from the brand. However, it is not because they perceive the brand as limpid, that they find it honest or sincere. The hypothesis H1 is partially supported (only H1b).

In contrast, subjective digital literacy has a positive effect on objectivity ($\beta = .35$, $p < .01$), limpidity ($\beta = .12$, $p < .05$) and openness ($\beta = .29$, $p < .01$). We hypothesized that activating his/her knowledge and abilities, a consumer would be more able to respond effectively to his/her environment and thus will perceive the brand more transparent. The hypothesis H2 is totally supported.

According to the hypothesis H3, privacy concerns have a significant negative effect on the three dimensions of perceived transparency: objectivity ($\beta = -.16$, $p < .01$), limpidity ($\beta = -.25$, $p < .01$) and openness ($\beta = -.24$, $p < .01$). The more a consumer is concerned about his data, the less he perceives Amazon as transparent.

Finally, the perceived digital transparency fully mediates the effects of objective and subjective digital literacy, and privacy concerns on customer engagement. Perceived objectivity, limpidity and openness have a positive effect on customer engagement. Being transparent enhances engagement behavior from customers. The effect is higher for the « openness » dimension. Collaborating with consumers, valuing interactions, dialogue and

responding in real time strongly influences the number of acts of engagement. The hypothesis H4 is supported. Appendix 2 summarizes the results.

Conclusion

This research aims at achieving a deeper understanding of perceived transparency's antecedents and consequences in self-service technologies. The literature has previously paid attention to the objectivity and clarity of marketing communication. We enrich the conceptualization of transparency by proposing a three-dimensional approach and demonstrate that firms' openness to their customers is critical to enhance their customer engagement. The third dimension of transparency, perceived openness, confers a preponderant place on the consumer who holds a legitimate power (« empowerment » of the consumer), thus questioning the traditional distribution of roles within the market.

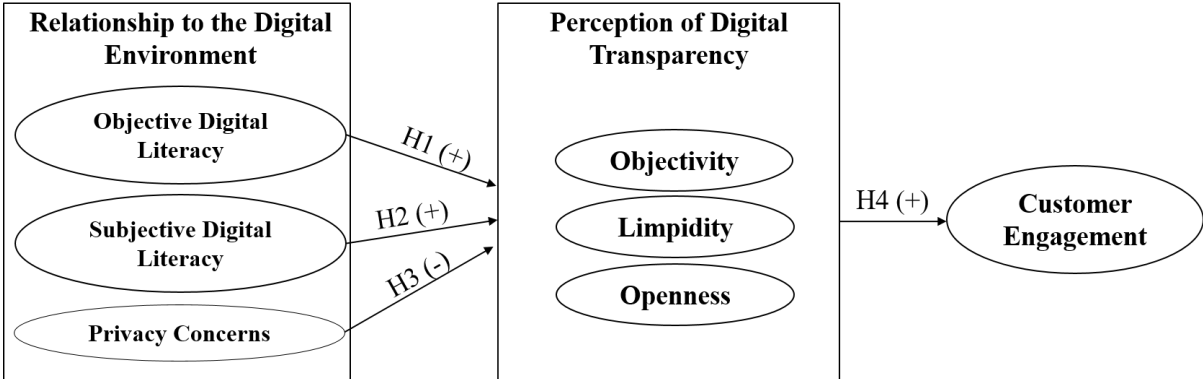
This research also investigates how digital divide influences customers' evaluations of transparency. It underlines that the firm's perceived transparency depends on the relationship of consumers to their digital environment, i.e. their past experiences, their knowledge and skills, their unique characteristics and their perceived control over the digital environment. A customer who believes (s)he has good knowledge and skills in this digital environment will perceive the brand more objective, limpid and open and so will be less suspicious about the firm's intentionality and benevolence of its marketing actions. The marketing literature suggested that the more confidence a customer has in his/her skills, the less he has doubts about his/her environment (Chuang and al., 2013) and, by extension, the brands. Customers who feel confident in their digital knowledge tend to attribute positive intentions to brands. In contrast, the objective use of digital tools like social networks or mobile applications has two opposite effects on perceived limpidity and objectivity. While it positively affects the firm's perceived limpidity, it also makes the consumer more suspicious and skeptical about the firm's objectivity. This type of consumers detects, behind the data and marketing practices, the not necessarily benevolent intentions towards them.

Privacy concerns have a negative influence on the three dimensions of perceived digital transparency. It has been generally found in the literature that individuals are more likely to be concerned about their privacy when information is used without their permission or when the intended use of this information is not clearly defined (Phelps and al., 2000). When the consumer does not have the impression of mastering his digital environment, his perception of risk is magnified, his concern for his data is then exacerbated and he does not perceive the brand as transparent. Thus, we show that through his digital literacy and his privacy concerns, the customer shapes his own individual perception of transparency.

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Appendix 1 : Hypothesis and structural model



Appendix 2 : Goodness of fit indexes of the structural model and results of the structural model

Hypotheses		Path coefficient	p-value
H1	Objective digital literacy → objectivity	-.15	.00
	Objective digital literacy → limpidity	.12	.02
	Objective digital literacy → openness	.01	.77
H2	Subjective digital literacy → objectivity	.35	.00
	Subjective digital literacy → limpidity	.12	.04
	Subjective digital literacy → openness	.29	.00
H3	Privacy concerns → objectivity	-.16	.00
	Privacy concerns → limpidity	-.25	.00
	Privacy concerns → openness	-.24	.00
H4	Objectivity → customer engagement	.16	.01
	Limpidity → customer engagement	.11	.00
	Openness → customer engagement	.39	.00

$\chi^2 = 920.34$, $df = 311$, $p = .00$, $CFI = .89$, $NFI = .85$, $GFI = .87$, $AGFI = .84$, $RMSEA = .06$

