Modelling the Willingness to Disclose Personal Data in Registration to Online Store on the Basis of Social Exchange Theory

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Abstract

Extensive use of consumer data requires to link it with consumer behaviours in online buying over time. This is achievable when buyers are registered to online stores, since registration asks for a set of data and for the important permissions in regards to its use. The mechanism of the willingness to disclose personal data while registering to online stores remains largely unknown. This study models it on the basis of Social Exchange theory. The most important finding is linking the disclosure of data in social networking, single-time buying and in online registration, which has important theoretical and managerial implications.

Keywords: *willingness to disclose data, social exchange theory, digital marketing*

1. Introduction

Consumer personal data is becoming an increasingly important recourse for the online businesses as it allows companies to personalise the content and offering a better value proposition (Wieringa et al., 2019; Hu, 2018). While some authors argue that better marketing offerings, based on the provided personal data are perceived positively by the customers (Barth & Jongh, 2017), others claim that consumers are not always willingly disclose their personal data (Bansal, Zahedi, and Gefen, 2016).

The willingness to disclose personal data is frequently explored from the perspective of privacy calculus theory, which states that consumers are disclosing their personal data in exchange for particular benefits (Robinson, 2017). However, such approach receives a significant amount of critique, as the privacy calculus theory overestimates the argument of rationality and leads to contradictory results (Kehr, Kowatsch, Wentzel, and Fleisch 2015). The main contradiction, defined as the privacy paradox, suggests that high privacy concerns, reported by customers are followed by rather careless behaviour when it comes to the actual personal data disclosure (Weinberger, Bouhnik, and Zhitomirsky-Geffe, 2017).

The privacy-related decisions are situational in most of the cases and depend on the type of the requested data, its purpose, and the context of information disclosure (Bansal et al., 2016). However, there are more aspects in situations of online data disclosure: they refer to how much freedom a person has to make the choice whether to disclose data, and what results of the data disclosure are expected. More specifically, the disclosure of some data, like name, address, e-mail address in online buying is mandatory, since it is absolutely needed in order to make a transaction (Urbonavicius, 2020). More detailed information together with additional permissions may be asked when a person registers to an online store. The registration provides additional opportunities for e-stores to perform tracking of buyer behaviours and for the personalisation of offerings. Therefore, buyers may be encouraged to register with offered financial (discounts) or nonfinancial (browsing convenience, etc.) benefits to provide more detailed data and to give permissions (Zhang, Hassandoust & Williams, 2020; Schumann, von Wangenheim & Groene, 2014). Rather different and almost unregulated information exchange happens in social networking, where one is almost free to decide what types of information will be disclosed to peers in exchange for their reciprocal responses; the disclosed information may include not just facts, but information about experiences, emotions, etc. (Zimaitis, Degutis, and Urbonavicius, 2020). However, this study argues that willingness to disclose data in these three situations (single time purchasing, registering to online store and disclosing data in social networking) are interrelated and that one form of the disclosure stimulates another.

To analyse this, authors employ the Social Exchange Theory (SET), which makes the distinction between two types of social interactions: negotiated and reciprocal (Zhang and Lee, 2014). It is understood that reciprocal social exchange mainly occurs on the basis of mutual trust and is largely unregulated. The disclosure of information in social networking is a typical example of this type of exchange among online behaviours. The involvement in this type of interactions not only is based on mutual trust of participants, but also gradually increases/develops trust in social exchanges, therefore it stimulates the data disclosure in the future (Zimaitis, Urbonavicius, Degutis, and Kaduskeviciute, 2020). The example of negotiated social exchange would be the data disclosure in online purchasing, since the disclosure of strictly defined information items happens in exchange for the possibility to make a transaction. However, the data disclosure for registration in online store includes elements of both negotiated and reciprocal exchange: a buyer is free to decide whether to disclose the requested information in exchange for the offered benefits, and the regulation in this regard is not binding.

Thus, this study aims to analyse how personal data disclosure in three situations interact among themselves in the framework that is modelled on the basis of SET. The study specifies three trust-linked antecedents: general trust (propensity to trust), trust that is developed via involvement in social media and trust in external regulations regarding data disclosure (strictness of the external regulation).

2. Literature Analysis and Hypotheses

Social Exchange Theory (SET) initially was used to explain social interactions between people in various types of circumstances: personal relationships, economic interactions and many more (Schumann, von Wangenheim & Groene, 2014; Yakovleva, Reilly & Werko, 2010). Gradually the theory evolved and appeared to be very suitable for a broader set of interactions that also include an element of social exchange. Though its use in business settings remain limited, it has been applied in business-to-business marketing (Lambe, Wittmann, and Spekman, 2001), service industry (Sierra & McQuitty, 2005), privacy-related behaviours and attitudes of consumers (King, 2018). It also seems very helpful for modelling the willingness to disclose personal data online in regards to various types of online activities.

Despite the differences among contexts of social interactions, SET foresees trust being the factor that is of the key importance. However, the role of trust shows up in several forms and this largely depends on the type of social interaction. The early developers of SET made a distinction between *reciprocal* and *negotiated* types of exchange (Levi-Strauss, 1969). It was defined that reciprocal exchange is based on a belief that other participants of the exchange will participate in the exchange on similar terms and will respond by providing similar resources. Often these relations are continuous, and the reciprocity and interactions are repeated many times, which builds mutual trust in the process of sequential exchange transactions (Molm, Takahashi, and Peterson, 2000). The resources exchanged in reciprocal exchanges may include various types of information, therefore a good example of this type of exchange is personal involvement in social media activities (Cheng, Romero, Meeder, and Kleinberg, 2011). Additionally, there are no strict assurance or the regulations and the key driver of this exchange is the mutual trust among the participants (King, 2018), which is an additional characteristic of reciprocal social exchange.

Trust is the key concept also in the negotiated type of social exchange, where the terms of an exchange are known to both partners in advance. The majority of social exchanges that include economic activities are classified as negotiated (Molm et al., 2000). The disclosure of personal information in e-commerce is also a negotiated exchange: the information is collected by marketers in exchange for the offered benefits (access, convenience or monetary compensation in the form of discounts or bonuses) (Malgieri & Custers, 2018). The process of exchange is rather formalized by some form of permission to use personal data and is typically backed by the legal assurance systems, which also is typical to negotiated exchange.

However, in the context of online shopping the exchange partners are not necessarily on equal position; quite often a buyer has no choice except to provide certain personal data in order to make the transaction happen. This inequality might be partly compensated by the trust in a partner that declares following the rules of information collection and management. The importance of trust on the willingness to disclose data in negotiated exchange is already reported (Zimaitis et al., 2020b). However, online shoppers prefer to have additional assurance of the safety in regards to the provided data, and are additionally relying on the external regulations of privacy (Hong, Chan, and Thong, 2019). Thus, if the consumers are aware of and positive about the external regulatory systems that supervise and control how procedures in regards to personal data disclosure are implemented, they might be more

willing to disclose their data in the negotiated exchange situations (Skare, Urbonavicius, Laurutyte, and Zimaitis, 2020).

Though the definition of reciprocal and negotiated types of exchange in SET is rather clear, many interactions include at least some elements of both of them (Levi-Strauss, 1957; Doja, 2006). Reciprocal interactions in social networking include some formal rules on how the communications with peers have to happen; negotiated exchanges between buyers and sellers in online buying often include elements of reciprocity, especially – when there is an opportunity to interact with a seller in addition to just performing a transaction. Especially this is noticeable in cases when a buyer is invited to register to an e-store in exchange for some offered benefits, which increases the aspect of reciprocity. Thus, this type of exchange should be largely based on general trust.

These SET-based assumptions help to develop the hypotheses about the antecedents of willingness to disclose personal data in three different online situations: social networking (reciprocal), online buying (negotiated) and registration to an online store (mixed). SET envisions the importance of trust both in reciprocal and negotiated exchange behaviours (Imhoff & Lamberty, 2018); therefore, it might be predicted that trust is important in all three analysed instances:

H1: Trust positively impacts self-disclosure in social media
H2: Trust positively impacts willingness to disclose personal data in online buying
H3: Trust positively impacts willingness to disclose personal data in registration to online store

Since social networking is reciprocal by its nature and builds up trust in peers over time (Grabner-Krauter, 2009), data disclosure in social networks heavily depends on one's involvement in social networking. Thus, the involvement in social networking should be a very important antecedent of willingness to disclose personal data in social networks:

H4: Involvement in social media positively impacts self-disclosure in social media

On the other hand, it may be predicted that buyers pay attention to the additional legal regulations in regards to privacy and feel less uncertainties when a more strict form of regulations is applied:

H5: Strictness of external regulation positively impacts willingness to disclose personal data in online buying
H6: Strictness of external regulation positively impacts willingness to disclose personal data in registration to online store

However, the most important prediction of this study is that one type of online data disclosure behaviour contributes to the development of willingness to disclose data in another type of the online behaviour, since the element of trust is grounding all social exchange behaviours. Therefore, we predict that data disclosure in social networking impacts the willingness to disclose data in online shopping; data disclosing in online buying without registration (negotiated social exchange) contributes to the willingness to disclose data in registering to online store (negotiated exchange that includes an aspect of reciprocity). More specifically:

H7: Self-disclosure in social media positively impacts the willingness to disclose personal data in online buying
H8: Self-disclosure in social media positively impacts the willingness to disclose personal data in registration to online store
H9: Willingness to disclose personal data in online buying positively impacts the willingness to disclose personal data in registration to online store

3. Measures and Data

The questionnaire included the scales that has been used in former studies, items were measured on a 1-7 Likert scale. More specifically, trust was assessed on a 4-item 'Propensity to Trust' scale (Frazier, Johnson, and Fainshmidt, 2013). The involvement in social media was measured with 10-items scale (SMUIS) by Jenkins-Guarnieri, Wright, and Johnson (2013). The scale includes engaged social media usage, emotional attachment to using social media and social habits of users, but remains unidimensional, which makes it very convenient for using in a research. Self-disclosure was measured with 6-items scale, used by Jacobson, Gruzd, and Hernández-García (2020). Willingness to disclose personal data was assessed with the scale suggested by Gupta, Iyer, and Weisskirch (2010) and Heirman, Walrave, Ponnet, and Van Gool, (2013) later used by Robinson (2017) and Zimaitis et al. (2020b). However, the scale was subdivided into two groups of items: the ones that are mandatory for a transaction to happen (Urbonavicius, 2020) and others, that are not necessarily needed for a transaction, but are typically are asked if a person decides to register to the e-store site. The first group (WTD) included first name, last name, mobile phone number and email address. The willingness to disclose information asked in registration (WTD_Reg) included date of birth, marital status, gender and permission to track purchasing history and browsing history. The strictness of external regulation was assessed by giving the respondents different descriptions of regulatory environments: 495 of them were explained that an e-store operates within a legal environment that is not strictly regulated, and 490 – in a strictly regulated EU environment (that includes GDPR).

The data was collected in Lithuania with a representative online survey, the sample included 1000 respondents. After 15 unengaged respondents were removed, analysis was based on 985 questionnaires. The sample included respondents from 15 to 60 years old; 29% were in the age group of 15-29; 32% the group of 30-44; remaining 39% were 45-60 years old. By gender, 49% were male and 51% female.

4. Data Analysis

4.1 Validity and reliability

The suitability of measurements has been tested with exploratory factor analysis (Promax rotation, Maximum Likelihood extraction) that was followed by subsequent confirmatory factor analysis. Kaiser-Meyer-Olkin Measure of Sampling was adequate (0.901), Bartlett's Test of Sphericity showed approx Chi-Square of 17082.865with df=351, p=0.000. The model fit was appropriate: Chi-Square=310.452, df=114, p=0.000. Extracted 6 factors explained 62.98% of the variation with the cumulative initial Eigenvalues of 69.51%. Confirmatory factor analysis showed that the fit of the model is acceptable (CMIN/DF=3.770; TLI=0. 942; CFI=0. 951; RMSEA=0.053 (Byrne, 2010). This was achieved after reducing the number of items that measure the social media use integration to 8 items and the willingness to disclose personal data when registering to an e-store to 5 items, since the item on permission to track purchasing history largely duplicated the other on permission to track browsing history.

Reliability and validity of the obtained scales were assessed by measuring the composite reliability (above 0.70, Bagozzi & Yi, 2012). Following Fornell-Larcker criteria (Fornell & Larcker, 1981), all the standardized factor loadings needed to be above 0.50; the average variance extracted had to exceed 0.50; the squared AVE values for each construct had to be greater than the correlation values of that construct. All these criteria were met (Table 1).

	Cronbach's Alpha	CR	AVE	WTD_Reg	SelfDiscl	SocMediaInt	Trust	WTD
WTD_Reg	.876	0.870	0.630	**0.794**				
SelfDiscl	.898	0.901	0.603	0.078	**0.777**			
SocMediaInt	.910	0.907	0.552	0.188	0.554	**0.743**		
Trust	.913	0.910	0.716	0.195	0.175	0.243	**0.846**	
WTD	.886	0.901	0.647	0.497	0.000	0.186	0.267	**0.804**

Table 1. Validity and Reliability of the Constructs (CR – composite reliability, AVE – average variance extracted)

A common latent bias test came back positive (the difference in chi-square=473.5, the difference in df=2, p<0.001). Therefore, the variables were imputed including the presence of the common latent factor.

4.2 Tests of hypotheses

The fit of the structural model was appropriate: CMIN/DF=0.123; TLI=1.009; CFI=1.000 RMSEA=0.000. This helped to analyse the predicted relationships among variables (Figure 1).

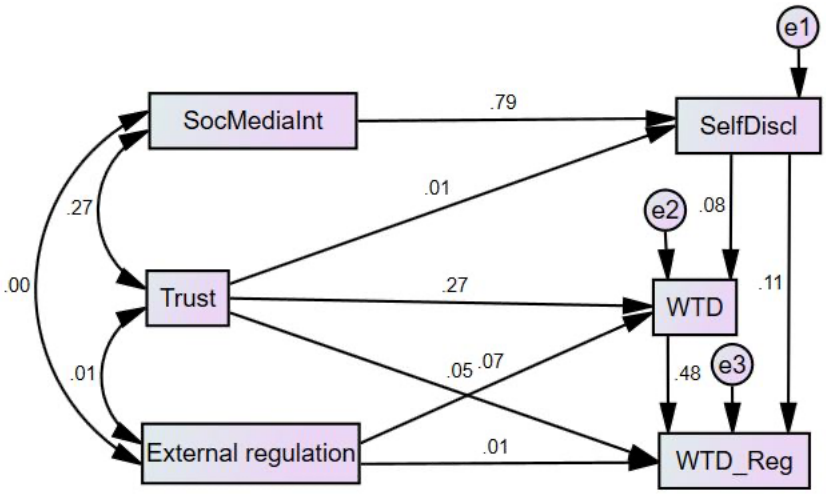

Figure 1. Structural model

Analysis of the significance of predicted effects was used to test hypotheses. One of the important findings includes the elaboration on the influence of trust in regards to three types of data disclosure. It has been predicted that trust directly impacts the willingness to disclose data in all three analysed instances. However, only the direct impact of trust on the willingness to disclose data in online buying (β=0.274; p<0.001; see Table 2).

Hypothesis	Relationship			Estimate	P	Result
H1	SelfDiscl	<---	Trust	0.007	0.743	Rejected
H2	WTD	<---	Trust	0.274	***	Accepted
H3	WTD_Reg	<---	Trust	0.050	0.084	Rejected
H4	SelfDiscl	<---	SocMediaInt	0.791	***	Accepted
H5	WTD	<---	ExternReg	0.069	0.022	Accepted
H6	WTD_Reg	<---	ExternReg	0.010	0.724	Rejected
H7	WTD	<---	SelfDiscl	0.083	0.007	Accepted

Hypothesis	Relationship	Estimate	P	Result
H8	WTD_Reg <--- SelfDiscl	0.113	***	Accepted
H9	WTD_Reg <--- WTD	0.476	***	Accepted

Table 2. Test of hypotheses (standardized regression weights)
*Note: *** means P<0.001.*

It is relatively easy to explain why trust has no direct impact on self-disclosure in social networking: trust is correlated with social media integration (r=0.27), and is further built via the involvement in social media; the impact of social media integration on the disclosure is very strong (β=0.791; p<0.001). The total impact of trust on willingness to disclose personal data in registration to online store is also strong (β=0.182); just it is mainly indirect, exerted via mediators (self-disclosure and willingness to disclose personal data in online buying).

Out of the other hypotheses, only H6 that predicted positive impact of strictness of the external regulation on willingness to disclose personal data in registration to online store was not supported. Again, this does not mean that the effect is non-existent; however, it is indirect, via the mediation of the willingness to disclose personal data in online buying (β=0.033).

5. Discussion, Conclusions and Further Research

The study not just once again revealed the relevance of the use of SET as a theoretical background for modelling willingness to disclose personal data online, but also expanded the ways it can be applied and interpreted. Current research supported the earlier findings explaining the data disclosure in social networking and in online buying as forms of reciprocal and negotiated social exchange (Urbonavicius, Degutis, Zimaitis, Kaduskeviciute, and Skare, 2020). It additionally conceptualised the willingness to disclose personal data in registration to online store as a negotiated social exchange that includes an important reciprocal aspect. This justifies why it is impacted both by the reciprocal and negotiated exchange and why none of the antecedents impacts it directly.

The findings also showed that social networking and online buying are linked between themselves in terms of the development of the willingness to disclose personal data online. Involvement in social networking generates willingness to further disclose personal data in social networks, however, this impacts disclosure in online buying, no matter whether it is performed with registration or without it. Additionally, this shows the indirect aspect of involvement in social media (social media integration) on the willingness to disclose personal data online that has been observed in earlier studies (Zimaitis et al., 2020b). Since activities in social networking are largely reciprocal, they stronger impact the case of registration to online store that includes a larger aspect of reciprocity than that of online purchasing without registration (β=0.121 versus β=0.066). This is an additional insight of the current study.

The findings allowed outlining some managerial implications.

First and most important, the current study showed that three online data disclosure situations are linked among themselves. This means that by developing activities in online media businesses develop the willingness of potential buyers to disclose their personal data in online shopping and encourage to reveal even more items together with permissions in registering to online store. Therefore, the importance of business presence in social media cannot be ignored. In the best case – a social media activities of an online store have to be closely linked with its main operations.

Second, the registration to online store is much more attractive option for personal data collection, since it allows linking purchase data with a particular buyer and allows tracking the behaviour over time. Therefore single-time buyers in online stores should be offered

benefits for registering themselves to online stores, since the moment when they disclose the mandatory data for a purchase has an additional impact on their willingness to register themselves and disclose even broader information.

In summary, it may be concluded that once a relationship of any type of social exchange is established with a potential buyer, it may be used to the more extensive form of data disclosure, if the mutual trust is maintained and developed. Since the strictness of external regulation is important to buyers, businesses should declare the compliance of their activities to the strictest external regulations when applicable.

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