THE COMPLEX WEB OF VALUES: THE IMPACT ON ONLINE PRIVACY CONCERNS AND PURCHASE BEHAVIOR

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ABSTRACT

Past research has generally utilized demographic information to understand why some consumers are more concerned about online privacy than others. To date no studies have tried to understand variations in consumers' privacy concerns in light of the values consumers hold, even though these values better predict consumer outcomes in other contexts. In this study, we examined how the values of religiosity and materialism influence consumers' reaction to privacy concerns. Through a survey of 270 participants we found that extrinsic but not intrinsic religiosity influences materialism and that materialism decreases privacy concerns, which increases consumers' online purchases.

Keywords: Extrinsic religiosity; Intrinsic religiosity; Materialism; Privacy concerns; Purchase

1. Introduction

In this digital age, the proliferation of consumer engagement with online channels has engendered ubiquitous transmission and collection of consumer information online. The accompanying rise in concern for online privacy is evidenced by lawsuits against companies that violate online privacy (such as Google Buzz or Facebook) as well as by consumer behaviors and attitudes. For example, online sales totaled $142.5 billion in 2010, a 9.8% increase from the previous year [Davis 2011], yet only 4% of retail sales are done online [US Census Bureau 2011]. This is surprising given the pervasiveness of Internet usage among Americans [Pew Research Center 2013]. While there are several reasons why a consumer may choose more traditional channels over the Internet for purchases, there is empirical evidence that online privacy concerns specifically will deter consumers from making purchases online [McCole et al. 2010].

Researchers have devoted considerable attention to understanding consumers' outlooks on privacy concerns. Junglas et al. [2008] recently pointed out that it is primarily technological advances that have sparked consumer concerns for privacy. Hence, research often focuses on privacy in a technological or, specifically, online context. Researchers have explored how attitudes toward privacy in an online context are shaped by the type of personal information requested [Malhotra et al. 2004; Phelps et al. 2000], the quality of the personalization/customization made possible through information divulgence [Li & Unger 2012], the amount of information control offered [Eastlick et al. 2006; Phelps et al. 2000], and consumer characteristics [Junglas et al. 2008; Punj 2011; Sheehan 2002; Sheehan & Hoy 1999]. Demographic differences have been the most frequently examined consumer characteristics [Miltgen & Peyrat-Guillard 2014; Punj 2011; Sheehan 2002], even though consumer values rather than demographics are known to be a better predictor of consumer behavior [Kahle 1983]. This is also shown in examinations of consumer values in other marketing streams [Burroughs & Rindfleisch 2002; Xiao & Kim 2009].

Understanding the relationship between consumer values and privacy concerns is important because it expands understanding of the way that values influence behaviors in the online context. Moreover, it would begin to offer

insight into the mechanisms behind consumer online preferences and decisions which research has already uncovered. For example, it has been shown that consumers are reluctant to give up their information [Milne & Boza 1999; Phelps et al. 2001], but are willing to do so in exchange for superior and more customized service [Dinev & Hart 2006; Goodwin 1991; Mothersbaugh et al. 2012]. However, it is not necessarily clear why this is so.

This study will examine how beliefs surrounding consumers' privacy concerns originate from consumer values. We focus on the value of religiosity in particular because it is a value which can formally specify daily practices, behavioral routines, and life choices [Hogg et al. 2010]. Further, it can also be an "all-embracing" component of self-identity [Hogg et al. 2010, p. 72]. We argue that religiosity impacts privacy concerns because of the negative ties between religiosity and materialism. While existing studies have linked religious values to materialism [e.g. Burroughs & Rindfleisch 2002; Pace 2013], we find differential effects on materialism between two manifestations of religiosity: extrinsic and intrinsic.

We next argue that materialism, or the belief that possessions are important in one's life [Richins & Dawson 1992], is an antecedent of online privacy concern since the importance of worldly goods to the materialistic [Belk 1985] is likely to be more salient than other goals (such as information protection) when purchasing online. There is, indeed, evidence that materialistic consumers are more willing to divulge information online [Ward et al. 2005], which speaks to the possibility tested here that privacy concerns are diminished in materialistic consumers. Finally, online privacy concern is shown to be negatively related to online purchasing behavior, and consumer values are shown to be better predictors of online purchasing behavior than demographic attributes.

2. Literature Review and Hypothesis Development
2.1. Privacy
For the purpose of this study, "privacy" refers to the rights of the individual in terms of collection, storage, processing, distribution, and use of personal information [Turn 1985]. In other words, information privacy gives consumers the following rights: knowledge about the information that is collected about them, control over that information, and ability to access that information [Hoffman 1980].

Consumers' perceptions of privacy [Dolnicar & Jordaan 2007; Milne & Gordon 1994] and knowledge about online privacy [Labrecque et al. 2012; Milne & Rohm 200] are nearly as heterogeneous as consumers themselves. Consumers can be categorized by their concern levels, from fundamentalists who are highly concerned about their privacy rights to the unconcerned [Taylor 2003]. In between the two extremes are pragmatists, whose privacy concerns are moderate and who represent the largest portion of consumers [Taylor 2003]. This diversity of privacy outlook and concern level is attributable to several factors. Privacy concerns have been positively linked with age and education level and have been shown to be higher in women than in men [Punj 2011; Sheehan 2002; Sheehan & Hoy 1999]. The age difference may be due to familiarity with the Internet in general, as younger consumers have an increased comfort level with the Internet which leads them to believe that shopping online would save them time [Pun 2011]. Younger consumers have also been shown to be more skillful in controlling their privacy online [Park 2013]. Millennials in particular also use social media more ubiquitously and are used to sharing private, personal information with a large audience through their accounts [Sanchez Abril et al. 2012]. However, there is also evidence that consumers are becoming more likely to monitor social media privacy and limit the audience that has access to their personal information [Madden 2012]. Consumers with higher levels of education may put more thought into the online process to find the best fitting products and thus think about potential implications of a privacy breach [Punj 2011].

Other than consumer demographics, antecedents of privacy concern levels include variables such as perception of distributive and procedural justice as well as informational justice, which is concern for how marketers utilize information when information usage intent is not provided to consumers [Ashworth & Free 2006]. Those consumers who are less concerned about informational justice are more likely to overlook some potential consequences of privacy issues by providing personal information [Culnan 1993]. Companies can offer a better sense of informational justice which would decrease consumers' privacy concern through clear provision and content of their online privacy policies [Hui et al. 2007; Xu et al. 2011]. However, most companies fail to state privacy policies that consumers find important [Earp et al. 2005]. Companies that cannot seem to provide consumers with a sense of information security would benefit from consumers that are more likely to relinquish their privacy concerns when they are highly interested in the Internet content and when it can provide better customization [Chellappa & Sin 2005; Dinev & Hart 2006]. A review of the information systems literature has identified that the antecedents of privacy concerns have been tenuously examined and can be summarized into five categories: privacy experience (exposure to personal information abuses), privacy awareness (knowledge of a company's privacy practices), personality differences, demographic differences, and culture differences [Smith et al. 2011]. This study focuses on examining aspects of consumer personality that have yet to be examined in the information systems literature to build on the understanding of the antecedents of consumer privacy concerns.

Concern for privacy is an important issue which has several implications. First, high levels of concern lower both purchase intention [Milne & Boza 1999; Phelps et al. 2001] and the amount of money spent online [Akhter 2012]. Consumers also react to privacy concerns by providing businesses with incomplete information, requesting removal from mailing lists, and informing service providers about the emails they receive [Lwin et al. 2007; Sheehan 2002; Sheehan & Hoy 1999]. Consumer detection of a violation of privacy leads to decreases in trust, perception of service quality, patronage intention, satisfaction, and willingness to provide personal information to proceed with a transaction on the Internet [Boshoff 2007; Dinev & Hart 2006; Kim et al. 2009; Miyazaki 2008; Román 2007; Schaupp & Bélanger 2005; Shergill & Chen 2005].

2.2. Values

Values are used as a guiding principle in an individual's life [Schwartz 1992] and have been shown to be a major factor in understanding a customer's consumption behavior. They have been deemed to be more useful than demographic factors in predicting attitudes and behaviors [Kahle 1983]. Many of the intangible factors that consumers demand from companies stem from their value systems [Handelman & Arnold 1999]. Understanding values in the context of online privacy concerns is important because finding congruence between a company's privacy policy and the privacy demands of consumers will allow companies to better meet these intangible demands.

A value by itself cannot provide as strong an understanding of attitudes and behaviors as value systems can. A value system is a collection of values that are ranked in order of priority. A person who is faced with a conflicting situation will rely on his or her value system to resolve the conflict [Rokeach 1973]. For example, if a consumer encounters an online game which requires the creation of a user account to play, a conflict may arise between the values of hedonism and security. The conflict is likely to be resolved through deferment to the value which is more important to an individual such that the consumer for whom security is extremely important will choose to decline to provide information online and thus forego the satisfaction of playing, whereas the consumer for whom hedonism is predominant will override security concerns and provide information in order to play the game. Value systems influence attitude [Homer & Kahle 1988]. For example, a consumer might hold the value of ethical treatment of animals which will influence his or her attitude toward meat brands which are labeled "free range" or "genetically modified;" this value will ultimately play a role in the consumer's evaluative criteria when making meat purchases [Schröder & McEachern 2004].

2.3. Religiosity and Materialism

The value of religiosity is defined as the consumer's strength of belief in the values and ideals taught by a particular religion [Swinyard et al. 2001]. Religiosity differs from traditional and self-direction values because it is an archetypal ideology [Larrain 1979; Silberman 2005]. Not only does religion provide a platform for people to think about various issues, but it also specifies normative practices relating to daily life [Hogg et al. 2010; Kimball 2002]. Unlike other values, religiosity is generally influenced by a group that is external to the individual that dictates values, attitudes, and behavior [Hunsberger & Jackson 2005; Koenig et al. 2001; Silberman 2005]. These groups can mandate that members behave in accordance with religious values.

Religiosity is widely conceptualized as bi-dimensional [Vitell 2009] and is often measured with a scale developed by Allport and Ross [1967] that encompasses intrinsic and extrinsic religiosity. Extrinsic religiosity has underlying utilitarian motives; an extrinsically religious person will consider the benefits that a certain religious orientation will bring (for example, friendship, a sense of belonging, or business success). Conversely, intrinsic religiosity has underlying spiritual motives; an intrinsically religious person engages with religion because of an inherent desire to fulfill the fundamental objectives of the religion such as serving the community or religion [Vitell 2009].

The effect of religion on consumer behavior is evident in the literature. Religion has been shown to influence consumer values [Ramasamy et al. 2010; Schwarz & Huismars 1995], materialism [Burroughs & Rindfleisch 2002; Pace 2013], perception of risk [Delener 1990; Miller & Hoffman 1995], and behavior [Singhapakdi et al. 2000; Weaver & Agle 2002]. In accordance with past findings, we predict that religiosity will influence materialism. Moreover, we predict that these effects of religiosity on materialism are expected to be different based on whether an individual is intrinsically or extrinsically religious.

Materialism, or the centrally-held belief that possessions are important in one's life [Richins & Dawson 1992], has been shown to influence ethics, values, and life satisfaction [Burroughs & Rindfleisch 2002; Muncy & Eastman 1998; Richins & Dawson 1992]. Materialism is comprised of how strongly consumers believe their possessions reflect their achievement and demonstrate their status, the positive feelings associated with the purchase of material objects, and the centrality of the pursuit of goods over a lifetime [Richins & Dawson 1992]. Among the antecedents to materialism are various values such as self-enhancement, power orientation, and achievement [Karabati & Cemalcilar 2010; Kilbourne et al. 2005].

Extrinsically religious individuals prefer to practice their chosen religion as a means to status or personal connections. Therefore, core religious teachings and proscriptions are subordinate in importance to appearances and

status. As such, it is logically appealing that extrinsic religiosity is positively associated with materialism since both are different means to the same end of demonstrating one's position in society through outward displays. Conversely, people with strong intrinsic religiosity are engaging with a religious community for spiritual reasons and are thus more likely to practice it closely and in accordance to its tenets. Most religious traditions eschew materialism and warn against excess in daily life [Cowar 1998]. Hence, in people for whom their religion's tenets are important, less materialism should exist. Indeed, Burroughs and Rindfleisch [2002] show evidence of a negative relationship between religious values and materialism, while Pace [2013] shows evidence of this negative relationship specifically among Buddhists. The following hypotheses are thus proposed:

H1: Intrinsic religiosity is negatively related to materialism.

H2: Extrinsic religiosity is positively related to materialism.

Since materialistic consumers attach great importance to tangible, worldly possessions [Belk 1985], positive affect accompanying the acquisition of a good will tend to be more salient than other aspects of the purchasing process for these consumers. When consumers emphasize the accumulation of goods, they focus more on the positive gratification which will be elicited by their purchases. Hence, privacy concerns are rendered less important during the purchasing process and are subsequently a smaller factor in their shopping behavior. Prior research has shown that the enticement of positive outcomes from information disclosure, such as high-quality personalization, can overcome privacy concerns [Li & Unger 2012]. This should be similar for materialistic consumers in that the end goal of achieving a desired state (the state of having material possessions) may increase willingness to provide information online because it is seen as a means to achieving that end [Redmond 2001; Ward et al. 2005]. Consequently, we expect that consumers who are high in materialism should have less of a concern about privacy as proposed in the following hypothesis:

H3: Materialism is negatively related to privacy concern.

Research has shown that when consumers' privacy concerns are heightened, their purchases decrease [Milne & Boza 1999; Phelps et al. 2001] and the amount of money spent online also decreases [Akhter 2012]. That is, if consumers are not comfortable with the security of an online retailer, they are more likely to abandon a purchase or to seek out other channels to use in the procurement of the item. The existing company reputation and a consumer's prior experience with the company are important in building the type of trust which will reduce privacy concerns [Milne & Boza 1999; Nepomuceno et al. 2014; Phelps et al. 2001; Qureshi et al. 2009]. This is intuitively appealing and has been empirically demonstrated, so we expect it to hold in our model. The following hypothesis is proposed:

H4: Privacy concern is negatively related to online purchase behavior.

In sum, we propose a three-stage mediation model wherein extrinsic and intrinsic religiosity have differential effects on materialism, which is in turn negatively related to privacy concerns, which is negatively related to online purchases. Figure 1 presents the full conceptual model.
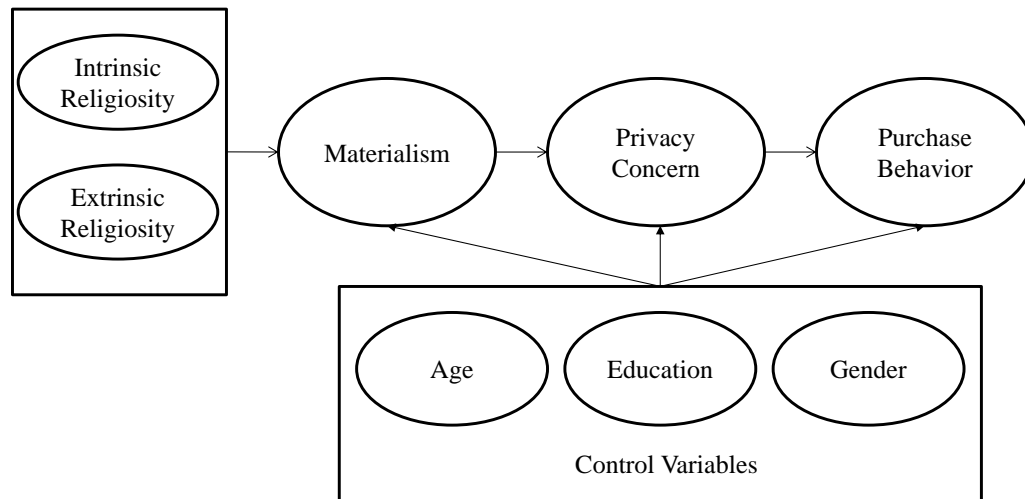

Figure 1: Shortened Conceptual Model of Hypothesized Relationships

3. Methodology

3.1. Data Collection

An online survey was developed using Qualtrics. The survey was pretested with undergraduate students to confirm clarity and determine the length of time required to complete it. After the pretest, the survey was shortened

to reduce respondents' fatigue, and some of the wording was changed for clarity. After being altered, it was distributed to marketing students at a major university in the Southeastern United States; the students were asked to forward the link to five people and were offered extra credit for participation. Despite the disadvantages of non-probability sampling, such as difficulty in replicating results, the use of snowballing was appropriate because it enabled the sample frame to extend beyond university students. Furthermore, we expect that our sample is representative enough to test differentiation in privacy concerns because the majority of Americans engage in online shopping (more than 190 million as of 2013) [Statista 2015], so most consumers have attitudes about it based on actual experience. Thus, it is not surprising that the majority of Internet-related research has used non-probability sampling (such as snowball sampling) in the data collection process [Cho & Khang 2006].

The survey was completed by 270 participants. The majority of the participants accessed the Internet daily (91.8%). The US Census [2010] reports an average of 72.07% of individuals use the Internet daily on desktop, laptops, and/or smartphones. Weekly Internet access is 6.9% of the sample and, on average, 16.6% of the population. Users who use the Internet less than weekly include 1.3% of the sample and 2.3% of the population. The sample collected consists of individuals over the age of 18. Thus, to accurately compare how the sample's age groupings compared with the US population, the percentage of the population in Table 1 reflects the population of individuals over the age of 18. Based on Table 1's reporting of gender, age, education, and income characteristics for the sample and the US Census [2010], the sample compares favorably with the population.

Table1: Demographics

		Sample	US Census
Gender	Male	48%	49%
	Female	52%	51%
Age	Older than 65	3%	17%
	45 to 64	35%	35%
	25 to 44	28%	35%
	18 to 24	34%	13%
Education	Completed high school or less	13%	45%
	Completed 1 to 3 years of college	35%	28%
	College graduate	39%	18%
	Attended or completed graduate school	14%	9%
Income	Less than $30,000 a year	32%	31%
	Between $30,000 and $100,000 a year	42%	48%
	More than $100,000 a year	27%	20%

3.2.   Measures

The items for the scale were randomized and varied in terms of scale priorities in order to reduce common method variance [Podsakoff et al., 2012]. Religiosity was measured using a shortened adaptation of Allport and Ross's [1967] scale. The religiosity scale was reduced to four items for intrinsic religiosity and four items for extrinsic religiosity based on a working paper by Alhouti et al. [2015], who reduced the scales based on standardized loadings from a pretest and used the shortened scale in their main study. The modification and shortening of the Allport and Ross [1967] scale is a common practice when it is implemented in research [Gorsuch & McPherson 1989].

The answers for the religiosity scales were measured on a 7-point Likert scale anchored from "strongly disagree" to "strongly agree." Materialism was measured using the Richins and Dawson [1992] scale, which consists of three factors: acquisition centrality, acquisition as pursuit of happiness, and possession defined as success. Two items were removed from the acquisition centrality and one item from the acquisition as pursuit of happiness subscales due to a standardized loading of less than 0.50. The scale is modeled as a multi-level scale with the three subscales loading on the materialism construct.

Privacy concern was measured using items developed by Smith et al. [1996] and ranked on a 7-point Likert scale anchored from "strongly disagree" to "strongly agree." The scale originally consisted of four factors: concern for unauthorized secondary use, improper access, collection of one's information, and errors in one's information. However, the improper access scale was the only one utilized in this study based on Smith et al.'s [1996] declaration that the scale is not static but evolves due to shifts in consumers' perception. Furthermore, recent studies have modified the scale by eliminating factors to account for changes in consumers' perceptions [Alge et al. 2006; Malhotra et al. 2004].

Purchase behavior was measured with a new scale consisting of two items. The first item asked "How frequently do you make purchases on the Internet?" and was answered with a 7-point scale anchored from "never" to "daily." The second item asked "When was the last time you made an online purchase?" This item was originally ranked using a 10-point scale but was recoded into a 7-point scale for the data analysis to align with the wording of the first item. The use of items that differ in their range helps in reducing common method variance [Podsakoff et al. 2012]. The item was anchored from "this week" to "never." The "four months ago," "five months ago," and "six months ago" options were coded similarly to match the "twice a year" option in the first item. The "last month" and "two months ago" options were coded similarly to match the monthly option in the first item. The items and their reliabilities are reported in the appendix.

3.3.   Measurement of constructs

To ensure that the variables in the model are distinct, a confirmatory factor analysis was conducted using MPlus 7. The model included the items for intrinsic religiosity, extrinsic religiosity, materialism, privacy concerns, and purchase behavior. Chi-square/degrees of freedom [$\chi2/df$], root mean square error of approximation [RMSEA], and comparative fit index [CFI], Akaike Information Criterion [AIC], and Bayesian Information Criterion [BIC] are all reported as follows: $\chi2/df = 1.78$; RMSEA = 0.06; CFI = 0.94; AIC = 15491.01; BIC = 15764.69. Based on these results, the model has an acceptable measurement model fit. The correlation, mean, and standard deviation for the variables are included in Table 2.

Table 2: Means, Standard Deviation, and Correlations

Variable	Mean	SD	1	2	3	4	5
1. Intrinsic Religiosity	4.68	1.72					
2. Extrinsic Religiosity	3.56	1.30	-0.16*				
3. Materialism	3.78	1.21	-0.01	0.33***			
4. Privacy	5.94	1.07	0.08	-0.19**	-0.21**		
5. Purchase Behavior	4.29	1.45	-0.17**	0.02	0.10	-0.02	

SD = Standard Deviation
Listwise Deletion $N = 231$
*($p < 0.05$), **($p < 0.01$), ***($p < 0.001$)

4. Research

The hypothesized paths in the model were tested in MPlus 7 using structural equation modeling (structural model). Education, age, and gender were included in the model as control variables given the impact they have on consumers' perception of privacy [Sheehan, 2002; Sheehan & Hoy 1999]. Overall fit, standardized path estimates, and the one-tailed significance of the paths were considered for the model. Fit indices indicate that the model is a reasonable fit ($\chi2/df = 1.76$; RMSEA = 0.06; CFI = 0.93; AIC = 15150.20; BIC = 15163.09).

Materialistic value is influenced by extrinsic religiosity (t-value = 6.03, $p < 0.001$, path estimate = 0.45) but not intrinsic religiosity, which supports hypothesis 2 but not 1. Privacy concerns are influenced by materialism (t-value = -3.72, $p < 0.001$, path estimate = -0.29), supporting hypothesis 3. Purchase behavior is influenced by privacy concerns (t-value = -1.74, $p < 0.05$, path estimate = -0.12), supporting hypothesis 4. The variance explained for purchase behavior (R2) is .04, .12 for privacy concern, and .24 for materialism. The indirect effects of intrinsic religiosity on privacy concerns and purchase behavior are insignificant. The indirect effect of extrinsic religiosity on privacy concern is significant (t-value = -3.10, $p < 0.01$, path estimate = -0.13), but its effect on purchase behavior is insignificant. Finally, materialism does not have an indirect effect on purchase behavior.

The results of including the control variables in the model include a significant effect of age on materialistic values (t-value = 3.05, $p < 0.01$, path estimate = 0.02) and age on privacy concerns (t-value = -2.47, $p < 0.05$, path estimate = -0.01), such that younger individuals are more materialistic, while older individuals are more concerned about their privacy. Gender has no effect on materialism and privacy concern, but has a significant effect on purchase behavior (t-value = 1.89, $p < 0.05$, path estimate = 0.14), such that females are more likely to buy more online than males. Finally, the control variable of education has no effect on materialism, privacy concerns, or purchase behavior.

Given the significant results of age on privacy concern and materialism on privacy concern, we conducted a follow-up test to determine whether age or materialism is a stronger predictor of privacy concerns. The results of tests of differences in chi-squares indicate that materialistic values contribute more than age ($\Delta\chi2 = 6.24$, df = 1, p < 0.05). Age and extrinsic religiosity also have a significant effect on materialism. The results of tests of differences in chi-squares indicate that extrinsic religiosity contributes more than age ($\Delta\chi2 = 20.92$, df = 1, p < 0.001). Thus, materialism is better at predicating privacy concerns than age, and extrinsic religiosity is a better predictor of materialism than age. Finally, gender and privacy concern have a significant effect on purchase behavior. The results of tests of differences in chi-squares indicate that privacy concern contribute more than gender ($\Delta\chi2 = 7.33$, df = 1, p < 0.01). Thus, consumer values are a better predictor of purchase behavior, privacy concern, and materialism than demographic characteristics.

See Table 3 for the path loadings for the hypothesized model and Table 4 for a summary of the hypothesis test results.

Table 3: Standardized Path Loading of Hypothesized Model

Path	Loading
Control Variables	
Education →Materialism	*ns*
Education →Privacy Concern	*ns*
Education → Purchase Behavior	*ns*
Gender → Materialism	*ns*
Gender → Privacy Concern	*ns*
Gender → Purchase Behavior	.14*
Age → Materialism	0.23**
Age → Privacy Concern	-0.19**
Age → Purchase Behavior	*ns*
Direct Effects	
Intrinsic Religiosity → Materialism	*ns*
Extrinsic Religiosity → Materialism	0.41***
Materialism → Privacy Concern	-0.23**
Privacy Concern → Purchase Behavior	-0.10*
Indirect Effects	
Intrinsic Religiosity → Privacy Concern	*ns*
Intrinsic Religiosity → Purchase Behavior	*ns*
Extrinsic Religiosity → Privacy Concern	-0.09**
Extrinsic Religiosity → Purchase Behavior	*ns*
Materialism → Purchase Behavior	*ns*

*p ≤ .05; **p < .01; ***p < .001, (one-tailed test)
Standardized loading reported.

Table 4: Summary of Hypothesis Test Results

Hypotheses	Prediction	Finding
H1:	Intrinsic religiosity is negatively related to materialism.	Not Supported
H2:	Extrinsic religiosity is positively related to materialism.	Supported
H3:	Materialism is negatively related to privacy concern.	Supported
H4:	Privacy concern is negatively related to online purchase behavior.	Supported

4.1. Alternative Models

To determine whether the hypothesized model is a fully mediated or partially mediated model, four alternative models were compared to the full mediated model. The first alternative model tested whether materialism is a partially mediated variable by including a path from intrinsic and extrinsic religiosity to privacy concerns. The second alternative model tested whether materialism and purchase behavior is partially mediated by privacy concern by including a path from materialism to purchase behavior. The third alternative model included a path from intrinsic religiosity and extrinsic religiosity to purchase behavior. The final alternative model included all possible partial mediation paths. The results of chi-square tests demonstrate that the alternative models are not significantly different from the full mediation model. Thus, we are unable to determine whether the full mediation model is superior to the partial mediation model and have interpreted the results of the full mediation model for the hypothesis testing. The results of the model comparison are demonstrated in Table 5.

Table 5: Comparison of Full Mediation and Partial Mediation Model.

	Model 1	Model 2	Model 3	Model 4	Model 5
RMSEA	0.06	0.06	0.06	0.06	0.06
CFI	0.93	0.93	0.93	0.93	0.93
AIC	15150.20	15152.83	15151.21	15151.70	15154.21
BIC	15163.09	15444.82	15439.88	15443.69	15456.16
χ^2/df	1.76	1.77	1.77	1.76	1.77
χ^2	495.76	494.38	497.76	493.25	489.77
Df	282.00	280.00	281.00	280.00	277.00
$\Delta\chi^2$ Model 1 vs. Model 2	1.37				
$\Delta\chi^2$ Model 1 vs. Model 3	-2.00				
$\Delta\chi^2$ Model 1 vs. Model 4	2.51				
$\Delta\chi^2$ Model 1 vs. Model 5	5.99				

Model 1 is the full mediation model.
Model 2 includes a path from intrinsic and extrinsic religiosity to privacy concern.
Model 3 includes a path from materialism to purchase behavior.
Model 4 includes a path from religiosity to purchase behavior.
Model 5 includes a path from intrinsic and extrinsic religiosity to privacy concern and purchase behavior and a path from materialism to purchase behavior.

Given the significant indirect effect of extrinsic religiosity on privacy concern in the full mediation model, we tested an alternative model in which materialism influences religiosity, religiosity influences privacy concern, and privacy concern influences purchase. The model demonstrates that materialism influences extrinsic religiosity (t-value = 5.38, p < 0.001, path estimate = 0.43) but not intrinsic religiosity and that extrinsic religiosity (t-value = -2.19, p < 0.0, path estimate = -0.18) but not intrinsic religiosity has a significant effect on privacy concerns. The results of chi-square tests demonstrate that the alternative models are not significantly different from the full mediation model.

5. Discussion

Although past researchers have looked at consumer demographics to predict variations in their privacy concerns [Sheehan 2002; Sheehan & Hoy 1999], to the authors' knowledge no studies have utilized consumers' values to predict

these variations, even though consumer values are better than demographics in predicting consumer outcomes [Kahle 1983]. In this study, we examined how values interrelate to influence consumers' reactions to privacy concerns. We also compared the predictive ability of demographic characteristics to consumer values. This examination yielded several noteworthy results which illuminate the complex relationship between human values, beliefs, and behavior. Specifically, the level of consumers' extrinsic religiosity, but not intrinsic religiosity, enhances materialistic beliefs, which in turn decreases privacy concerns, leading to more purchases being made online. Furthermore, consumer values are better predictors than demographic attributes. The following section summarizes the implications of this study's findings.

Examining the effect of consumer religiosity in the context of privacy concern is important because unlike other consumer values it remains stable over time and tends to dominate consumers' life choices and behaviors including their buying behavior [Delener 1994; Hogg et al. 2010]. Thus, it comes as no surprise that researchers have examined the role of religion and religiosity in consumer behavior [Vitell 2009]. Although studies have shown that religious values have an effect on materialism [Burroughs & Rindfleisch 2002; Pace 2013], their results demonstrate the specific effect of only Buddhist beliefs [Pace 2013] or of overall religious beliefs [Burroughs & Rindfleisch 2002] on materialistic values. In his review of the literature, Vitell [2009] demonstrates a need for measuring religiosity in a multidimensional manner (intrinsic and extrinsic religiosity). We use a multidimensional manner of testing religious beliefs, and by doing so, we find results that are contrary to past research which has indicated that religious values reduce materialistic beliefs [Burroughs & Rindfleisch 2002; Pace 2013]. In fact, we find that extrinsic religiosity enhances consumers' materialistic values because both values are a result of similar principles such as wanting status and a positive appearance in the community. On the other hand, intrinsic religiosity does not influence materialism. This study predicted that intrinsically religious values would reduce materialistic tendencies because intrinsically religious consumers tend to practice the tenets of their religion and most religions warn against materialism [Cowar 1998]. However, the view of religion as unsupportive of materialistic beliefs is different based on an individual's culture [Lindridge 2005]. Thus, including a person's culture as moderator of the relationship of intrinsic religiosity on materialism might yield a significant finding.

Similar to past research, we find that privacy concerns influence consumers' online purchases [Milne & Boza 1999; Phelps et al. 2001]. This demonstrates that although privacy is a dynamic construct that changes with time [Smith et al. 1996], it is still a factor in consumers' purchase decisions today. By understanding the origins of consumers' privacy concern we are better able to understand why some consumers are willing to sacrifice their privacy while others are not [Dinev & Hart 2006; Goodwin 1991; Milne & Boza 1999; Mothersbaugh et al. 2012; Phelps et al. 2001].

An objective of this study is to determine the values that influence privacy concerns in order to build upon past research that examines antecedents of privacy concerns, such as demographic differences [Sheehan 2002; Sheehan & Hoy 1999; Smith et al. 2011]. Our findings that the value of materialism decreases privacy concerns begin to specify the values which guide consumers. Similar to the finding that consumers are willing to sacrifice privacy concerns due to personal interest in Internet content [Dinev & Hart 2006], consumers' interest in materialistic purchases can override their privacy concerns. This study finds a string of values that influence one another and lead to privacy concerns and also finds that consumer values are better predictors of attitudes and behavior than demographic variables. Relying on a single value structure or demographic characteristic would have restricted our understanding of privacy concerns.

5.1.   Managerial Implications

Managerial Implications This study shows that consumers who have privacy concerns do reduce their purchases online. Companies can put in place online procedures and policies that portray to the consumer that their privacy is a priority for the company such as by including a secure socket layer [SSL] protocol to show that the website can be trusted. Asking consumers for stronger passwords to protect against improper access can also signal that the company has policies to protect the consumers' privacy. The efficacy of the above examples to portray the company in a positive light is correlated with how aware of consumers are of said policy.

Nevertheless, managers should be cautious when promoting to religious groups. Extrinsically religious consumers are less concerned about privacy because they are more materialistic, which makes them a viable target for companies to pursue. However, intrinsically religious individuals are not proven to have a particular perception of privacy. Companies that would like to target their online services to religious consumers should take care to reach out specifically to the extrinsically religious. This could be achieved by appealing to the consumers' need for status, sense of belonging, or other social benefits of religion through motivational appeals aimed at achieving such outcomes. For example, a website might emphasize the religious community or signal a consumer's faith to others to reach extrinsically religious consumers instead of making statements which appeal to the actual tenets, dogma, or beliefs of a religion to which the intrinsically religious are more likely to respond. A website might also adopt social networking themes that allow the extrinsically religious consumer to signal to others their materialistic purchases.

5.2.   Limitations and Future Research
One limitation of this study is that a survey instrument was utilized to test the hypotheses. Different instruments tend to produce different results, so future researchers could reexamine the hypotheses using an experiment or interviews. Future researchers could also reexamine the hypotheses using different value systems such as that produced by Kahle [1983] in order to further illuminate the way that values impact online privacy concerns and purchase behavior. Furthermore, the purchase behavior measures included only two items. Structural equation modeling recommends at least three items per construct. Future researchers could replicate the study utilizing a different measurement of purchase behavior such as Oliver and Swan's [1989] purchase intention scale, or measure actual purchases by consumers.

Privacy concern research in information systems has been limited in its examination of consumer values [Smith et al. 2011]. Research that examines privacy concerns in location-based technology has limited its understanding to the "Big Five" personality traits [Junglas et al. 2008]. This limitation has led to a low explanatory rate for the predicted model and insignificant findings. This study builds on past research by demonstrating how various values work together. Future researchers would benefit from examining the antecedents of privacy concerns through personality differences by examining privacy concerns as links in a chain that build upon one another in order to better understand where these concerns originate. For example, it would be valuable for future researchers to replicate this study and alter the model to determine whether the Schwartz [1992] values may, in fact, be a consequence of other values. Some Schwartz values have been shown to relate to materialism [Burroughs & Rindfleisch 2002], so testing how Schwartz values relate to privacy concerns would be insightful to marketers. Some of the Schwartz values that would be worthwhile to examine include tradition, self-direction, self-transcendence and self-enhancement.

Finally, the study utilized a snowball sample in a US context. The data collection process might have led to the insignificant finding of intrinsic religiosity on materialistic values. Since various cultures have different religious perspectives on materialism [Lindridge 2005], future researchers could utilize a cross-culture sample to determine whether the type of culture is a factor in intrinsically religious consumers' perception of materialism. In addition, research in the field of information systems has shown that the concept of privacy changes with time and culture [Bellman et al. 2004; Gurău & Ranchhod 2009; Miltgen & Peyrat-Guillard 2014; Smith et al. 2011; Smith et al. 1996]. Thus, it will be useful to determine what issues of privacy are prevalent in some cultures but not others. Furthermore, most cross-culture research that aims to understand differences in privacy concerns has focused on Hofstede's culture dimension [Smith et al. 2011], but these have been shown to be methodologically flawed, restricting their ability to prove causality [McSweeny 2002]. In order to better understand why there are differences in privacy concerns among various cultures, a better approach to utilizing Hofstede's culture dimensions would be to examine differences in privacy concerns due to differences in consumer values among various cultures.

REFERENCES

Akhter, S.H. "Who Spends More Online? The Influence of Time, Usage Variety, and Privacy Concern on Online Spending," Journal of Retailing and Consumer Services, Vol. 19, No. 1: 109-115, 2012.

Alge, B.J., G.A. Ballinger, T. Subrahmaniam, and J.A. Oakley, "Information Privacy in Organizations: Empowering Creative and Extrarole Performance," Journal of Applied Psychology, Vol. 91, No. 1: 221-232, 2006.

Alhouti, S., C.F. Musgrove, T.D. Butler, and G. D'Souza, "Consumer Reactions to Retailer's Religious Affiliation: Roles of Belief Congruence, Religiosity, and Cue Strength," Journal of Marketing Theory and Practice, Vol. 23, No. 1: 75-93, 2015.

Allport, G.W. and M.J. Ross, "Personal Religious Orientation and Prejudice," Journal of Personality and Social Psychology, Vol. 5, No. 4: 432-443, 1967.

Ashworth, L. and Clinton, F., "Marketing Dataveillance and Digital Privacy: Using Theories of Justice to Understand Consumers' Online Privacy Concerns," Journal of Business Ethics, Vol. 67, No. 2: 107-123, 2006.

Bellman, S., E.J. Johnson, S.J. Korbin, and G.L. Lohse "International Differences in information privacy concerns: A global survey of consumers. Information Society 20[5], 313-324, 2004.

Boshoff, C. "A Psychometric Assessment of E-S-Qual: A Scale To Measure Electronic Service Quality," Journal of Electronic Commerce Research, Vol. 8, No. 1: 101-114, 2007.

Burroughs, J.E. and A. Rindfleisch, "Materialism and Well‐Being: A Conflicting Values Perspective," Journal of Consumer Research, Vol. 29, No. 3: 348-370, 2002.

Chellappa, D.T. and R. Sin, "Personalization Versus Privacy: An Empirical Examination of Online Consumer's Dilemma," Information Technology and Management, Vol. 6, No. 2: 181-202, 2005.

Cho, C. and H. Khang, "The State of Internet-Related Research in Communications, Marketing, and Advertising: 1994-2003," Journal of Advertising, Vol. 5, No. 3:143-163, 2006.

Cowar, H., Are There Religious Responses to Global Ethical Issues?. In Life Ethics in World Religions (McCance, D.C., Ed), pp 157-171, University of Manitoba Studies in Religion, Winnipeg, Canada, 1998.

Culnan, M.J., "'How Did They Get My Name'? An Exploratory Investigation of Consumer Attitudes Toward Secondary Information Use," MIS Quarterly, Vol. 17, No. 3: 341-363, 1993.

Davis, D. "E-retail Grows 9.8% in 2010, Comscore says," <http://www.internetretailer.com/2011/02/04/e-retail-grows-98-2010-comscore-says>, downloaded on 1 March 2012, 2011.

Delener, N., "The Effects of Religious Factors on Perceived Risk in Durable Goods Purchase Decisions," Journal of Consumer Marketing, Vol. 7, No. 23: 25-38.1990.

Dinev, T. and P. Hart, "An Extended Privacy Calculus Model for E-Commerce Transactions," Information Systems Research, Vol. 17, No. 1: 61-80, 2006.

Earp, J.B., A.I. Anton, L. Aiman-Smith, and W.H. Stufflebeam, "Examining Internet Privacy Policies Within the Context of User Privacy Values," IEEE Transactions on Engineering Management, Vol. 52, No. 2: 227-237, 2005.

Eastlick, M.A., S.L. Lotz, and P. Warrington, "Understanding Online B-to-C Relationships: An Integrated Model of Privacy Concerns, Trust, and Commitment," Journal of Business Research, Vol. 59, No. 8: 877-886, 2006.

Gorsuch, R.L. and S. McPherson, "Intrinsic/Extrinsic Measurement: I/E-Revised and Single-Item Scales," Journal for the Scientific Study of Religion, Vol. 28, No. 3: 348-354, 1998.

Goodwin, C., "Privacy Recognition of a Consumer Right," Journal of Public Policy & Marketing, Vol. 10, No. 1: 149-166, 1991.

Gurău, C. and A. Ranchhod, "Consumer Privacy Issues in Mobile Commerce: A Comparative Study of British, French and Romanian Consumers," Journal of Consumer Marketing, Vol. 26, No. 7: 496-507, 2009.

Handelman, J.M. and S.J. Arnold, "The Role of Marketing Actions with a Social Dimensions: Appeals to the Institutional Environment," Journal of Marketing, Vol. 63, No. 3: 33-38, 1999.

Helft, M, "Anger Leads to Apology from Google About Buzz," <http://www.nytimes.com/2010/02/15/technology/internet/15google.html?_r=1> downloaded on 26 November 2010, 2010.

Hogg, M.A., J.R. Adelman, and R.D. Blagg, "Religion in the Face of Uncertainty: An Uncertainty-Identity Theory Account of Religiousness," Personality and Social Psychology Review, Vol. 14, No. 1: 72-83. 2010

Homer, P. and L.R. Kahle, "A Structural Equation Test of the Value-Attitude-Behaviour Hierarchy," Journal of Personality and Social Psychology, Vol. 54, No. 4: 638-646, 1988.

Hui, K.L., H.H. TEO, and S.Y.T. Lee, "The Value of Privacy Assurance: An Exploratory Field Experiment," MIS Quarterly, Vol. 31, No. 1: 19-33, 2007

Hunsberger, B. and L.M. Jackson, "Religion, Meaning, and Prejudice," Journal of Social Issues, Vol. 61, No. 4: 807-826, 2005.

Junglas, I.A., N.A. Johnson, and C. Spitzmüller, "Personality Traits and Concern for Privacy: An Empirical Study in the Context of Location-Based Services," European Journal of Information Systems, Vol. 17, No. 4: 387-402, 2008.

Kahle, L.R. Social Values and Social Change: Adoption to Life in America. Praeger, New York, NY, 1983.

Karabati, S. and Z. Cemalcilar, "Values, Materialism, and Well-Being: A Study with Turkish University Students," Journal of Economic Psychology, Vol. 31, No. 4: 624-633, 2010.

Kilbourne, W., M. Grünhagen, and J. Foley, "A Cross-Cultural Examination of the Relationship Between Materialism and Individual Values," Journal of Economic Psychology, Vol. 26, No. 5: 624-641, 2005.

Kim J., B. Jin, and J.L. Swinney, "The Role of Retail Quality, E-Satisfaction and E-Trust in Online Loyalty Development Process," Journal of Retailing and Consumer Services, Vol. 16, No. 4: 239-247, 2009.

Kimball, C. When Religion Becomes Evil: Five Warning Signs. HarperCollins, San Francisco, CA, 2002.

Laberecque, L.I., G.R. Milne, J.W. Peltier, and J.E. Phelps, "The Viability of Removing Personal Information From Online White Page Directories: Are Consumer Perceptions Aligned With Reality?" Journal of Consumer Affairs, Vol. 46, No. 2: 345-356, 2012.

Larrain, J., The Concept of Ideology. Hutchinson, London, 1979.

Lee, M.K.O. and E. Turban, "A Trust Model for Consumer Internet Shopping," International Journal of Electronic Commerce, Vol. 6, No. 1: 75-92, 2001

Li, T. and T. Unger, "Willing to Pay for Quality Personalization? Trade-Off between Quality and Privacy," European Journal of Information Systems, Vol. 21, No. 6: 621-642, 2012.

Lindridge, A., "Religiosity and the Construction of a Cultural-Consumption Identity," Journal of Consumer Marketing Vol. 22, No. 3: 142-151, 2005.

Lwin M., J. Wirtz, and J.D. Williams, "Consumer Online Privacy Concerns and Responses: A Power-Responsibility Equilibrium Perspective," Journal of the Academy of Marketing Science, Vol. 35, No. 4: 572-585, 2007.

Madden, M. "Privacy Management on Social Media Sites." Pew Internet Report:1-20, 2012.

Malhotra, N.K., S.S. Kim, and J. Agarwal, "Internet Users' Information Privacy Concerns [IUIPC]: The Construct, the Scale, and a Causal Model," Information Systems Research, Vol. 15, No. 4: 336-355, 2004.

McCole, P., E. Ramsey, and J. Williams, "Trust Considerations on Attitudes towards Online Purchasing: The Moderating Effect of Privacy and Security Concerns," Journal of Business Research, Vol. 63, No. 9: 1018-1024, 2010.

McSweeney, B., "Hofstede' Model of National Cultural Differences and Their Consequences: A Triumph of Faith – A Failure of Analysis," Human Relations, Vol. 55, No. 1: 89-118, 2002.

Miller, A.S. and J.P. Hoffmann, "Risk and Religion: An Explanation of Gender Differences in Religiosity," Journal for the Scientific Study of Religion, Vol. 34, No. 1: 63-75, 1995.

Milne, G.R. and M. Boza, "Trust and Concern in Consumers' Perceptions of Marketing Information Management Practices," Journal of Interactive Marketing, Vol. 13, No. 1: 5-24, 1999.

Milne, G.R. and A.J. Roham, "Consumer Privacy and Name Removal across Direct Marketing Channels: Exploring Opt-In and Opt-Out Alternatives," Journal of Public Policy & Marketing, Vol. 19, No. 2: 238–249, 2000.

Miltgen, C.L. and D. Peyrat-Guillard, "Cultural and Generational Influences on Privacy Concerns: A Qualitative Study in Seven European Countries," European Journal of Information Systems, Vol. 23: 103-125, 2014.

Miyazaki, A.D., "Online Privacy and the Disclosure of Cookie Use: Effects on Consumer Trust and Anticipated Patronage," Journal of Public Policy & Marketing, Vol. 27, No. 1: 19-33, 2008.

Mothersbaugh, D.L., W.K. Foxx, S.E. Beatty, and S. Wang, "Disclosure Antecedents in an Online Service Context: The Role of Sensitivity of Information," Journal of Service Research, Vol. 15, No. 1: 76-98, 2012.

Muncy, J.A. and J.K. Eastman, "Materialism and Consumer Ethics: An Exploratory Study," Journal of Business Ethics, Vol. 17, No. 2: 137-145, 1998.

Nepomuceno, M.V., M. Laroche, and M. Richard, "How to Reduce Perceived Risk When Buying Online: The Interactions between Intangibility, Product Knowledge, Brand Familiarity, Privacy, and Security Concerns," Journal of Retailing and Consumer Services, Vol. 21, No. 4: 619-629, 2014.

Oliver, R. L. and Swan, J. E., "Equity and Disconfirmation Perceptions as Influences on Merchant and Product Satisfaction," Journal of Consumer Research, Vol. 16, No. 3: 372-383, 1989.

Pace, S., "Does Religion Affect the Materialism of Consumers? An Empirical Investigation of Buddhist Ethics and the Resistance of the Self," Journal of Business Ethics, Vol. 112, No. 1: 25-46, 2013.

Park, Y.J., "Digital Literacy and Privacy Behavior Online," Communication Research, Vol. 40, No. 2: 215-236, 2013.

Parr, B., "Google Buzz Surpasses 9 Million Posts and Comments," <http://mashable.com/2010/02/11/google-buzz-9-million/> downloaded on 20 February 2013, 2010.

Pew Research Center's Internet & American Life Project, "Demographics of Internet Users," <www.pewinternet.org/Static-Pages/Trend-Data-[Adults]/Whos-Online.aspx> downloaded on 5 July 2013, 2013.

Phelps, J., G. D'Souza, and G. Nowak, "Antecedents and Consequences of Consumer Privacy Concerns: An Empirical Investigation." Journal of Interactive Marketing, Vol. 15, No. 4: 2-17, 2001.

Phelps, J., G. Nowak, and E. Ferrell, "Privacy Concerns and Consumer Willingness to Provide Personal Information," Journal of Public Policy & Marketing, Vol. 19, No. 1: 27-41, 2000.

Punj, G., "Effects of Consumer Beliefs on Online Purchase Behavior: The Influence of Demographic Characteristics and Consumption Values," Journal of Interactive Marketing, Vol. 25, No. 3: 134-144, 2011.

Qureshi, I., Y. Fang, E. Ramsey, P. McCole, P. Ibbotson, and D. Compeau, "Understanding Online Customer Repurchasing Intention and the Mediating Role of Trust – An Empirical Investigation in Two Developed Countries," European Journal of Information Systems, Vol. 18, No. 3: 205-222, 2009.

Ramsamy, B., M.C.H. Yeung, and A.K.M. Au, "Consumer Support for Corporate Social Responsibility [CSR]: The Role of Religion and Values," Journal of Business Ethics, Vol. 91, No. 1: 61-72, 2010.

Redmond, W.H., "Exploring Limits to Material Desire," Journal of Economic Issues, Vol. 35, No. 3: 575-590, 2001.

Richins, M.L., "The Material Values Scale: Measurement Properties and Development of a Short Form," Journal of Consumer Research, Vol. 31, No. 1: 209-219, 2004.

Richins, M.L. and S. Dawson, "A Consumer Values Orientation for Materialism and its Measurement: Scale Development and Validation," Journal of Consumer Research, Vol. 19, No. 3: 306-316, 1992.

Rokeach, M., The Nature of Human Values. Free Press, New York, NY, 1973.

Román, S., "The Ethics of Online Retailing: A Scale Development and Validation from the Consumers' Perspective," Journal of Business Ethics, Vol. 72, No. 2: 131-148, 2007.

Sánchez Abril., P., A. Levin, and A. Del Riego. "Blurred Boundaries: Social Media Privacy and the Twenty‑First‑Century Employee," American Business Law Journal, Vol. 49, No. 1: 63-124, 2012.

Schaupp, C.L. and F. Bélanger, "A Conjoint Analysis of Online Consumer Satisfaction," Journal of Electronic Commerce Research, Vol. 6, No. 2: 95-111, 2005.

Schröder, M.J.A. and M.G. Mceachern, "Consumer Value Conflicts Surrounding Ethical Food Purchase Decision: A Focus on Animal Welfare," International Journal of Consumer Studies, Vol. 28, No. 2: 168-177, 2004.

Schwartz, S., Universals in the content and structure values: Theoretical advances and empirical tests in 20 countries, in Advances in Experimental Social Psychology [ZANNA M, Ed], pp 1-65, Academic Press, San Diego, CA, 1992.

Sheehan, K.B., "Toward a Typology of Internet Users and Online Privacy Concerns," The Information Society, Vol. 18, No. 1: 21-32, 2002.

Sheehan, K.B. and M.G. Hoy, "Flaming Complaining Abstaining: How Online Users Respond to Privacy Concerns," Journal of Advertising, Vol. 28, No. 3: 375-351, 1999.

Shergil, G.S. and Z. Chen, "Web-Based Shopping: Consumers' Attitude Towards Online Shopping in New Zealand," Journal of Electronic Commerce Research, Vol. 6, No. 2: 80-94, 2005.

Silberman, I., "Religion as a Meaning System: Implications for the New Millennium," Journal of Social Issues, Vol. 61, No. 4: 641-663, 2005.

Singhapakadi, A., J.K. Marta, K.C. Rallapalli, and C.P. Rao, "Toward an Understanding of Religiousness and Marketing Ethics: An Empirical Study," Journal of Business Ethics, Vol. 27, No. 4: 305-319, 2000.

Smith, H.J., T. Dinev, and H. Xu, "Information Privacy Research: An Interdisciplinary Review," MIS Quarterly, Vol. 35, No. 4: 989–1015, 2011.

Smith, H., J. Milberg, and S.J. Burke, "Information Privacy: Measuring Individuals' Concerns about Organizational Practices," MIS Quarterly, Vol. 20, No. 2: 167-196, 1996.

Statista, "Number of Digital Shoppers in the United States from 2010 to 2018 in Millions," < http://www.statista.com/statistics/183755/number-of-us-internet-shoppers-since-2009/> downloaded on 01 July 2015, 2013.

Swinyard, W.R., A. Kau, and H.Y. Phua, "Happiness, Materialism, and Religious Experience in the US and Singapore," Journal of Happiness Studies, Vol. 2, No. 1: 13-32, 2001.

Taylor, H., Most people are "privacy pragmatists" who, while concerned about privacy, will sometimes trade it off for other benefits. The Harris Poll, 17, 19. in The Harris Poll, pp 1-6, Rochester, NY: Harris Interactive, 2003.

Vitell, S.J., "The Role of Religiosity in Business and Consumer Ethics: A Review of the Literature," Journal of Business Ethics, Vol. 90, No. 2: 155-167, 2009.

Ward, S., K. Bridges, and B. Chitty, "Do Incentives Matter? An Examination of On‑Line Privacy Concerns and Willingness to Provide Personal and Financial Information," Journal of Marketing Communications, Vol. 11, No. 1: 21-40, 2005.

Weaver, G.R. and B.R. Agle, "Religiosity and Ethical Behavior in Organizations: A Symbolic Interactionist Perspective," Academy of Management Review, Vol. 27, No. 1: 77-97, 2002.

Xiao, G. and J.O. Kim, "The Investigation of Chinese Consumer Values, Consumption Values, Life Satisfaction, and Consumption Behaviors," Psychology & Marketing, Vol. 26, No. 7: 610-624, 2009.

Xu, H., T. Dinev, J. Smith, and P. Hart, "Information Privacy Concerns: Linking Individual Perceptions with Institutional Privacy Assurance," Journal of the Association for Information Systems, Vol. 12, No. 12: 798-824, 2011

APPENDIX

Construct	Items
Intrinsic Religiosity α = 0.96	My religious beliefs are what really lie behind my whole approach to life
	I try hard to carry my religion over into all my other dealings in life
	Religion is especially important to me because it answers many questions about the meaning in life
	It is important to me to spend periods of time in private religious thought and meditation
Extrinsic Religiosity α = 0.67	A primary reason for my interest in religion is that my house of worship is a congenial social activity
	Occasionally I find it necessary to compromise my religious beliefs in order to protect my social and economic well being
	Although I am a religious person, I refuse to let religious considerations influence my everyday affairs
	It doesn't matter so much what I believe so long as I lead a moral life
Materialism	
Success α = 0.87	Some of the most important achievements in life include acquiring material possessions
	I admire people who own expensive homes, cars, and clothes
	The things I own say a lot about how well I'm doing in life
	I like to own things that impress people
Centrality α = 0.80	I enjoy spending money on things that aren't practical
	Buying things give me a lot of pleasure
	I like a lot of luxury in my life
Happiness α = 0.86	My life would be better if I owned certain things I don't have
	It sometimes bothers me quite a bit that I can't afford to buy all the things I'd like
	I'd be happier if I could afford to buy more things
Privacy Concerns α = 0.88	Companies should devote more time and effort to preventing unauthorized access to personal information
	Computer databases that contain personal information should be protected from unauthorized access-no matter how much it costs
	Companies should take more steps to make sure that unauthorized people cannot access personal information in their computers
Purchase Behavior α = 0.84	How frequently do you make purchases on the Internet?
	When was the last time you made an online purchase?