

## **Understanding new religion-compliant product adoption (NRCPA) in Islamic markets**

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### **Abstract**

This study examines the relationships between religious beliefs, brand personality, and new religion-compliant product adoption (NRCPA) in Islamic markets. Findings confirm that religious consumers tend to behave in accordance with a society or group that follows the same beliefs, and that these consumers' behaviour and lifestyle are influenced by similar religious groups and social relationships. In addition, the more religious the consumer, the more likely they will adopt or favour/disfavour a new product in accordance with his/her religious beliefs. Finally, the three constructs - relative advantages, compatibility and complexity - are found to partially mediate the influential relationship between religious beliefs and new religion-compliant product adoption. International firms that target Muslim markets, with an aim to profit and fit in these markets, must take into account the Islamic values, standards and guidelines.

**Keywords** – Religious beliefs, brand personality, new religion-compliant product adoption, Islamic branding, Muslim market.

## Introduction

A theoretical paper by Stolz and Usunier, (2018) listed some limitations and obstacles for religious marketing and branding. They even stated that consumers in general or even the organisations themselves may not accept religious marketing. However, they may have been looking at the context of Western secular countries. Indeed, many scholars are of the opinion that religious beliefs have a significant impact on religious consumers' behaviour and their purchasing decisions (e.g., Essoo and Dibb, 2004; Rehman and Shabbir, 2010; Sood and Nasu, 1995; Tang and Li, 2015). Mathras et al. (2015) proposed that religion would influence consumer psychology and behaviour. However, despite the impact of religious beliefs on the lives of many people, studies looking at the influence they have on consumer behaviour are still limited (Arham, 2010; Delener, 1990; Essoo and Dibb, 2004). As Sandikci (2011, p. 247) pointed out "in the consumer behaviour and marketing literatures, religion in general is an understudied area."

Furthermore, studies examining the link between Islamic beliefs and consumption are even scarcer. Most of the marketing studies in the Middle-East have focussed on comparing advertising and cultural values between the Middle-East and Western countries, namely the US (e.g., Kalliney et al. 2011; Chun et al., 2015). These studies show that although there are some similarities, there are significant differences in terms of culture. A review of extant literature also reveals a lack of studies with regards to Islamic branding. Alserhan (2010a) points out that there is a vital need for more studies to be conducted that are relevant to Islamic branding in order to understand such a market and the role of religious beliefs in the branding process. This is echoed by Aoun and Tournois (2015) who note that branding in faith-based consumer markets is largely unexplored. According to literature, a brand is considered "Islamic" if (a) the

brand is Sharia (Islamic law) compliant; (b) originate in an Islamic country or (c) targets Muslim consumers. Alserhan (2010a) focussed on the third definition and highlighted that some International brands, which originate from non-Islamic countries, have succeeded in targeting Muslim consumers and satisfying their specific needs.

In view of the gaps in marketing literature on the relationship between Islamic beliefs and consumption behaviour, this study aims to explore the degree of influence of religious beliefs on brand personality and the nature of the linkage between these two concepts. Specifically, this study examines the linkage between religious beliefs and brand personality, in the context of new religion-compliant product adoption (NRCPA). It is suggested that a better understanding of the relationship between religious beliefs, brand personality and NRCPA will advance the knowledge related to the consequences of brand personality and the antecedents of NRCPA.

In this study, brand personality is defined as “the set of human characteristics associated with a brand” (Aaker, 1997, p. 347) and has been viewed by scholars such as Plummer (2000) as the main concept in evaluating and understanding consumers’ selection of products. Brand personality offers guidelines in regard to designing marketing strategies (Geuens et al., 2009), allows firms to distinguish their brands (Molinillo et al., 2017), and strengthens the emotional ties between the brand and existing and potential consumers (de Chernatony and Riley, 1998) to maintain a high level of satisfaction and loyalty (Ong et al., 2017; Siguaw et al., 1999). Bagozzi and Yi (1990), Kotler and Keller (2008) and Lin (2010) have suggested that consumers tend to purchase a brand that reflects a self-concept that matches their own self-concept or personality. Furthermore, extant research in brand personality do not explore the role of factors other than language on brand personality and we contend that a consideration of religious beliefs provides both theoretical and managerial insights.

In addressing the central research question, this study makes a number of contributions. First, an Islamic brand personality measurement instrument is proposed. Second, we propose a new NRCPA measurement that could be used in similar contexts or be the basis for developing other measurements. Third, the study extends the knowledge in the literature with regards to a better understanding of the impact of religious beliefs on brand personality, which in turn has an impact on the procedure of developing new religion-compliant products. Finally, we facilitate a better understanding of the relationship between religious beliefs, brand personality measurement and new religion-compliant products including the mediation effects.

The next section presents a review of the relevant literature and development of the hypotheses. This is followed by a description of the methodology used in the study followed by data analysis and presentation of results. Next section discusses the findings and implications. Finally, the last section presents the limitations of the study and suggestions for future research.

## **Hypothesis Development**

Two important consumer behaviour theories underpin this study, namely, the theory of planned behaviour (TPB) (Ajzen and Fishbein, 1980) and the diffusion of innovations theory (DIT). These two theories have not been previously examined in relation to consumers' behaviour in an Arabian Islamic context. The TPB is a successful extension of the Theory of Reasoned Action (TRA) (Ajzen and Fishbein, 1980; Fishbein and Ajzen, 1975), which was developed to clarify most of people's behaviour; it has been confirmed that TRA is capable of predicting and clarifying human beings' behaviour in different contexts and circumstances (Liao *et al.*, 2007). TRA views a consumer's behaviour as determined by their intention to behave in a certain way (behavioural

intention). TPB has been widely used to explain behaviours across a spectrum of studies in different field such as consumption of products, acceptance and use of ICT, advertising and even shopping. However, several scholars have criticised the theory pointing out that it has several limitations. For example, Manstead and Parker (1995) specifically pointed out that unclear influence of perceived behavioural control in shaping intentions and behaviours and also debated the use of direct versus belief-based measures of TPB constructs. They recommended extending the theory to overcome these issues. In an editorial, Sniehotta et al (2014) went as far as saying that it was time to "retire the TPB" mentioning that experiments have not supported the theory's assumptions. In response, Ajzen (2015) defended the theory claiming that arguments were baseless and due to poor understanding of the theory. Many authors have gone on to extend the model by incorporating other theories/ models to the TPB. As mentioned earlier, this study presents an extended model that incorporates both the TPB and DIT models.

Regarding DIT, Rogers (1995, p. 163) explained diffusion of innovation as “the process through which an individual (or other decision-making unit) passed from first knowledge of an innovation, to forming an attitude towards the innovation, to a decision to adopt or reject, to implementation of the new idea, and to confirmation of this decision.” Thus, the DIT is regarded as one of the essential theories that enable researchers to explore and understand human adoption behaviour (Abbasi, 2011).

### ***Religious Beliefs, Islamic Brand Personality and NRCPA***

As highlighted by Saroglou (2011), religious beliefs can vary greatly across cultures and religions, in the way consumers formulate their belief systems. In the context of this paper, religious beliefs refer to the religiosity of a person, as given by Rehman and

Shabbir (2010). They in turn adopted the definition from Glock (1972) who defined it as a multidimensional construct comprising of: ideological, ritualistic, intellectual, consequential, and experimental. We feel that religious beliefs are a combination of these five dimensions which include The ideological: the overall beliefs associated with the religion; the rituals such as praying 5 times, fasting, etc. Intellectual: referring to the overall knowledge about religion; consequential: which refers to the overall importance of the religion in the life of the believer and finally, experimental: which relates to the practicality of the religion.

Some studies have shown that religious beliefs have a positive influence on people's personalities and behaviour (Cukur *et al.*, 2004; Ellison *et al.*, 1989; Kau, 2004; Hood *et al.*, 2009). For example, Plummer (2000) emphasised that human personality traits are gained from individuals' behaviour, attitudes and beliefs. Since beliefs influence personality traits, it is thus expected that brand personality, which is based on human personality traits and beliefs, would also influence behaviour of religious consumers.

Previous studies also argue that religious beliefs reflect personalities. Shachar *et al.* (2011, p. 5) argued that the self-expressive advantage is provided by religious beliefs. They mentioned that, "brands are certainly not the only way that individuals can express their self-worth. One's level of religiosity may also play a role in the expression of self-worth." The view that religious beliefs can enhance the self-schema of an individual is supported by academics such as Crocker *et al.* (2003) and Francis (2005). According to Shachar *et al.* (2011), extant literature on religiosity and self-expression reveal that brands and religious beliefs, enable people to reflect characteristics of their personalities and express their emotions. Shachar *et al.* (2011, p. 5) added that, "it seems reasonable to expect that brands and religiosity will serve as



substitutes for one another when it comes to the expression of self-worth.” Al-hajla et al (2018) also pointed out the possibility that religious beliefs may play a significant role in the development of Islamic brands. Thus, this study proposes that religious beliefs would significantly influence the development of brand personality, particularly in religious markets such as the Islamic group of nations which includes countries like Saudi Arabia, where there is a high demand for Sharia-compliant (halal) brands. Since religiosity or religious beliefs can be used as self-expression, and brand personality is developed based on personality characteristics, then it is logical to argue that religion would impact the brand personality via religious personality characteristics and this leads to what this study terms as Islamic brand personality. This leads to the first hypothesis:

***H1:*** Religious beliefs and Islamic brand personality are positively related.

Delener (1994) suggested that religious beliefs can influence consumers’ behaviour, including their adopting or trying a new product. It is now widely accepted that religious beliefs/religion/religiosity (all synonymous) strongly influence different social aspects of people’s lives. Religious beliefs shape the consumers’ perception towards the favourableness and unfavourableness of various products, and they may decide to adopt or try products or services that do not contradict their religious beliefs (Alam and Sayuti, 2011; Alam *et al.*, 2011; Mokhlis, 2009; Lada *et al.*, 2009). Azam *et al.* (2011, p. 2) stated that “religiosity and adoption of new product have a very close relationship.” According to him, the way new products are promoted need to be modified and presented in accordance with the spiritual and religious beliefs and practices, in markets where the consumers are more religious. This, indicates that consumers’ adoption decision process encourages adoption of products that match their

religious teachings. While looking at the literature on Islamic branding, religious beliefs and religious-compliant production adoption, Al-hajla et al. (2018), suggested that adoption of new products is influenced by religious teachings/ beliefs and recommended that this should be tested empirically. Based on the literature and in relation to the important role that religious beliefs play in consumers' social behaviour and economic behaviour (e.g. favouring and adopting certain products) towards products or brands that are religious-compliant or not, the following hypothesis is proposed:

**H2:** Religious beliefs and NRCPA are positively related.

### ***Islamic Brand Personality and NRCPA***

In relation to on the symbolic function of brands, Bosnjak *et al.* (2007) stated that a large number of scholars have concluded that consumers tend to prefer brands that match their personality (e.g., Nguyen *et al.*, 2016). Aaker (1996) argued that brand personality is the closest dimension to the purchasing/adoption decision-making process. According to Guthrie (2008), brand personality focuses on the uniqueness of relations in social actions and provides the brand with a higher position in the memory of consumers and builds senses of friendship and belonging towards brands. This leads to the following hypotheses:

**H3a:** Islamic brand personality is positively related to NRCPA.

On the other hand, Shachar *et al.* (2011) argued that literature on religiosity and self-expression, have identified that brands and religious beliefs similarly enable people to reflect characteristics of their personalities and express their emotions. Therefore, it was concluded by Shachar *et al.* (2011, p. 5) that “it seems reasonable to expect that brands and religiosity will serve as substitutes for one another when it comes to the

expression of self-worth.” This indicates that consumers may be more likely to adopt new products that reflect and match their personality characteristics, which are in turn shaped by their religious beliefs. Thus it is highly plausible that Islamic brand personality plays a mediating role and this leads to the following hypothesis:

**H3b:** Islamic brand personality mediates the relationship between religious beliefs and NRCPA.

### ***Religious Beliefs, DIT and NRCPA***

Few studies on religious beliefs’ impact on adoption of new products (Azam *et al.*, 2011; Gerrard and Cunningham, 2003; Rehman and Shabbir, 2010) conclude that religious beliefs are linked to adoption of new innovation. However, there are several gaps in the body of knowledge. According to Rehman and Shabbir (2010), for markets with religious consumers, new innovations/products and their promotion campaigns must be designed according to the targeted consumers’ religious teachings and values. Azam *et al.* (2011, p. 2) pointed out that though it was evident from past research that religion affects the diffusion of Innovation, there was a lack of evidence with regards to the relationship between religiosity and rate of diffusion of Innovation. Thus this research examined a part of diffusion of innovation/ adoption examined in relation to religious beliefs and new product adoption, namely the *perceived attributes of innovation* which are based on five factors. Three of the factors accounts for about 70% of new innovations’ perceived attributes, namely, relative advantages (RA), compatibility (COM1) and complexity (COM2). Therefore, the present study is limited to investigating the relationship between religious beliefs and RA, COM1 and COM2, to better understand how religious consumers (religious Muslims) adopt new innovations or products.

Relative advantage (RA) is explained as the degree to which the new innovation is perceived to be better than the existing products (Rogers, 1995). Furthermore, scholars such as Rogers (1995) and Gerrard and Cunningham (2003) also determined that consumers perceive RA in relation to their own economic benefit and desired social status satisfaction, which can be viewed as factors that seem to be arranged under the RA construct. Thus we propose the following hypothesis:

**H4:** Religious beliefs and RA are positively related.

Previous studies have indicated that RA has a direct influence on the adoption of innovation (Rogers, 1995). However, this relationship has not really been tested in the context of religion-compliant products, though theoretically it should have a positive and direct relationship as well. Moreover, as highlighted above, few scholars have indicated that religious beliefs may influence adoption of new products, which they see as beneficial as long as these products do not contradict their beliefs (Alam and Sayuti, 2011; Azam *et al.*, 2011). This may indicate that RA mediates the relationship between religious beliefs and adoption of new products. Thus we have the following hypotheses:

**H5a:** RA and NRCPA are positively related.

**H5b:** RA mediates the relationship between religious beliefs and NRCPA.

Relative advantage refers to the possible benefits from adopting a certain product, including economic benefits, improved social status, improved image/personality reflection, convenience or satisfaction. Thus, the greater the relative advantage expected when adopting a new product, the more likely that the new product will be adopted (Chou *et al.*, 2012; Taylor and Todd, 1995). The desired personality reflection can be regarded as one of the relative advantages of a new product, which represents

the desired personality of consumers, for example compliance with Islamic beliefs. This implies that there is a possible positive relationship between Islamic brand personality and relative advantage, and therefore, the following hypothesis is proposed:

**H6:** Islamic brand personality and RA are positively related.

The next construct is compatibility (COM1) which was defined by Rogers (1995) as the degree to which an innovation is viewed or perceived to be consistently matching the demands and values of targeted consumers. This would presumably include religious values, COM1 was regarded by Gerrard and Cunningham (2003) as a construct that evaluates an innovation's ability to match the needs of the consumers. It is assumed that for religiously motivated consumers, one of the needs is compliance with religious beliefs. Therefore, the following hypothesis is set forth:

**H7:** There is a positive relationship between religious beliefs and compatibility.

Compatibility refers to the extent to which an innovation is perceived as being consistent with the existing values, demands or needs, inner beliefs and past experiences of potential consumers (Moore and Benbasat, 1996). Rogers (1995) concluded that compatibility was positively related to the decision on adoption of a new innovation based on its nature. Therefore, the greater the perceived compatibility of a new product, the greater the likelihood that consumers will adopt the product (Chou *et al.*, 2012). Therefore, the following hypotheses are set forth:

**H8a:** Compatibility positively influences NRCPA.

**H8b:** Compatibility mediates the relationship between religious beliefs and NRCPA.

The complexity construct (COM2) was identified by Rogers (1995) as the degree to which a certain innovation/new product is seen to be not matching the needs and values of potential consumers, so they believe that it is difficult to use and consequently to adopt. According to this definition, COM2 is usually employed to evaluate the anticipated utility and simplicity when the innovation is used (Gerrard and Cunningham, 2003). According to Rogers (1995), COM2 was found to be negatively related to the innovation adoption rate. Therefore, this research investigates the relationship between religious beliefs (RB) and COM2 as one of the constructs that predict the rating of a new innovation's perceived characteristics because it reflects the possible difficulty or disadvantages related to a new product and what extent they are compliant with Islamic values. Thus, the following hypothesis is proposed:

**H9:** Religious beliefs and complexity are positively related.

In general, “the simpler an innovation is to understand and use, the more likely it is to be adopted.” (Taylor and Todd, 1995a, p. 5), therefore, complexity was argued to have a negative impact on innovation adoption (Chou *et al.*, 2012; Herrero and del Bosque, 2008; Seligman, 2006). Thus, in the context of the present study, the following hypotheses are set forth:

**H10a:** Complexity negatively influences NRCPA.

**H10b:** Complexity mediates the relationship between religious beliefs and NRCPA.

### ***Religious Beliefs, Subjective Norms and NRCPA***

The indicator of social factors on consumers' behaviour is the subjective norm construct of the TPB (Ajzen, 1991). Subjective norm explains the social pressure on individuals

to behave in accordance with teachings or values that their reference groups (e.g. religious groups) or community follow (Ajzen, 1991). Herrero and del Bosque (2008) stated that subjective norm represents how a consumer is influenced by the perception of referents important to him or her. It was concluded by George (2004, p. 7) that “an individual’s normative structure, i.e. his or her beliefs about what important others think about the behaviour in question, should directly influence his or her subjective norms, or perceptions of the social pressure to comply with expectations about engaging in the behaviour. Subjective norms should in turn influence the individual’s proclivity to engage in the behaviour. If social expectations are that people should engage in the behaviour in question, then the individual should be more likely to do so.” Thus, for the context of the present study, we propose that:

***H11:*** Religious beliefs and subjective norm are positively related.

A few previous studies have proposed that subjective norms influence consumers’ behaviour (e.g. Alam and Sayuti, 2011; Liza, 2011; Lada *et al.*, 2009). These studies have hypothesised that religious individuals are expected to intend to perform a behaviour that is admired and favoured by people who are important to them (e.g. family, friends, religious people and colleagues), which causes preference for religious products or services (e.g. halal branded products or services). Fam *et al.* (2004) argued that society’s beliefs and subjective norms cannot be neglected in relation to consumer behaviour. Also, it has been proposed that consumers’ society might be regarded as a vital factor that impacts consumers’ attitude (Ajzen and Fishbein, 1980). Thus, we propose the following hypotheses:

***H12a:*** Subjective norms positively influence NRCPA.

**H12b:** Subjective norms mediate the indirect relationship between religious beliefs and NRCPA.

Moreover, Reed (2004) and Thorbjørnsen *et al.* (2007) suggested that subjective norms influence on intention to behave in a specific way is mediated by social identity expressiveness. Haque *et al.* (2015) showed that subjective norms, which they equated with social influence, had a significant impact on non-Muslims' perception of halal food products in Malaysia. This leads to the next hypothesis:

**H13:** Subjective norms and Islamic brand personality are positively related.

### ***Religious Beliefs, Perceived Behaviour Control and NRCPA***

Ajzen (1991) identified perceived behaviour control as the degree to which an individual feels able to act or behave in a certain way. This construct of the TPB is determined through two features: the degree to which an individual can control his/her behaviour, and how confident is he/her feels about performing or not performing certain behaviour. It is indicated by the person's beliefs about the influence of both situational and inner aspects in facilitating the performance of the behaviour. The more an individual feels he/she has control over adopting a certain new product/brand, the higher the probability that he/she will behave favourably toward adopting the new product/brand. In the case of religious consumers' (e.g. Muslims') perceived behaviour control, a few studies (e.g. Alam and Sayuti, 2011; Bonne *et al.*, 2007; Lada *et al.*, 2009; Liza, 2011) proposed that consumers find better behaviour control when adopting or purchasing products that comply with their spiritual values, as discussed earlier in the literature. Thus, it is hypothesised that:

**H14:** Religious beliefs and perceived behaviour control are positively related.



Haque et al. (2015) also indicated that perceived behaviour control had a significant positive relationship with intention of non-Muslim Malaysian consumers' to purchase halal food products. Thus it is highly likely that perceived behaviour control would directly influence the adoption of new products in the context of Muslim consumers. Furthermore, as we have earlier proposed that religious beliefs and NRCPA are directly related (H2) based on the past literature (e.g., Al-hajla et al., 2018), there is a possibility that perceived behaviour mediates the relationship between religious beliefs and NRCPA. This leads to the following hypotheses:

**H15a:** Perceived behaviour control and NRCPA are positively related.

**H15b:** Perceived behaviour control mediates the relationship between religious beliefs and NRCPA.

Figure 1 shows our conceptual model.

Insert Figure 1 here.

## **Research Methods**

We collected data from a sample drawn from Saudi consumers. Prior to the main survey, two focus groups and a pilot study were held to test the research instrument for content and face validity. Each focus group consisted of eight people, which included experts in marketing management and Saudi PhD students, while the pilot included 12 Muslim researchers and postgraduates who were familiar with marketing. These focus groups were structured, taking place in three steps (warm-up, confrontation and relaxation), and included a facilitator and a recorder (note taker). Thereafter, a pilot survey was undertaken and the participants were asked to carefully view and complete the survey and report any issues they came across. They reported some critical issues and suggestions to the measures and design of the survey.

As highlighted by Aichner & Shaltoni (2018), carrying out market research work in Saudi Arabia can pose several issues and they recommended online data collection methods. However, following Wakefield and Baker (1998), this study used the mall intercept technique to collect data, in the three largest cities - Riyadh, Jeddah and Dammam, in order to capture perceptions of a wide range of Saudi consumers. Questionnaires were administered over a period of two and half months from June until September in 2012. Participants were asked to select a brand (or both) that they were familiar with from the two options provided, prior to commencing the questionnaire. 352 useable questionnaires were collected. The sample consisted of 210 females (59.7%) and 142 males (40.3%), with a majority between ages of 26-35 (44.6%). More than half, held a Bachelors' degree or equivalent (52.3%), with an income level of SR6.000-SR11.000 (41.5%). This income level is in line with the GDP of Saudi Arabia, which is around USD 9913 per capita (World Bank, 2015).

All measures utilised a seven-point Likert scale, ranging from '1: Agree Very Strongly, '2: Strongly Agree, '3: Agree, '4: Not Sure, '5: Disagree, '6: Strongly Disagree and 7: Disagree Very Strongly'. To measure *brand personality* and to rate the level of respondents' religiosity in Saudi Arabia, 27 items, depicting the four dimension of modernity, religiosity-minority, traditional and sensibleness, were adopted from Al-Hajla (2013). To measure *TPB*, 10 items were adopted from Ajzen (1991), George, (2004), and Lada *et al.* (2009), measuring attitudes, subjective norms, and perceived behavioural control. *DIT* (Rogers, 1976, 1995) was operationalised using 9 items, measuring relative advantage, compatibility and complexity. Based on Rehman and Shabbir's (2010) measures that are designed to measure the religiosity of a person, the construct *religious beliefs* in this study were measured using 7 items. Finally, to measure the *NRCPA*, the items were adopted from Liza (2011), Rehman & Shabbir

(2010) and Wang *et al.* (2008) and consisted of 5 items. To take into account that fact that most Saudi citizens have a low levels of English proficiency (Aichner & Shaltoni, 2018), the questionnaire which was initially developed in English, was translated into Arabic following procedures outlined by Usunier and Lee (2005).

## **Data Analysis and Results**

The scales were first subjected to exploratory factor analyses. Principal axis-factoring with promax rotation showed that most items loaded heavily on the factors they were intended to and confirmed the dimensionality of the study constructs. PLS-SEM was used to analyse the data for this study. The PLS-SEM approach is used for explaining and predicting relationships and we are indeed testing the theoretical relationships and thus the causality as well. As highlighted by Hair *et al.*, (2014) bias is reduced by using this approach, as the bootstrapping procedure makes no assumptions about the nature of the constructs' distribution or the sampling distribution. Moreover, the mediated relationships are examined concurrently and not individually

As shown in Table 1 all the composite reliability (CR) values of the outer-model's constructs and the Islamic brand personality (IBP) scale's four dimensions exceeded the recommended threshold of 0.70 (Fornell and Larcker, 1981). Here outer-model refers to the measurement model. Normally, the measurement model is tested to assess the reliability and validity of the measurement instruments; in the second stage, the structural model was evaluated to examine the hypothesised relationships (Anderson and Gerbing, 1988). The values as presented in Table 1 were 0.94 for BP, 0.82 for compatibility, 0.56 for complexity, 0.85 for NRCPA, 0.75 for perceived behavioural control, 0.88 for relative advantage, 0.75 for religious beliefs and 0.90 for subjective norms. Therefore, the proposed scales for measuring IBP and measures of

subjective norms, religious beliefs, perceived behavioural control, RA, compatibility, complexity and NRCPA in the Islamic world are reliable.

Insert Table 1 here.

The convergent validity was estimated by two unique approaches for the conceptual model's constructs. First, based on Steenkamp and Van Trijp (1991) an instrument with item loadings  $\geq 0.50$  is regarded as valid. Therefore, since the FL cut-off point adopted by this study was greater than or equal to 0.50, the produced outer-model can be regarded as valid. The second approach involved estimating the Average Variance Extracted (AVE) validity individually for each of the outer-model's constructs (Fornell and Larcker, 1981). Accordingly, as reported above in details, all the AVE for each of the eight constructs of the outer-model was  $> 0.50$ , except for one construct, IBP, which produced an AVE value of 0.39, which is  $< 0.50$ . These results indicated that the conceptual model's constructs resulted an acceptable convergent validity for seven constructs 'religious beliefs= $> 0.50$ , subjective norms= $> 0.69$ , perceived behavioural control= $> 0.68$ , relative advantage= $> 0.80$ , compatibility= $> 0.84$ , complexity= $> 0.68$  and NRCPA= $> 0.69$ ' out of eight, whereas the AVE for 'BP= $> 0.39$ ' was not satisfactory (Fornell and Larcker, 1981; Hair *et al.*, 1998; McDonald and Ho, 2002). The IBP scale dimensions' AVEs were indicated to be satisfactory by the PLS findings and they were as follows: dimension M= $> 0.56$ , dimension R.M= $> 0.62$ , dimension TRAD= $> 0.73$  and dimension U.A= $> 0.72$ . Discriminant validity is confirmed as the lowest diagonal element values are greater than off-diagonal element values (Fornell and Larcker, 1981). In other words, as the obtained AVE is greater than the squared pairwise correlations between two variables, it can be stated that the discriminant

validity is obtained. Thus, it can be concluded that the discriminant validity of the outer-model eight constructs, including the IBP sub-dimensions are confirmed.

### ***The Structural Model***

The 'structural model' presents the relationships between latent variables. Thus the hypothesised relationships among endogenous and exogenous latent variables can be examined (Götz *et al.*, 2010; Hair *et al.*, 2012; Henseler *et al.*, 2009), using various indicators which are produced by bootstrapping techniques, include path coefficients, significance of path coefficients and  $R^2$ . In this study,  $R^2$  values of the endogenous latent variables that exceeded or equalled 0.20 it are considered to be high and the lower values to be moderate or weak. The results indicated that the  $R^2$  values ranged between 0.034 and 0.555.

The path coefficients were evaluated via employing the PLS Bootstrap method in Smart PLS 2.0 M3 since it was considered to be the most efficient method in PLS (Chin, 1998). In the present study the PLS bootstrap method was employed with 5000 samples, which is much greater than the number of valid observations of this study and as advised by Hair *et al.* (2012). Based on the obtained bootstrap evaluation, the highest significant relationship was between religious beliefs towards perceived behavioural control with  $\beta = .409 = 41\%$  and  $t$  value= 8.204, and the lowest significant relationship was between BP and NRCPA with  $\beta = .067 = 7\%$  and  $t$  value= 1.701. Please refer to Table 2 for the results of more hypothetical relationships. The assessment of the path coefficients significance of the model are according to  $t = 2.326$  at  $***p < 0.01$ ,  $t = 1.96$  at  $**p < 0.05$  and  $t = 1.64$  at  $*p < 0.10$  (Hair *et al.*, 2006, p. 390). As PLS is unable to produce an index that evaluates the overall fit of the hypothesised model (Hulland, 1999), the goodness of fit criterion was employed in this study to further indicate the

validity of the model produced via PLS-SEM and the benchmarks for it were adopted from the recommendation of Wetzels *et al.* (2009). Thus, the goodness of fit results in the present study was assessed according to the following criteria:  $\text{GoF} \geq 0.36$  regarded as high,  $\text{GoF} \geq 0.25$  regarded as moderate and  $\text{GoF} \geq 0.1$  regarded as low. In assessing the goodness of fit, the results revealed that the goodness of fit of the present study's model was within the moderate level with a value of 0.320  $\rightarrow$  32%, therefore, the model of this study was accepted at moderate rank (Chin, 1998; Wetzels *et al.*, 2009; Götz *et al.*, 2010).

Insert Table 2 here.

As shown in Table 2, the proposed hypothesised positive influential relationship between religious beliefs and IBP, indicated as religious beliefs towards IBP (H1), was determined to be not statistically significant; thus it was rejected. Therefore, the positive influence of religious beliefs on IBP was not evident in this study's original dataset. In regards, to the hypothesised influence of religious beliefs on subjective norms (H11), this was statistically significant at  $P < 0.01$ . Therefore the hypothesised influence of religious beliefs on subjective norms was accepted based on the original dataset. The positive influence of religious beliefs on perceived behavioural control (H14) was proved to be supported and thus this hypothesis was accepted, with a significance level of  $p < 0.01$ . Next the hypothesised positive impacting link directed from religious beliefs to NRCPA (H2) was observed to be significant at  $p < 0.05$ . The following hypothesis was based on a positive impact of religious beliefs on relative advantages (H4), and it was accepted due to the observed significant t-test at  $p < 0.01$ . The hypothesised positive effect relationship from religious beliefs to compatibility (H7)

was accepted with a significance level of  $p < 0.01$ . As for the hypothesis that religious beliefs positively impacts complexity (H9), this was statistically significant at  $p < 0.001$ , but the hypothesis was rejected due to the negative influence from religious beliefs to complexity. The proposed positive influence of IBP on relative advantages (H6) was accepted with significance  $p < 0.01$ .

### ***Mediating Effects***

The procedure of mediation testing was done via two steps: First, the PLS algorithm was run on the sub-model both with and without the mediator included. This step allowed the researcher to obtain the path coefficients for the direct link with and without the mediator. Second, the PLS bootstrapping method was conducted in order to obtain the  $\beta$  and the SE for the paths from A to B and from B to C (Sobel, 1982; Soper, 2013). Therefore, to sum up what presented above Bontis *et al.* (2007, p. 11) stated that “Mediation exists if the coefficient of the direct path between the independent variable and the dependent variable is reduced when the indirect path via the mediator is introduced into the model.” Table 3 summarises the mediation hypothesised results.

Insert Table 3 here.

### **Discussion**

This study aimed to better understand the influential role that religious beliefs may possibly play in relation to brand personality, subjective norms, relative advantages, compatibility, complexity, perceived behavioural control and adopting new products.

The findings are as follows: first, it was observed that religious beliefs have a statistically positive and significant influence on subjective norms, relative advantages, compatibility, complexity, perceived behavioural control and new religion-compliant

product adoption. Second, it was found that religious beliefs have a statistically positive influence on brand personality. Finally, it was observed that religious beliefs have a statistically negative and significant influence on complexity. In relation to the influence of religious beliefs on subjective norms, perceived behavioural control and new religion-compliant product adoption, this study's results match those reported previously (e.g. Alam and Sayuti, 2011; Lada *et al.*, 2009; Liza, 2011). However, this study differed from the earlier studies since it was conducted in a country, which is considered very conservative in the religious context. This strengthens the relations and roles of religious beliefs, subjective norms, perceived behavioural control and new religion-compliant product adoption (Hood *et al.*, 2009; Mittelstaedt, 2002). With regards to the influence of religious beliefs on relative advantages, compatibility and complexity, the findings matched the theoretical expectations of this study in accordance with some previous studies (e.g. Azam *et al.*, 2011; Gerrard and Cunningham, 2003; Rogers, 1976, 1995). Consequently, the combination of original and incremental contributions related to the influence of religious beliefs provides a base for research towards understanding the behaviour of religious consumers and factors and circumstances which may influence activities such as shopping.

TPB was one of the theoretical bases for this study. This study extends the TPB and thus contributes to literature by providing a better understanding of the mediating roles that brand personality, subjective norms and perceived behavioural control, play in the indirect relationship between religious beliefs and new religion-compliant product adoption in an Islamic context. First, this study assumes that subjective norms may influence brand personality since it is indicated that subjective norms influence human personality (e.g. Fennis and Pruyn, 2007; Fiske and SL, 1990). Consequently, this study found empirical evidence that subjective norms positively and significantly



impacts brand personality. Second, the mediating roles of brand personality, subjective norms and perceived behavioural control between religious beliefs and new religion-compliant product adoption were empirically examined by this study. Subjective norms were observed to partially mediate the effect of religious beliefs on new religion-compliant product adoption; brand personality did not mediate the relationship between religious beliefs and NRCPA, which contradicts previous studies. Next, this study observed that perceived behavioural control partially mediates the relationship between religious beliefs and NRCPA, and was found to be the strongest mediator of the three constructs used in TPB. This is explained in relation to the conservative nature of Islamic society with its high-power distance index rating (Mooij and Hofstede, 2010), where people who are regarded as important in society by consumers, often have a strong influence on various aspects of the society. Third, DIT has hardly ever been used in a similar context to that of the current study. This was an additional motivation to use DIT combined with TPB in order to understand the behaviour of the consumers in this context. This study is one of the very few that have integrated both TPB and DIT (Moore and Benbasat, 1996). This study was also the first to investigate the mediation role of relative advantage, compatibility and complexity between religious beliefs and new religion-compliant product adoption. The findings are that the three constructs of relative advantages, compatibility and complexity partially mediate the influential relationship between religious beliefs and NRCPA. Accordingly, these findings offer an additional perspective of DIT in understanding exactly how religious beliefs cause consumers to behave in relation to marketing activities. This study would hopefully encourage other researchers to theoretically examine other factors that may potentially contribute to the effect of religious beliefs on NRCPA.

### ***Limitations and Future Research Recommendations***

The study recognises a few limitations in relation to methodology and context that could be addressed in forthcoming studies, as follows. First, this study only collected data from only the three largest cities in Saudi Arabia. This sampling can be extended to other cities to obtain a better representation the different segments of society equally. Forthcoming studies are encouraged to employ a random or stratified sampling approach in order to obtain a balanced sample that would be more reflective of the context. Second, future studies should replicate the proposed conceptual model in different Islamic contexts, which will help in assessing the generalisability of the proposed model. For example, cultures may influence the various factors towards NRCPA. We also recommend **that this study** may be replicated in other countries with multi-religious, multi-ethnic consumer groups, to examine whether religion or ethnicity has an impact towards NRCPA, for example, that of non-Muslims towards Halal certified products. Finally, this study indicated differences between two groups with the same demographic factor of gender: men were observed to be adopting new brands or products quite differently from women. Therefore, investigating an additional demographic factor such as education, and investigating more deeply the motives behind the different results obtained for the mediation effect of religious beliefs towards BP/IBP and the reasons why men adopt new brands or products differently from women, would be an interesting and vital theoretical contribution to contextual literatures.

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**Table 1:** CRs, AVEs, AVEs' Roots, Inter correlation between constructs

Con/Dim	AVE	$\sqrt{\text{AVE}}$	Composite Reliability	IBP	COM1	COM2	M	NRCPA	PBC	R.M	RA	RB	SN	TRADI	U.A
IBP	0.39	0.62	0.94	1.00											
COM1	0.84	0.92	0.92	0.12	1.00										
COM2	0.68	0.80	0.81	0.10	-0.27	1.00									
M	0.56	0.75	0.95	0.94	0.12	0.13	1.00								
NRCPA	0.69	0.82	0.89	0.23	0.51	-0.40	0.18	1.00							
PBC	0.58	0.82	0.85	0.22	0.48	-0.30	0.20	0.62	1.00						
R.M	0.62	0.79	0.89	0.62	0.08	-0.01	0.43	0.22	0.13	1.00					
RA	0.80	0.89	0.92	0.21	0.61	-0.29	0.19	0.58	0.52	0.17	1.00				
RB	0.50	0.75	0.83	0.15	0.21	-0.18	0.14	0.40	0.41	0.07	0.29	1.00			
SN	0.69	0.83	0.87	0.19	0.41	-0.34	0.16	0.57	0.59	0.10	0.50	0.38	1.00		
TRADI	0.73	0.85	0.93	0.57	0.10	0.00	0.35	0.21	0.19	0.28	0.18	0.11	0.16	1.00	
U.A	0.72	0.85	0.88	0.70	-0.06	0.12	0.63	0.02	0.06	0.34	0.03	0.08	0.11	0.27	1.00

**Note:** Islamic Brand personality 'IBP', Religious beliefs 'RB', Subjective norms 'SN', Perceived behavioural control 'PBC', Relative advantages 'RA', Compatibility 'COM1', Complexity 'COM2' and New religious compliant products adoption 'NRCPA'.



**Table 2:** Path Coefficients and the Hypothesised Relationships Testing of Conceptual Model

Hypothesis	Relationship/Direction	Path Coefficients/Sign	T-tests	Decision
H1	RB → IBP	(+) 0.091	1.362	Not supported
H2	RB → NRCPA	(+) 0.101**	2.068	Supported
H3a	IBP → NRCPA	(+) 0.086**	2.164	Supported
H4	RB → RA	(+) 0.260***	4.790	Supported
H5a	RA → NRCPA	(+) 0.190***	3.222	Supported
H6	IBP → RA	(+) 0.171***	4.790	Supported
H7	RB → COM1	(+) 0.214***	3.998	Supported
H8a	COM1 → NRCPA	(+) 0.123*	2.151	Supported
H9	RB → COM2	(-) 0.185***	3.642	Not supported
H10a	COM2 → NRCPA	(-) 0.169***	3.316	Not supported
H11	RB → SN	(+) 0.381***	7.463	Supported
H12a	SN → NRCPA	(+) 0.166**	2.252	Supported
H13	SN → IBP	(+) 0.155***	2.714	Supported
H14	RB → PBC	(+) 0.409***	8.390	Supported
H15a	PBC → NRCPA	(+) 0.259***	4.589	Supported

**Note:** Islamic Brand personality 'IBP', Religious beliefs 'RB', Subjective norms 'SN', Perceived behavioural control 'PBC', Relative advantages 'RA', Compatibility 'COM1', Complexity 'COM2', New religious compliant products adoption 'NRCPA' Significance level \*\*\*p<0.01 (t= 2.326), \*\*p<0.05 (t= 1.96) and \*p<0.10 (1.64) and two-tailed probability test. Degree of freedom (5000). Sign changes (no sign changes).

**Table 3:** Hypothesised Mediation Results via PLS algorithm, PLS bootstrapping and Sobel test

Hypothesis	Relationship/Direction/ (Mediation)	Significance	Z-value	Decision
H3b	RB →(IBP)→ NRCPA	No	1.194	Not Supported
H5b	RB →(RA)→NRCPA	Yes	4.706	Supported
H8b	RB →(COM1)→NRCPA	Yes	3.768	Supported
H10b	RB →(COM2)→NRCPA	Yes	3.286	Supported
H12b	RB→(SN)→NRCPA	Yes	5.955	Supported
H15b	RB→(PBC)→NRCPA	Yes	6.237	Supported

**Note:** Islamic Brand personality 'IBP', Religious beliefs 'RB', Subjective norms 'SN', Perceived behavioural control 'PBC', Relative advantages 'RA', Compatibility 'COM1', Complexity 'COM2', New religious compliant products adoption 'NRCPA'. Sobel test (z) Significance level > 1.96 and two-tailed probability test <0.05. Degree of freedom (5000). Sign changes (no sign changes).

**Figure 1:** Conceptual Model of the Study

