

Does Gender Matter: An Exploratory Study of Influence of Cybersecurity, Privacy, and Trust on Purchase Intention

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Key Words: Security, Privacy, Trust, Consumer

U.S. online sales is expected to grow from \$263 billion in 2013 to \$414 billion in 2018, a compound annual growth rate of 9.5% (Enright, 2014). Although e-commerce has become popular, Internet privacy violations and cyber-attacks to the e-commerce systems are also on the rise. In fact industry estimates of losses from intellectual property to data theft in 2013, range as high as \$1 trillion (Ackerman, 2013). Thus it can be stated with a high degree of conviction that cybersecurity and privacy is detrimental both to the business as well as the consumer and needs to be investigated. The purpose of this exploratory study was to examine the gender difference with respect to cybersecurity, privacy and trust on purchase intention. Rationale of the Study: Privacy is defined as a two-dimensional construct, involving physical space and information (Goodwin 1991). On the other hand cybersecurity can be defined as “a security relevant system event in which the system’s security policy is disobeyed or otherwise breached” (Shirey, 2000). There is a paucity of studies that has examined consumer perceptions of cybersecurity, furthermore, the role of gender with regards to privacy and security has provided mixed results (Yao, Rice, & Wallis, 2007; Sheehan, 1999). Thus, this study is a step toward filling the gap in the literature and was exploratory in nature and analyzed consumers’ perception of cybersecurity and privacy with respect to gender differences.

This study used a research design adapted from Wofinbarger & Gilly’s (2003) study and consists of three phases. First, cybersecurity and privacy attributes, contents, and functions that develop and foster secure websites was identified through focus groups. Second, the cybersecurity and privacy attributes, contents, and functions drawn from phase 1 was sorted and structurally conceptualized based on how consumers themselves interpret the relationship between attributes of cybersecurity, privacy and constructs of website usage. The information gathered from this phase has already been presented at ITAA and was utilized to create the both the research model as well as the survey instruments (see Figure 1). The items for the survey were adapted from Belanger, Hiller, & Smith, (2002); Bart, Shankar, Sultan, & Urban, (2005) and Parasuraman, Zeithaml, & Malhotra, (2005) studies as well as items generated from focus group. Data was collected via a consumer panel (n=415) with Male = 209; and Female = 206.

Result: The current analysis utilized “multi-group” analysis, to compare parameters between distinctive groups (i.e. Males and Females). The model was tested using measurement and structural model in SEM. The fit indices of the overall structural model ($\chi^2 = 2528.23.73$; $d.f. = 1230$, $p = 0.00000$, RMSEA: 0.075, CFI: 0.95, NNFI: 0.94) supported the model fit (See Table 1 & 2).

The findings of this study provides support for gender differences in terms of importance of security attributes (e.g., aesthetics of a website, opt-in/opt-out, etc.); community, cybersecurity seals (e.g. Truste). Security attributes influenced male’s privacy perceptions (e.g. well-designed website, clear privacy policy, etc.) hence, it is critical that the retailers provide these attributes on their websites. On the other hand, female consumer’s perception of privacy is influenced by consumer-generated-content (CGC) such as blogs and reviews providing further support to the importance of online CGC. Finally, presence of third party seals which has been linked to a secure website do not influence the purchase intention for the male consumer, however, it does influence the female consumer with the relationship being negative. It can be inferred that presence of seals do not necessarily convey a sense of security. This is an important finding especially and provides support to the notion that presence of too many (i.e., more than two) seals can lower the likelihood of purchase completion (Özpolat & Jank, 2015). Hence, it is imperative that retailers pay attention to both number as well as type of trust seals that are incorporated on their website. Overall, female consumer’s purchase intention is influenced by privacy more than male consumers based on the beta values. Furthermore, credit information (e.g. social security, credit score, mother’s maiden name, etc.) do not impact either trust or purchase intention, however, personal information (e.g. email address, home phone number and home address) influences both trust and purchase intention for male and female consumers. It can be inferred as consumers become more adept shopping online they are not worried about providing their credit information but want to minimize their digital footprint by masking

their personal information online. Hence, it is vital that the retailers take steps to ensure that consumers' personal information will be safe and protected online. In closing, the findings of this study suggest that future of e-commerce is tenuous without a general climate of online trust. Overall, e-tailers need to increase not only their cybersecurity and privacy measures, but also their consumers' perception of a high standard of security and privacy in order for the success of both individual e-tailers and the future of e-commerce itself.

Table 1: Hypothesis For Male

Hypothesis	Paths	Standard Coefficients	t values	Test results
H _{1a}	Importance of Security Attributes → Privacy	0.35	3.95	Supported
H ₂	Community → Privacy	0.06	0.74	Not Supported
H _{3a}	Cybersecurity Seals → Privacy	0.48	5.48	Supported
H _{3b}	Cybersecurity Seals → Purchase Intention	-0.02	-0.35	Not Supported
H ₄	Privacy → Trust	0.39	5.34	Supported
H _{5a}	Credit Information → Trust	0.02	0.34	Not Supported
H _{5b}	Credit Information → Purchase Intention	-0.08	-1.43	Not Supported
H _{6a}	Personal Information → Trust	0.56	6.12	Supported
H _{6b}	Personal Information → Purchase Intention	0.50	5.72	Supported
H ₇	Trust → Purchase Intention	0.43	5.53	Supported

Table 2: Hypothesis For Female

Hypothesis	Paths	Standard Coefficients	t values	Test results
H _{1a}	Importance of Security Attributes → Privacy	0.12	1.86	Not Supported
H ₂	Community → Privacy	0.45	3.52	Supported
H _{3a}	Cybersecurity Seals → Privacy	0.38	3.65	Supported
H _{3b}	Cybersecurity Seals → Purchase Intention	-0.25	-3.52	Supported
H ₄	Privacy → Trust	0.64	8.44	Supported
H _{5a}	Credit Information → Trust	0.04	0.62	Not Supported
H _{5b}	Credit Information → Purchase Intention	-0.08	-1.37	Not Supported
H _{6a}	Personal Information → Trust	0.26	4.23	Supported
H _{6b}	Personal Information → Purchase Intention	0.20	3.38	Supported
H ₇	Trust → Purchase Intention	0.93	10.01	Supported

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