THE IMPACT OF WEBSITE CHARACTERISTICS ON WEBSITE STICKINESS:
A MODERATED-MEDIATION MODEL OF TRUST

by

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It is said that embarking on a PhD degree can be a long and painful process marked by blood, sweat and tears. While I do not contest to that, I am inclined to think of it more as a character-refining process that leads to self-discovery, personal growth and a humbled appreciation for the people around us. *No man is an island, entire of itself* and thus, I would like to acknowledge the significant individuals involved who have helped, encouraged and believed in me throughout the pursuance of this doctorate degree.

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LIST OF ABBREVIATIONS

AGFI	Adjusted Goodness-of-fit Index
AMOS	Analysis of Moment Structures
ANOVA	Analysis of Variance
AVE	Average Variance Extracted
B2C	Business-to-Customer
CFA	Confirmatory Factor Analysis
CFI	Comparative Fit Index
DV	Dependent Variable
EFA	Exploratory Factor Analysis
FAQ	Frequently Asked Questions
GFI	Goodness-of-fit Index
HTML	Hypertext Markup Language
ICT	Information and Communication Technology
IS	Information Systems
ISBN	International Standard Book Number
IT	Information Technology
IV	Independent Variable
MBA	Master of Business Administration
MBTI	Myer-Briggs Type Indicator
MedV	Mediating Variable
MLE	Maximum Likelihood Estimation
MODMED	Moderated-Mediation
MoTEC	Model of Trust for Electronic Commerce
NNFI	Non-Normed Fit Index

PC	Personal Computer
RMSEA	Root Mean Square Error of Approximation
RSS	Really Simple Syndication
SEM	Structural Equation Modelling
SPSS	Statistical Package for Social Sciences
TLI	Tucker-Lewis Index
TAM	Technology Acceptance Model
TRA	Theory of Reasoned Action
USA	United States of America
USM	Universiti Sains Malaysia
WWW	World Wide Web
XML	Extensible Markup Language

**KESAN CIRI-CIRI LAMAN SESAWANG TERHADAP KELIKATAN
LAMAN SESAWANG:
MODEL PENGANTARAAN-PENYEDERHANA KEPERCAYAAN**

ABSTRAK

Dalam ekonomi digital kompetitif masa kini, kelikatan laman sesawang muncul sebagai elemen yang ingin dicapai di kalangan peruncit dalam talian. Rekabentuk antaramuka dan aspek personaliti sesuatu laman sesawang dipercayai mempunyai kesan terhadap kelikatan laman sesawang. Bagaimanapun, kepercayaan dipercayai memainkan peranan yang sangat penting dalam hubungan antara ciri-ciri laman sesawang dan kelikatan laman sesawang. Bertumpukan pertemuan pertama dengan sesuatu laman sesawang, kajian ini mengkaji kepercayaan awal sebagai pengantara untuk hubungan antara rekabentuk antaramuka laman sesawang (rekabentuk struktur, kandungan, grafik dan isyarat sosial), personaliti laman sesawang (keikhlasan, keterujaan, kecekapan dan kecanggihan) dengan kelikatan laman sesawang. Kecenderungan untuk mempercayai juga diuji sebagai penyederhana untuk proses pengantaraan tersebut. Eksperimen lapangan dijalankan ke atas 239 pelajar universiti dengan menggunakan 6 laman sesawang peruncitan buku dalam talian yang sebenar. Analisis permodelan persamaan berstruktur (SEM) mendedahkan kepercayaan awal sebagai pengantara untuk hubungan antara rekabentuk isyarat sosial dengan kelikatan laman sesawang. Tambahan pula, kepercayaan awal didapati berfungsi sebagai pengantara bagi hubungan antara personaliti laman sesawang ikhlas dengan kelikatan laman sesawang. Kecenderungan untuk mempercayai terbukti menyederhanakan proses pengantaraan kepercayaan awal terhadap hubungan antara rekabentuk isyarat sosial dengan kelikatan laman sesawang, di mana proses pengantaraan didapati lebih kuat untuk responden

berkecenderungan tinggi untuk mempercayai. Bagaimanapun, proses pengantaraan kepercayaan awal terhadap hubungan antara i) rekabentuk grafik dengan kelikatan laman sesawang, ii) keikhlasan dengan kelikatan laman sesawang dan iii) kecekapan dengan kelikatan laman sesawang muncul lebih kuat untuk responden berkecenderungan rendah untuk mempercayai. Dari segi teori, kajian ini telah membuktikan kemungkinan model pengantaraan-penyederhana yang dapat dianalisis menggunakan kaedah analisis kumpulan pelbagai dalam SEM. Kajian ini juga menyokong hujah yang diutarakan oleh Model Pembentukan Kepercayaan Awal dan Model Pembinaan Kepercayaan di samping memperluaskan tema utama yang mendasari kebanyakan teori berasaskan niat. Dari segi praktikal, kajian ini menunjukkan bahawa peruncit dalam talian seharusnya membina kepercayaan pengguna sejak pertemuan awal sebagai syarat untuk memperoleh kelikatan laman sesawang mereka, berfokus untuk memasukkan ciri-ciri rekabentuk isyarat sosial dalam laman sesawang serta berusaha untuk menampilkan personaliti laman sesawang yang ikhlas secara umum. Penyertaan ciri-ciri rekabentuk isyarat sosial dalam laman sesawang mengukuhkan kepercayaan awal dan niat kelikatan pengguna berkecenderungan tinggi untuk mempercayai manakala penampilan impak visual yang menyenangkan disertai sifat keikhlasan dan kecekapan menarik perhatian pengguna berkecenderungan rendah untuk mempercayai. Penyelidikan masa hadapan boleh melanjutkan model pengantaraan-penyederhana ini dengan mengambil kira laman sesawang bukan perdagangan, meninjau skop geografi yang lebih luas serta kumpulan pengguna yang pelbagai di samping meneroka sindikasi jaringan iaitu satu hasilan tambahan dari konsep kelikatan.

THE IMPACT OF WEBSITE CHARACTERISTICS ON WEBSITE STICKINESS: A MODERATED-MEDIATION MODEL OF TRUST

ABSTRACT

In this current competitive digital economy, website stickiness has emerged as a much coveted element among online retailers. The interface design and personality aspects of a website are believed to have an impact on website stickiness. However, trust is believed to play a very crucial role in the relationship between the website's characteristics and website stickiness. Focusing on first time encounters to a website, this study examined initial trust as a mediator for the relationship between website interface design (structure, content, graphic and social-cue design), website personality (sincerity, excitement, competence and sophistication) and website stickiness. Propensity to trust was also tested as a moderator for the mediation process. A field experiment was conducted on 239 university students using 6 real-world online book retailing websites. The Structural Equation Modeling (SEM) analysis revealed that initial trust is a mediator for the relationship between social-cue design and website stickiness. Additionally, initial trust was found to mediate the relationship between a sincere website personality and website stickiness. Propensity to trust was proven to moderate the mediation process of initial trust on the relationship between social-cue design and website stickiness, whereby the mediation process was stronger for respondents with high trusting propensities. However, the mediation process of initial trust on the relationship between i) graphic design and website stickiness, ii) sincerity and website stickiness, and iii) competence and website stickiness emerged stronger for respondents with low trusting propensities. Theoretically, this study has proven the feasibility of a

moderated-mediation model that can be analyzed using a multigroup analysis approach on SEM. This study also supported the contentions forwarded by the Initial Trust Formation Model and the Trust Development Model while expanding the central theme underlying most intention-based theories. On the practical side, this study indicated that online retailers ought to develop consumers' trust from their initial encounters in order to gain their website stickiness, to focus on incorporating social-cue design features in their websites and to strive for an overall sincere website personality. Incorporating social-cue design features in websites strengthens the initial trust and stickiness intentions of consumers with high-trusting propensities while ensuring that websites project a visually-pleasing impact with attributes of sincerity and competence appeals to consumers with low-trusting propensities. Future research can perhaps extend this model of moderated-mediation to include non-commercial websites, covering a wider geographical region and various consumer cohorts while exploring web syndication, a spin-off from the stickiness concept.

CHAPTER 1

INTRODUCTION

1.1 Overview of Chapter

The relentless pursuit for electronic commerce (e-commerce) success has led many dot-com ventures to ponder if there exists any magic formula that could promise success in the online marketplace. The magic formula consists not of grand schemes or anything elusive but just a simple, tried-and-true, fundamental principle in business – keep your customers coming back for more, or more succinctly referred to as customer retention. Among the academicians and web design community, this principle is commonly known as website stickiness (Cyber Element, 2006; Howell, 2006; Nemzow, 1999).

Website stickiness remains as an imperative element in online businesses particularly in business-to-customer (B2C) e-commerce where competition for web surfers' attention is intense as an increasing number of online retailers flourish in the cyberspace (Howell, 2006). Building website stickiness is no longer just one of many ways to boost revenue and profits, but rather it has become very essential for survival (Reichheld & Schefter, 2000). Yet, how can one's website be sticky? What are the precursors that lead to the path of website stickiness? Would humanistic factors somewhat affect the process towards website stickiness?

These questions are explored in this study in an attempt to unravel the dynamism surrounding website stickiness. This introductory chapter begins with a background on the online retailing environment. The dynamics of online retailing are subsequently explained, proceeded by the problem statements that warrant this research. Following that is a listing of this study's research questions derived from

the problem statements as well as the research objectives to be achieved. The significance of this study is then elaborated. Next, brief but concise definitions are included as an explanation to the terms that would be frequently referred to throughout this whole manuscript. Lastly, the organisation of the remaining chapters in this thesis is presented.

1.2 Background of the Study

Society is now experiencing the age of digital lifestyle. With the explosion of digital devices, this is an age where almost everyone owns a cellphone, DVD player, digital camera and notebook/laptop (Kahney, 2008). This is also a time where the Internet has become an indispensable tool in consumers' lives as well as a part of the mainstream culture in society (Lin, 2007). Nowadays, using the Internet is somewhat second nature to consumers as they turn to the Internet for almost everything from communicating and networking to seeking entertainment, getting information and unsurprisingly, for shopping. This is especially more prevalent among the younger generation of consumers known as the Millennials (aged between 18 to 34 years old) who, having been exposed to technology since childhood, have embraced the Internet with a natural ease (Leung, 2003).

The Internet has significantly revolutionised the way society shops and buys. Many companies have taken the leap into e-commerce to fulfil changing societal needs and preserve their competitiveness in the marketplace (Bridges, Goldsmith & Hofacker, 2005). Though many startups met their untimely demise during the burst of the dot-com bubble circa 2000 to 2002, currently online retailing is 'back on its feet' and fast becoming a profitable industry. The worldwide sales of consumer goods to the general public through the Internet rose steadily each year from USD

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183,497.7 million in 2006 to USD 399,172.0 million in 2011 (Euromonitor, 2012), indicating positive growth prospects for the industry. Table 1.1 shows the value of online retailing globally and also the breakdown according to regions around the world.

Table 1.1

Value of Online Retailing around the World (USD million)

Year / Region	2006	2007	2008	2009	2010	2011
Asia Pacific	34,579.6	40,679.3	46,936.3	53,626.9	74,051.0	96,096.4
Australasia	1,750.9	2,231.8	2,533.9	2,540.3	3,223.0	3,937.9
Eastern Europe	5,503.3	8,444.3	11,936.3	11,413.8	14,199.8	18,225.8
Latin America	4,535.4	6,660.0	8,662.0	9,286.2	12,613.0	15,548.2
Middle East and Africa	1,433.0	1,781.7	2,174.4	2,266.2	2,699.5	3,117.1
North America	81,738.4	99,581.1	102,815.2	104,599.0	117,762.3	134,348.6
Western Europe	53,957.2	72,115.1	86,196.6	91,551.3	104,992.3	127,897.9
World	**183,497.7**	**231,493.2**	**261,254.8**	**275,283.8**	**329,541.0**	**399,172.0**

Source: Euromonitor (2012)

The three biggest markets for online retailing are North America, Western Europe, and the Asia Pacific region (see Table 1.1). In 2011, the online retail value in North America totalled USD 134,348.6 million, followed by USD 127,897.9 million in Western Europe and USD 96,096.4 million in the Asia Pacific (Euromonitor, 2012). According to a study conducted by Nielsen (2008), the world's most avid Internet shoppers originate from South Korea, where 99% of its Internet users have purchased over the Internet. This is closely followed by German (97%), United Kingdom or UK (97%) and Japanese (97%) consumers. It is natural to assume that

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these countries would house Internet users who fervently shop online considering the fact that these are highly industrialised countries with modern information and communication technologies (ICT) infrastructure and high technology-literacy among its citizens. Apart from these developed nations, there are several developing countries such as Malaysia which are rapidly progressing into a technology-savvy, knowledge-based society. The growth in Internet penetration among the Malaysian population has fuelled the rise in online retailing within the country. As of the year 2011, the online retailing industry in the country is valued at RM 841.5 million (Euromonitor, 2011, January).

Several circumstances have been alleged to fuel the growth of online shopping around the globe. For one, more people are becoming computer-literate as computers and software increase in sophistication and ease of use (Van Vliet & Pota, 2000/2001). Secondly, Internet access is becoming more affordable and commonly available from Internet service providers (Van Vliet & Pota, 2000/2001). Furthermore, the growth of Internet-based search engines such as Google has allowed users to gain better access to websites and information (Van Vliet & Pota, 2000/2001, Zhou, Dai & Zhang, 2007). In addition, online marketplaces offer substantial advantages such as the convenience of shopping from home, office or just about anywhere else, 24/7 (24 hours, 7 days a week) product availability, wider product selection which extends to niche or rare items as well as ease of search and comparison of products (Goldsmith, 1999; Hofacker, 2001; Xue, Harker & Heim, 2000; Zhou et al., 2007). Perhaps most importantly, precautions taken to develop more secure forms of encryption have managed to quell fears of security and privacy breaches in Internet transactions to a certain extent (Hinde, 1998).

1.2.1 The Dynamics of Online Retailing

The website of an online retailer is essentially a representation of itself. It is the primary medium used by the online retailer to convince online consumers to transact with them because both parties do not meet face to face (Xu & Liu, 2010). Often enough, it is also the consumer's only contact point with the online retailer (Surjadjaja, Ghosh & Antony, 2003) which can either facilitate or hinder the interaction between the online retailer and the consumer (Hopkins, Grove, Raymond & LaForge, 2009). In today's volatile e-commerce marketplace, it takes more than just providing product information and shopping cart facilities on the website to survive in the online landscape. In their zeal to reap as much sales as possible, many online retailers have unwittingly drove away customers by presenting them with clumsy, irritating, unhelpful, slow and generally unfriendly websites to shop from (Bridges et al., 2005). That may be part of the reason which caused the demise of smaller firms in the dot-com bust of 2000-2002 (Bridges et al., 2005).

In e-commerce, the website plays an important role in attracting, sustaining and retaining the interest of a consumer at a site (Ranganathan & Ganapathy, 2002). Many online retailers seem to demonstrate a lack of fundamental elements that retain customers who visit their websites (Reichheld & Schefter, 2000; Verona & Prandelli, 2002; Wang & Head, 2007). Among the community of research scholars, web developers and designers, this principle of customer retention is commonly referred to as website stickiness (Cyber Element, 2006; Howell, 2006; Lin, 2007; Nemzow, 1999). A sticky site is one that attracts online consumers, engages them and keeps them coming back for more. It builds relationships, increases the likelihood of consumers making a purchase and encourages advertisers to advertise (Hackbarth, 2001). In addition, it also reduces switching costs and save customer acquisition

costs (Hackbarth, 2001). Retaining customers is a financial imperative for online retailers since attracting new customers is considerably more expensive for them than for comparable, traditional, bricks-and-mortar stores (Reichheld & Schefter, 2000; Xu & Liu, 2010). Online customer acquisition costs have been found to vary considerably from as low as USD 8 per customer (eBay.com) and USD 12 (Amazon.com) to a high of USD 104 (Bluefly.com) (Internet Retailer, 2001, May 22).

Generally, customers stick to a website when they have established a connection or trust towards the website. There has been evidence proving that online consumers shopped at the sites that they have developed a sense of familiarity and trust with (Gefen, Karahanna & Straub, 2003b; Grabner-Krauter & Kaluscha, 2003; Hoffman, Novak & Peralta, 1999; McKnight, Choudhury & Kacmar, 2002b). Nielsen (2008) revealed that 60% of online shoppers surveyed affirmed that they return to purchase mostly from the same site. Figure 1.1 shows the reasons that help consumers determine which site to use when shopping online.

Since consumers have been proven to return and purchase from the sites that they have an affinity with, it would make perfect sense for online retailers to capture them from early on; that is upon their first encounters of the website and convert them into loyal patrons. Nevertheless, capturing consumers at their initial encounters is not an easy feat to achieve. In contrast to brick-and-mortar (physical shop) customers, online customers are tempted with far greater number of website choices to shop from compared to the available number of traditional stores near one's physical location (Hackbarth, 2001). Just a click on the keyboard will enable customers to convert from one website to another, hence attracting and retaining

customers has become more difficult than in the traditional environment (Wang, 2010a).

Same site I buy from regularly — 60%
General surfing — 33%
Search engine — 31%
Special offer I saw — 30%
Personal recommendation — 23%
Shopping comparison website — 23%
Same store I buy from offline — 20%
Online recommendation/review — 18%
Online advertising — 14%
TV/print or other advertising — 11%
Other — 6%
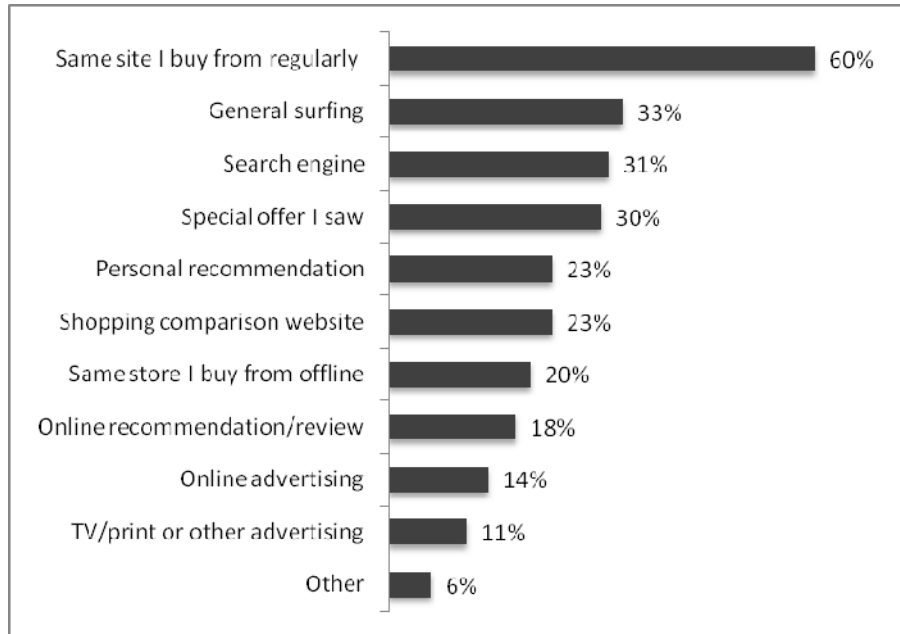
Source: Nielsen (2008)

Figure 1.1 **Reasons that determine which site consumers use for shopping online (global average)**

In order to stand out from the rest of the competition, websites need to convey a favourable impression upon a visitor's first encounter of the website. Hackbarth (2001) asserted that online customers typically stick with websites they initially try or if they find a website that projects a very favourable impression. Researchers have found that individuals form an initial impression of an object in as fast as 50 milliseconds or 1/20th of a second (Hotchkiss, 2006; Lindgaard, Fernandes, Dudek & Brown, 2006). In that fleeting moment, it is largely the design and look of a website which will form the basis for the visitor's first impression of the site. As articulated by Fisk, Grove and John (2000), a website's design is a

catalyst for creating a favourable impression of the organisation in the customer's mind.

This first impression plays a primary factor in the visitor's initial perceptions of trust towards the website (Briggs, Burford, De Angeli & Lynch, 2002; Egger, 2000; 2001; Schenkman & Jönsson, 2000). In turn, these preliminary judgments of trustworthiness would then be an important determinant as to whether or not the visitor returns to the site (Basso, Goldberg, Greenspan & Weimer, 2001). In fact, Marcus and Gould (2001) alleged that a well-designed user interface can convert a casual visitor into a potential customer and that the culture and personality projected by that website will influence this process.

Without any prior experience of surfing the website, a visitor depends on his or her inherent trait to trust in developing judgments of trustworthiness and behavioural intentions towards the site visited (McKnight, Cummings & Chervany, 1998). Individuals generally differ in the amount of trust they extend to their exchange partners or targets of their trust (Mayer, Davis & Schoorman, 1995). Some individuals display a greater disposition to trust anything and anybody and are more likely to trust a web vendor despite having only limited information about it, whereas others need more information to form trusting beliefs (Salam, Iyer, Palvia & Singh, 2005).

1.3   Problem Statements

The concept of website stickiness has been discussed by researchers from two perspectives, which is from the perspective of the website itself and the consumer or web user. Some researchers like Gillespie, Malay, Oliver, Olsen and Thiel (1999) focused on the website itself to explain the idea of stickiness. They defined website

stickiness as the positive characteristics portrayed by the website that strive to maximise the duration, frequency and pleasant experience of the web surfer. Other researchers who also thought along the same lines contended that stickiness consists of mechanisms on the website that encourage consumers to stay as well as visit the website regularly (DeFigueiredo, 2000; Dubelaar, Leong & Alpert, 2003; Koo, Nam, Lee & Lee, 2003). In sum, stickiness from the perspective of the website revolves around the ability of websites to draw and retain customers (Zott, Amit & Donlevy, 2000). On the other hand, there are those who believe that stickiness concerns the web users' behaviour (Wang, 2010b) due to the reason that stickiness is rooted in the concept of customer loyalty (Khalifa, Limayem & Liu, 2002). Researchers like Zauberman (2003) and Polites, Williams, Karahanna and Seligman (2012) used stickiness to approximate visitor's loyalty to a website. Thus, according to this school of thought, website stickiness is defined as a user's willingness to return to and prolong his/her duration and depth of stay on the website (Lin, 2007). It reveals the repetitive visits to and use of a preferred website because of a deeply held commitment to reuse the website consistently in the future, despite situational influences and marketing efforts that have the potential to cause switching behaviour (Li, Browne & Wetherbe, 2006). Both perspectives on website stickiness are neither wrong. However, previous studies which leaned on the web user perspective tend to measure website stickiness in different and often incomprehensive ways (Davenport & Lynch, 2000).

According to Cyber Element (2006), ideally measures of stickiness towards a website should encompass frequency (the number of visits per person), duration (total time spent at a site) and depth (how many pages are viewed) as these are indicators which are appropriate and thorough enough for measuring website

stickiness. Some studies typically measure stickiness based on the intentions of revisits and positive recommendations or word-of-mouth. For instance, studies done by researchers such as Choi, Kim, Kim and Kim (2006), Heim and Sinha (2001), Li et al., (2006), Palvia (2009), Srinivasan, Anderson and Ponnavolu (2002) commonly inquired consumers' future intention to revisit without further probing into the time and depth that they intend to spend on the website that they have visited. Other researchers investigated a combination of duration and depth of visit (Lin, Hu, Sheng & Lee, 2010) or frequency and duration (Guenther, 2004). In short, few studies examined website stickiness using all three aspects of frequency, duration and depth. For this reason, there is a need for studies utilizing more consistent and comprehensive indicators that better assesses consumers' stickiness to an online retailing website.

In online retailing, a consumer's first visit to the website is an especially critical period because the consumer decides very quickly whether or not to explore the online retailing site, and forms an initial intent whether or not to continuously return to the site (McKnight, Kacmar & Choudhury, 2004a). Within the first moments of encountering a website, consumers tend to scan the web pages looking for highlights that give them an impression of what the site is about and if there is anything that interests them (Howell, 2006). As this first impact of the consumer with the site is of visual nature, it is very important that his/her expectations are not immediately frustrated, so as to encourage him/her to further continue exploration (Marsico & Levialdi, 2004). Consequently, consumers' stickiness towards online retailing websites should be cultivated from very early stages of the consumers' interaction with a website and not just reliant on the transaction process or post-purchase satisfaction. However, the general inclination of previous studies is to

examine customer's intentions of revisiting websites that they have transacted before or constantly patronise (e.g., Casalo, Flavian & Guinaliu, 2007; Chang & Chen, 2008; Flavian, Guinaliu & Gurrea, 2006; Gefen et al., 2003b; Pavlou & Fygenson, 2006). In addition, there are also some studies which have been vague about the phase or stage of their respondents' encounter with the website that they used in evaluating the respondents' revisit or repurchase intentions (e.g., Angriawan & Thakur, 2008; Hopkins et al., 2009; Lin, 2007; Lin et al., 2010; Polites et al., 2012; Srinivasan et al., 2002; Yoon & Kim, 2009). Suffice to say, there is yet a robust, reliable, empirically-tested model of website stickiness which considers consumers first encounters with a website. To this end, there exists a need to develop a model of website stickiness that examines consumers' first encounters to an online retailing website.

As switching costs are very low in the online environment, consumers can leave websites that they initially visit at the click of a mouse should the first impressions formed from their initial visits to the site remain poor. A badly-designed website provides a compelling reason for consumers not to return for subsequent visits or even shop on it (Flavian, Gurrea & Orús, 2009; Liang & Lai, 2002). In this manner, websites have been likened to window displays. Researchers like Winter, Saunders and Hart (2003) described web users as walking down an electronic Main Street (the web) and are looking into the windows of various firms (websites). Should the overall display and arrangement of the windows (websites) appear to be attractive, the web users might just be persuaded to enter the store for further exploration. The display and arrangement of the windows mentioned in the analogy refer to the interfaces of the website. Many studies (e.g., Bridges et al., 2005; Chang & Chen, 2008; Koo, 2006; Liang & Lai, 2002; Yoo & Donthu, 2001) have noted the

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importance of a website's interface design in deciding whether a consumer sticks to a website or not. Nevertheless, that analogy gives a very static representation of websites.

In the early stages of the World Wide Web (WWW) where the functions and applications available to web users were still limited, this analogy would have been applicable. Yet, the WWW has now moved from an era of "read-only web" (Web 1.0) of static, structured Internet services to a much improved, potent "read-write-web" (Web 2.0) featuring more dynamic, flexible, user-and/or community involving services. With Web 2.0 applications breathing a social presence into a website's interfaces via elements of interactivity and customization, a more accurate representation of websites is necessary (see Appendix A for more details on Web 2.0 in online retailing). At this juncture, we can now compare websites to salespeople (Coupland, Tekchandaney, Rangaswamy & Simpson, 2003). Similar to salespeople, websites have to portray a good first impression on consumers even from their first visit. In salespeople, we observe their competency, product knowledge, appearance and personality in order to arrive at our judgments about the salespeople and whether or not we would further patronise the store. The same can be said for websites. Hence in this era of Web 2.0, there is a need for a more holistic representation of website characteristics that portray websites as having dynamic personalities apart from its interface design properties.

In service settings such as online retailing where customers engage with tangible and intangible elements (O'Cass & Carlson, 2012), it is important to examine both personality and interface properties together. Taken in their entirety, both website interface properties and personality features present a complete anatomy of a dynamic website that can either make or break the look and feel of a

website. The look and feel of a website serve as a basis for consumers to form a first impression of the retailer and very importantly, to develop an opinion of its trustworthiness as well as to ultimately form their behavioural intent such as intention to stick to the website (Urban, Amyx & Lorenzon, 2009).

To create stickiness, Zott et al. (2000) suggested that online companies should focus on establishing trust, among other determinants such as website characteristics. Trust not only increases the user's intention to revisit (Suh & Han, 2003) and make a purchase on the website (Gefen, 2000; Pavlou, 2003), but it is also one of the significant determinants for customer's loyalty towards a business (Berry & Parasuraman, 1991; Guenther, 2004; Reichheld & Schefter, 2000). Lin (2007) contended that the more a web user trusts a particular website, the stickier this user will be towards this website. Trust itself is an intricate subject matter, manifested in various forms or types. The type of trust affecting website stickiness as mentioned by these researchers is usually the type that is situation or context-specific because it concerns a user's willingness to accept vulnerability but with an expectation or confidence that it can rely on the online retailer (Lewicki, McAllister & Bies, 1998; Moorman, Zaltman & Deshpande, 1992; Morgan & Hunt, 1994). At first encounters where both parties (the online retailer and customer) had no previous interactions before, the type of context-specific trust that arises is initial trust. There are also other types of trust such as propensity to trust, which is character-specific and refers to a user's personal tendency to believe in others' trustworthiness (Das & Teng, 2004; Rotter, 1967). Propensity to trust is especially important in initial encounters when both parties are still unfamiliar with each other (McKnight et al., 2004a).

In previous studies, initial trust has been commonly researched as an antecedent, outcome or as both an antecedent and outcome to trusting attitudes and

behavioural intentions (e.g., Bahmanziari, Odom & Ugrin, 2009; Chen & Barnes, 2007; Eastlick & Lotz, 2011; Gupta, Yadav & Vadarajan, 2009; Hampton-Sosa & Koufaris, 2005; Hu, Wu, Wu & Zhang, 2010; Kim, 2012; Koufaris & Hampton-Sosa, 2004; Lowry, Vance, Noody, Beckham & Read, 2008; Lu & Zhou, 2007; McKnight et al., 2002b; McKnight, Kacmar & Choudhury, 2004b; Wakefield, Stocks & Wilder, 2004; Wu, Hu & Wu, 2010; Yang, Huang & Xu, 2008)   and also as a mediator that links the independent and dependent variable (e.g., Lee & Lee, 2005-2006). On the other hand, propensity to trust has been usually examined as predictor or direct antecedent to trusting attitudes and intentions (e.g., Chen, 2006; Chen & Barnes, 2007; Gefen, 2000; Jones, Leonard & Riemenscheneider, 2009; Kim, Ferrin & Rao, 2003; Kim & Prabhakar, 2004; Kimery & McCord, 2002;   Koufaris & Hampton-Sosa, 2004; Lu & Zhou, 2007; McKnight, Choudhury & Kacmar, 2000; 2002a; McKnight et al., 1998; 2004b; Teo & Liu, 2007; Wu et al., 2010; Zhou & Tian, 2010) and also as a moderator that modifies the relationship between the independent and the dependent variable (e.g., Kim & Tadisina, 2010; Lee & Turban, 2001; Ranaweera, McDougall & Bansal, 2005; Ranaweera, Bansal & McDougall, 2008).

As can be seen from the studies which have just been cited, research works involving direct, causal relationships between a predictor (independent variable) and a criterion (dependent variable) are more commonly undertaken compared to research works examining initial trust and propensity to trust as third variables in the form of mediators and moderators. In actual fact, human behaviour is complex and this makes it difficult to explain and predict (Ajzen & Fishbein, 2005). It is a process, rather than a thing, and therefore it cannot easily be held still for observation (Skinner, 2005). Hence, relations between variables are often more complex than

simple, straightforward bivariate relations between a predictor and a criterion (Fairchild & MacKinnon, 2009). Yet, not many studies on website stickiness to date have truly captured the dynamic interplay of both types of trust beyond a less linear or simplistic manner, especially in the context of initial encounters to a website. This calls for more studies to be conducted that examines initial trust and propensity to trust as a mediator and moderator respectively. Given that trust has been touted as a crucial differentiator that determines the success or failure of online companies (Karimov, Brengman & Hove, 2011), a key challenge would be to examine whether the two types of trust can co-exist together within the same model of website stickiness by adopting different roles in the form of a mediator as well as moderator.

1.4   Research Questions

The host of problems discussed in the earlier section has raised several important queries worthy of closer examination, which are as listed below. At the point of a consumer's first encounter to an online retailing website:

i)   Is the relationship between website interface design and website stickiness mediated by initial trust towards the website?

ii)   Is the relationship between website personality and website stickiness mediated by initial trust towards the website?

iii)   Is the mediation strength of initial trust towards the website on the relationship between website interface design and website stickiness moderated by the consumer's propensity to trust?

iv)   Is the mediation strength of initial trust towards the website on the relationship between website personality and website stickiness moderated by the consumer's propensity to trust?

1.5   Research Objectives

Based on the list of research questions derived, this study intends to achieve the following objectives:

1)   To investigate the mediating role of initial trust towards the website on the relationship between website interface design on website stickiness.

2)   To investigate the mediating role of initial trust towards the website on the relationship between website personality on website stickiness.

3)   To examine the contingency of the alleged mediation process of initial trust towards the website on the relationship between website interface design and website stickiness upon inducing the effects of propensity to trust.

4)   To examine the contingency of the alleged mediation process of initial trust towards the website on the relationship between website personality and website stickiness upon inducing the effects of propensity to trust.

1.6   Significance of the Research

This research merges numerous disciplines to explain what motivates a consumer to trust and ultimately stick to a website. The crux of the study still lie within the information systems (IS) field because basically, the context of investigation involves online retailing websites in B2C e-commerce. The website interface design aspects examined were derived from the information systems discipline, bordering on the area of art and design. While the personality and propensity to trust dimensions are common aspects found in psychology literature, initial trust as well as stickiness are essentially principles which are deeply ingrained in marketing research. Simply put, this study offers a multidisciplinary inquiry into

the subject of website stickiness for researchers who seek a better-represented framework that covers a range of diverse fields.

Apart from that this research empirically examines websites stickiness from the point of consumers' first encounters. With so much competition happening in the online retailing environment, online retailers should not delay in building consumer loyalty. Instead, they should strive to capture consumers' attention and retain their interests to revisit their sites from the first moments of encounter. Nevertheless creating website stickiness from the point of initial encounters is a challenge for most online retailers based on the observation that many websites suffer from a low ability to hold their customer target (Ingriswang & Forgionne, 2001). Thus through this study, online retailers will gain insights that help them to better understand what attracts and retains consumers' interests upon their first visits to an online retailing website. From those insights, online retailers can then devise strategies or develop remedies to business processes that foster online consumers' stickiness towards their online retailing websites.

This research also provides some illumination on the issue of trust as both a mediator and moderator within the process of creating website stickiness among consumers. In this study, trust is taken as a two diverse concepts consisting of one's initial level of confidence or belief towards a particular site (Initial Trust) and one's ease to emanate or fall in trust to a particular site (Propensity to Trust). The uniqueness of this study lies in the fact that it sets out to prove that the amplitude of the mediation process of initial trust towards an online retailing website is contingent on the consumers' propensity to trust. This moderated-mediation role of trust is a novel issue that has yet to receive due attention in IS-related research. Knowing the

different roles of trust would substantially help online retailers in designing websites for online transactions that would be highly trusted.

In addition, the findings of this research will establish a new direction on website appeal creation for web designers and software developers alike. Under this current Web 2.0 generation, design trends and formats that may have worked previously could now turn ineffective and outdated. Through the focus on interfaces and personality of websites, it is anticipated that useful information can be derived from this study which will contribute to the design, development and management of better and more engaging websites that attract consumers' attention even from their first visit to the site. As observed by Childers, Carr, Peck and Carson (2001), little is known about how the design characteristics of interactive shopping sites affect online purchase behaviour and other usage indicators. The findings of this study will awaken new research interests for researchers to consider looking at the website as a holistic anatomy through its physical as well as intangible qualities.

1.7   Definition of Key Terms

E-commerce – The transacting or marketing, buying and selling of goods, services and/or information through electronic means such as the Internet and computer networks (Van Vliet & Pota, 2000/2001).

B2C e-commerce - Transactions involving the buying and selling of goods, services and/or information conducted over the Internet between a business and a consumer (Electronic Commerce, 2009).

Online retailing –The use of the Internet through which the customer (Internet user) and the seller enter into a transaction for sale and purchase, to the benefit of both parties (Sahney, 2008).

Online retailer – A seller who seeks commercial electronic exchange with a customer (Internet user) (Swaminathan, Lepkowska-White, Rao, 1999).

Web 2.0 – A perceived second generation of web development and design that facilitates communication, secure information sharing, interoperability and collaboration on the WWW (Harris & Rea, 2009).

Website characteristics – Elements, features or qualities that constitute a website (Bart, Shankar, Sultan & Urban, 2005; Wang & Emurian, 2005a, 2005b; Tarafdar & Zhang, 2005-2006).

Website interface design – The overall arrangement and construction of website that involves the interaction between the system and the users (Goon, Noornina, Ramayah, Noorliza & Muhammad Hasmi, 2005; Ramayah, 2006).

Structure design – The overall organisation and accessibility of displayed information on the website (Wang & Emurian, 2005a; 2005b).

Content design – The informational components that can be included on the website, either textual or non-textual (Wang & Emurian, 2005a; 2005b).

Graphic design – The graphical design factors on the website that normally give consumers a first impression (Wang & Emurian, 2005a; 2005b).

Social-cue design – The embedment of applications that foster interactivity, personalisation, dynamism and a social presence into the website's interface via different communication tools and applications (Wang & Emurian, 2005a; 2005b).

Personality – The unique, dynamic organisation of characteristics of a particular person, physical and psychological, which influence behaviour and responses to the social and physical environment (Liebert & Spiegler, 1998).

Website personality – The mental representation of a website store on dimensions that are similar to and reflect the dimensions of human personality (Poddar, Donthu & Wei, 2009).

Sincerity – A personality dimension associated with being open and genuine as well as displaying attributes of warmth and honesty in the absence of hypocrisy (Sincere, n.d.b.).

Excitement – A personality dimension associated with qualities that invoke strong emotional responses by electrifying and exhilarating the senses as well as by stimulating interest (Exciting, n.d.a.).

Competence – A personality dimension tied to being properly or sufficiently qualified, capable or efficient (Competent, n.d.).

Sophistication – A personality dimension associated with being refined, elegant and tasteful (Sophisticated, n.d.b.).

Trust – A party's willingness to accept vulnerability but with an expectation or confidence that it can rely on the other party (Lewicki et al., 1998; Moorman et al., 1992; Morgan & Hunt, 1994).

Initial trust towards website – The confidence in or reliance that a consumer has in an unfamiliar web vendor (as represented by its website), one with whom the consumer has no prior experience with (McKnight et al., 2002b).

Propensity to trust – One's personal tendency to believe in others' trustworthiness (Das & Teng, 2004; Rotter, 1967).

Website stickiness – A consumer's willingness to return to and prolong his/her duration and depth of stay on the website (Lin, 2007).

1.8   Organisation of the Remaining Chapters

The impending chapters are organised in this particular manner. Following the introduction, Chapter 2 presents a holistic review of relevant previous works by various authors of repute. Subsequently, Chapter 3 describes the construction of hypotheses and research framework based on the literature review. Chapter 4 provides an insight into the methodology undertaken in this study covering the fundamental methods such as research design, data collection procedures, measurements, variables and statistical techniques used. This is followed by Chapter 5 which reveals the results obtained from the analysis of data. Finally, the thesis concludes with a discussion of the study's findings, the implications derived, limitations of the study and several suggestions for future research, as found in Chapter 6.

CHAPTER 2

LITERATURE REVIEW

2.1   Overview of Chapter

This chapter presents a review of relevant literature which forms the basis for developing the research framework of this study. It begins with a discussion on the important theories underlying this study. This is followed by a discussion on the fundamental yet elusive concept of website stickiness. Next, the subject of trust is explained, with much focus on the nature of trust in the online environment, specifically on building initial trust towards e-retailing sites. A clarification on the role of an individual's propensity to trust is then given. Subsequently, insights on two important features of website characteristics, namely website interface design and website personality is provided. Finally, a summary of all the relevant literature reviewed concludes this chapter.

2.2   Theoretical Underpinnings

Reviewing the literature by offering explanations on each variable appearing in the study is not sufficient. Theories are important as they function to pull the entire study together. Without a theory, there is nothing to justify why the variables should be studied and how they are related to one another. In other words, they set the stage on which relationships are generally formed.

The ultimate subject of interest in this study is website stickiness which revolves around an online consumer's intent to make repetitive visits to a particular website and maximise the duration, frequency and depth in those visits. Therefore construction of this study's theoretical framework is grounded on intention-based

theories. However, intention-based theories alone are insufficient to explain the phenomenon at hand. Considering trust has been consistently portrayed as a dynamic force in most online relationships, the development this study's theoretical framework drew further support from the application of trust-based theories. Two types of theories which were deemed relevant to this study are discussed in the following sections.

2.2.1 Intention-based Theories

Two well-researched theories that trace the belief-attitude-intention relationship are the Theory of Reasoned Action (TRA) and Technology Acceptance Model (TAM). These two theories have been widely applied in research on individual user adoption and usage of information technology (IT) innovations/applications such as Word, WordPerfect, Excel, spreadsheet, instant messaging systems, e-mail, voice mail, fax, database systems, web pages, online banking systems, e-commerce-related systems, Internet technologies, digital libraries and other technologies. Further elaborations on the TRA and TAM are found in the following subsections.

2.2.1.1 Theory of Reasoned Action (TRA)

The Theory of Reasoned Action (TRA) formulated by Fishbein and Ajzen (1975) explains the causal relationships between beliefs, attitudes, intentions and behaviours. Generally TRA is a versatile intention-based model that has been widely applied in predicting and explaining "virtually any human behaviour" (Ajzen & Fishbein, 1980, p.4) across numerous domains (Han, 2003). Fishbein and Ajzen (1975) theorised that behaviour is determined by intention which in turn is moved by

a person's attitude toward the behaviour and the subjective norm concerning that behaviour. In other words, behavioural intentions are a function of two basic determinants: i) attitude (overall positive/negative evaluations of behaviour) as well as the ii) subjective norms (perceived social pressure from significant others).

Intention is the representation of a person's readiness to perform a given behaviour and therefore is considered to be the best predictor of behaviour. Both attitude and subjective norm are determined by salient underlying beliefs. Salient behavioural beliefs are held to determine attitude. Each behavioural belief consists of two components: an outcome belief and an outcome evaluation. On the other hand, salient normative beliefs underpin subjective norms. Consistent with behavioural beliefs, normative beliefs consist of two components namely referent beliefs and motivation to comply. Figure 2.1 depicts TRA in graphical form.
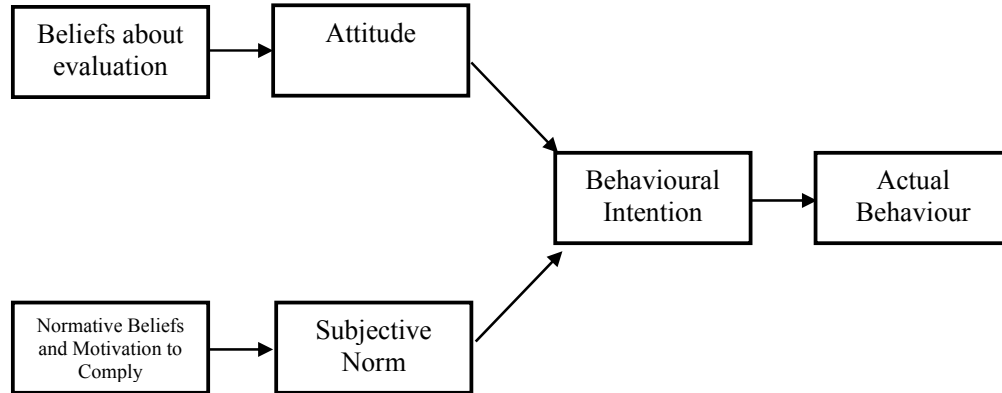
Source: Fishbein and Azjen (1975)

Figure 2.1   **The Theory of Reasoned Action (TRA)**

An important assumption constitutes TRA, that is, the behaviour in question must be under a person's volitional control as TRA works best when applied to behaviours that are within a person's conscious locus of control. If a person does not have volitional control over a given behaviour, no matter how motivated by his/her