

# Importance for Assurance from Transparent Windows: A Dual Motivation Approach

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## Abstract

Transparent windows are intriguing windows to let customers easier to know the track of multiple processes of the producing or transporting from real or virtual world at once. The purpose of this study was to investigate the customers' importance for assurance about the quality of products or services from transparent windows on both utilitarian and hedonic perspectives. Also, these dual motivations were examined the mediated effect. The findings of this study were showed as expectation mostly. Statistic and practical implications are presented along with suggestions for future research.

**Keywords:** transparent windows, utilitarian and hedonic value, utilitarian and hedonic motivation, importance for assurance

## 1. Background

Assurance involves merchants providing information to reduce the uncertainty experienced by customers regarding the reputation of the merchant and the quality of products or services (Crespo and Bosque, 2010). Consumers' decision to use technologies is often influenced by assurances (Kovar et al., 2000). Such demand has been found to be a major driver of technologies evaluation (Kim and Stoel, 2004). More recently, Cristobal et al. (2007) found that assurance is an important motivator in the Internet service. Lin and Hsieh (2011) proved that enjoyment, assurance and convenience impacted service quality in regard to self-service technologies; they found that convenience and enjoyment are key factors to impact motivation. To et al. (2007) also figured out that convenience, information availability, and value are vital factors concerning shopping motivations in the Internet. Utilitarian value includes both convenience and information availability (Wolfenbarger and Gilly 2001; To et al., 2007), and hedonic value includes value (To et al. 2007) and perceived enjoyment (Van der Heijden, 2004). Fashion is the pursuit of novelty for its own sake (Robinson, 1958). Customers feel that innovativeness perception through transparent windows assures their product or service's status. Fashion presents both hedonic and utilitarian value of the customers (Bannister and Hogg, 2004). Customers want to be sure of the services or quality of products they bought or will buy; therefore, transparent windows are an intriguing way to reduce the uncertainty of customers and they can easily keep track of multiple processes during their purchasing. Customers need to feel safe and secure even in the case of changing their decision with short notice during their purchasing procedures. This kind of windows, whether online or offline, meets customers' needs. Clearly, the transparent windows are competitive weapons. Many researchers have investigated the importance of relative information; for example, Cheema and Papatla (2010) investigated the importance of online versus offline information sources for customers' online purchases. Schifferstein (2006) found that people regard vision as the most important sensory modality during their interaction with products. More recently, Taplin (2012) pointed out the vital importance of the visual sense as it improved the prediction of overall satisfaction. This perspective of transparent windows is valuable as a new issue about which relatively few studies have been carried out. Therefore, this paper proposes the research model is shown in Figure 1.

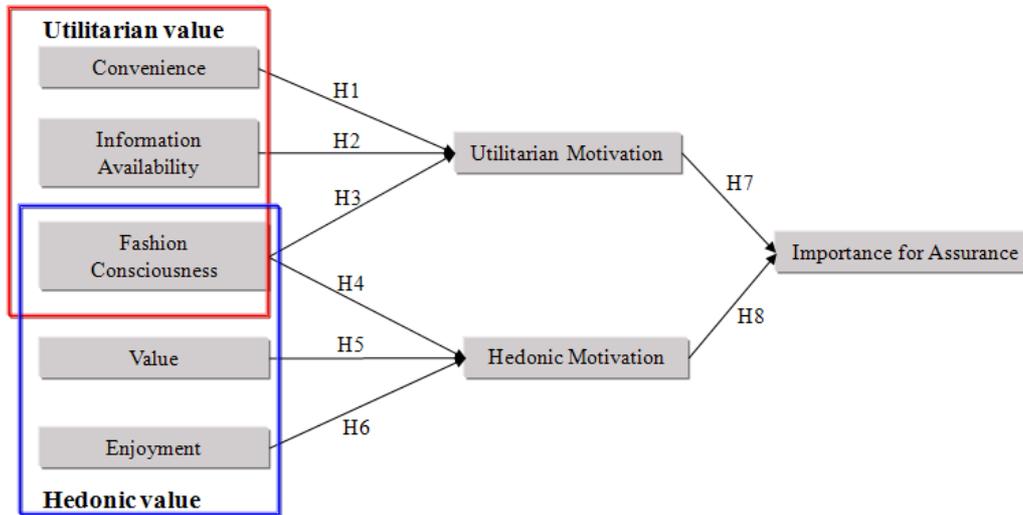


Figure 1. the research model

2. Literature Review and Hypotheses

2.1 Transparent Windows

Transparent windows are intriguing customers and make it easier to keep track of multiple processes related to their purchase behavior. For example, Din Tai Fung in Taiwan is a famous store which sells small delicate steamed dumplings, as shown in Figure 2. In 1993, Din Tai Fung was ranked by The New York Times as one of the Top 10 Restaurants in the world. The original Din Tai Fung opened the branches all over Asia and the United States. In one of the physical stores, you can see the procedure of producing dumplings by workers who wear white uniforms, was shown in the transparent window; it highlights the professional and cleanliness in the workplace, a major concern of potential customers. Another example, shown in Figure 3, is FedEx; package shipment details can be accessed using FedEx Track or FedEx Insight functions, so that customers will know their package status in detail, including time and location. The third example is the public transportation network in Yang Ming Shan National Park, shown in Figure 4. The passengers will know in when and at what station the buses will arrive. The last example is education, shown in Figure 5; parents of these students in Apple nursery school can ascertain their child(ren)’s situation(s) in school.



Figure 2. The transparent kitchen of Din Tai Fung



Figure 3. FedEx tracking



Figure 4. The transparent bus situation in Yang Ming Shan National Park



Figure 5. Education real-time video in apple nursery school network

## 2.2 Motivation Theory

The motivational state is triggered by the relevance of the object in question (Koufaris, 2002). Customers' motivations are activated by the relevant information offered by transparent windows to assure quality during the purchasing. Babin et al. (1994) defined utilitarian motivation as acquiring the benefit or information of products or services through transparent windows, to assure the customer regarding the purchasing process. Many researchers used motivation theory to explore individual behavior in using information technology (Davis et al., 1992; Keller, 1993; Teo et al., 1999; Venkatesh et al., 2003; Van der Heijden, 2004; Shang et al., 2005; Lin and Bhattacharjee, 2008). O'Brien (2010) explored the hedonic and utilitarian motivations impacting user engagement of online shopping experiences. Hirschman and Holbrook (1982) described hedonic motivations as users' perception of fun, fantasy, arousal, sensory stimulation and enjoyment. Hassenzahl et al. (2000) and O'Brien (2010) emphasized that both hedonic and utilitarian motivations were essential as key determinants of information system usage. Venkatesh and Brown (2001) also found that users' adoption of personal computers in homes was driven by utilitarian and hedonic outcomes (i.e. usefulness and fun). More recently, Verhagen et al. (2012) explicated users' motivations to engage in virtual worlds.

The vast majority of studies on users' motivation have focused either hedonic or utilitarian (or both) on information system usage value. Babin et al. (1994) verified that both the hedonic and utilitarian shopping values influenced customers purchasing behavior. Dhar and Wertenbroch (2000) studied the higher level pleasure correlated to greater amounts of products/services purchased. In the situation of products that were presented by transparent windows; those linked to pleasure and usefulness are usually the ones chosen first. In the relevant researches on motivation theory applied in the contributors of the Wikipedia content sharing their knowledge (Yang and Lai, 2010), how firm characteristics contribute to motivation and ability in predicting (Ruth et al., in press), and how people continue to join social networking sites (Lin and Lu, 2011). Other studies on only customers' motivation include: utilitarian motivation's impact on purchase intention (To et al., 2007) and hedonic motivation's impact on browsing for more products during online shopping (Chiou and Ting, 2011); both utilitarian and hedonic motivations' impact on user engagement in the e-commerce environment (O'Brien, 2010), on search intention in the shopping internet (To et al., 2007), retail shopping (Childers et al. 2001), the intention to use instant messaging (IM) (Premkumar et al., 2008), the frequency of customers intended online purchases in the shopping cart (Close and Kukar-Kinney, 2010) and the acceptance of adaptive museum guides (Pianesi et al., 2009). Based on previous studies, the utilitarian and hedonic motivations have been widely applied in practical and academic content. Therefore in this paper, transparent windows are considered as high utilitarian and hedonic values of information system for both the real and virtual worlds. Both are fundamental

constructs for the reference of marketing, promotion and customer behavior. This study shows that utilitarian and hedonic motivations have different impacts on the perceived importance of assurance provided by transparent windows, and also evaluates the both motivations have mediating effect on importance for assurance.

### *2.3 Convenience and Information Availability of Utilitarian Value*

According to Berry et al. (2002), convenience refers to customers' perception of saving time and energy in accessing information through transparent windows for purchasing products or services. Convenience is a criterion of purchasing decisions or use (Seiders et al., 2005). Brown (1990) classified Convenience into five domains: 1) time, which focuses on time available for the customers; 2) place, which focuses on service location for the customers; 3) acquisition, which focuses on channels available for customers to get the products or services they desire; 4) use, or how customers perceive themselves; and 5) execution, which focuses on why customers choose self-service or rely on service personnel. Saving time and energy comprise the core spirit of convenience (Yale and Venkatesh, 1986; Brown, 1990; To et al., 2007). No matter what the products or means of transporting packages, saving time and energy for the customers provides the best functions regarding purchasing. In other words, convenience to access further information would influence the customers' feelings and judgment concerning purchasing. Ghosh (1998) stated that convenience and information availability were the primary motivations for Internet shopping. Morganosky and Cude (2000) also indicated that convenience and time efficiency were the primary factors of online shopping. Wolfenbarger and Gilly (2001) found that information availability included product specs, stores, promotions, and so on. Both convenience and information availability are two constructs of utilitarian value (Wolfenbarger and Gilly, 2001; To et al., 2007). In this paper, information availability means the acquiring information of products or the transportation of packages in order to offer assurance to customers. The vendors provide the most efficient means for customers to get information by using transparent windows during purchasing. Keeney (1999) listed 10 fundamental shopping values rated by the users; they are basically utilitarian and hedonic values for enhancing shopping pleasure. Recently, To et al. (2007) found that customers' perceptions convenience in accessing information and information availability to impact on utilitarian motivation. In other words, customers felt that convenience to access information of production and transportation process through transparent windows influenced hedonic motivation. Therefore, this paper proposes the following hypotheses:

H1. Customers' conveniences in obtaining information influence their utilitarian motivation.

H2. Customers' perceptions of information availability influence their utilitarian motivation.

### *2.4 Fashion Consciousness of Both Utilitarian and Hedonic Value*

Fashion is the pursuit of novelty for its own sake (Robinson, 1958). Generally speaking, fashion is often used to denote trends in customerism (Bakewell et al., 2006). Fashion consciousness is the degree of the pursuit of novelty, herein resulting from the effect of transparent windows. Mort and Rose (2004) saw fashion consciousness as related to hedonic products. In contemporary purchasing behavior, the fashion designs of transparent windows provide a direct interface and function on product or service. This term further refers to the physical production or transporting processes presented on the screen so that customers can see them clearly. With this perspective, fashion consciousness includes all the components within the entire range of visual elements that may lead to emotional reactions to products/services (e.g., hairstyle, clothing, jewelry, accessories) (Schindler and Holbrook, 1993) and technologies (Goulev et al., 2004). Goulev et al. (2004) found that fashion consciousness would benefit from enhanced aesthetic and communicative possibilities provided by the appropriate technology. The transparent windows provided by fashion designers and merchandisers enable customers to know the most related products or services situation effectively and efficiently. Thus, fashion consciousness can be applied to all aspects of individuals' personal feelings (Bannister and Hogg, 2004). Therefore, this paper proposes the following hypotheses:

H3. Customers' fashion consciousnesses resulting from transparent windows influence their utilitarian motivations.

H4. Customers' fashion consciousnesses resulting from transparent windows influence their hedonic motivations.

### *2.5 Hedonic Value*

Hedonic value, according to To et al.'s (2007) definition, is customers' pleasure generated by their interactions with the transparent windows during the producing or transporting process. The transparent windows will stimulate the joy of customers when they can easily and simultaneously keep track of multiple processes during

their purchasing. For some customers, the value lies in looking for discounts, sales, or price promotions (Arnold and Reynolds, 2003); however, the value derived from the transparent windows involved looking for further information to assure the customer regarding the quality of the product or service. The value belonged to hedonic value (Mathwick et al., 2001; Kim and Shim, 2002; Parsons, 2002; To et al., 2007). For example the transparent windows of Din Ta Fung present the high quality of the production processes of dumplings in a clean workplace that customers could see. In another example, when customers send a package from Taiwan to China by FedEx; they need to know the time of the package will arrive and its exact location at any time. The visibility of information from transparent windows will assure such customers when they need. To et al. (2007) showed that customers could find, evaluate and understand the information about products and receive pleasure in the process of Internet shopping. Unfortunately, the value did not significantly impact hedonic motivation in shopping internet (To et al., 2007). Value related to affective experience of environmental psychology in the store, in other words, it can be important antecedent of hedonic motivation (Donovan and Rossiter, 1982). Kim and Shim (2002) also suggested that customers who went online shopping were acquiring not only the product but also the value of the shopping process. Turel et al. (2010) evaluated the consumption values impacting users' hedonic feelings. Customers may obtain hedonic values through the transparent windows in seeking assurance regarding products and transportation of packages. Therefore, this paper proposes the following hypothesis:

H5. Customers' perceptions values obtained through transparent windows influence their hedonic motivations.

#### *2.6 Enjoyment of Hedonic Value*

Enjoyment refers to the extent of the activity is pleasurable in interacting with the e-commerce website (Davis et al., 1992). Enjoyment is a critical characteristic of information technology in service quality (Chen et al., 2002). Enjoyment contributes to hedonic value (Van der Heijden, 2004). Lee and Chung (2008) also found that the enjoyment of customers' reaction impacted positive feelings in a virtual reality shopping mall. Sik et al. (2009) obtained the same results as Lee and Chung (2008) in regard to online service usage. Therefore, this paper proposes the following hypothesis:

H6. Customers' perceptions of enjoyment through transparent windows influence their hedonic motivations.

#### *2.7 Importance for Assurance*

Importance is the statement or a fact of having great significance. Individuals intend to get further information for assuring quality, such as in transporting packages or producing products that could cause them to begin or increase usage of specific features where they can see the pertinent information. Importance/significance reflects personal relevance that is closely related to involvement, interest and goal-directed arousal capacity (Lankton et al., 2010). Customers also thought that importance in regard to assurance was a vital factor in pre or post purchasing contexts. Dhar and Wertenbroch (2000) studied customers' utilitarian and hedonic motivations related to the perception importance. In support of this implication, Novak et al. (2000) showed that the correlation between importance and web site usage increased over time. Blake et al. (2005) also indicated that the forms and substances of site features for commercial websites were important to Internet shoppers. This study shows that utilitarian and hedonic motivations have impact on importance for enhancing assurance generated by transparent windows. Thus, it seemed reasonable that the utilitarian and hedonic motivations of transparent windows would increase the effect of importance on strengthening assurance. More recently, López and Ruiz (2011) found that utilitarian and hedonic motivations are dual mediators in an online environment; both motivations mediated the relationships between service ubiquity and experiential value (Andrews et al., 2007; Tojib and Tsarenko, 2012). This paper proposes that utilitarian and hedonic motivations should impact on the effect of importance for assurance, and further mediate the relationship between utilitarian and hedonic motivations and importance in regard to assurance. Therefore, this paper proposes the following hypotheses:

H7. Customers' utilitarian motivations generated by transparent windows enhance importance for assurance.

H8. Customers' hedonic motivations generated by transparent windows enhance importance for influence assurance.

H9-1. Customers' utilitarian motivation is a mediator of utilitarian value on importance for assurance generated by transparent windows.

H9-2. Customers' hedonic motivation is a mediator of hedonic value on importance for assurance generated by transparent windows.

### 3. Research Methodology

#### 3.1 Measurement

A 5-point Likert scale of items was used with scores ranging from 1 (strongly disagree) to 5 (strongly agree). The convenience, information availability and value were derived from To et al. (2007). Each of these constructors had 3 items, except for the convenience which had 4 items. These items were used to measure customers' perception of saving time and energy in accessing further information through transparent window. The utilitarian and hedonic motivations were also used To et al.'s (2007) items both had 5 items. These items were used in measuring customers' getting further information through transparent windows are critical, affect purchase decision and generate feelings of happiness and enjoyment. The construct fashion consciousness was adopted from Shim and Gehrt's (1996) items, which included 5 items used to estimate the degree of the pursuit of novelty related to transparent windows. Finally, the construct importance for assurance was adopted from Laurent and Kapferer's (1985) items, which included 7 items to estimate the statement or fact of being greatly significant, in regard to transparent windows.

The items were translated into Chinese and description added to fit the context of transparent windows. For example, through the transparent windows, customers can clearly see the multiple processes of the services, production or transportation. The questionnaire was pre-tested with 25 users and pilot-tested with 30 citizens who had used or seen the transparent windows before in Taiwan. A few questions needed editing; for example, the first item of utilitarian motivation to be edited as "The transparent windows showing the process of product production or transportation are useful".

### 4. Results

#### 4.1 Data Collection and Demographic Information

The speed and low cost of web surveys make the internet increasingly useful for data collection (Batagelj and Vehovar, 1998). Many studies, such as those by Pitkow and Recker (1995), Stanton (1998) and Huang and Liaw (2005) have shown that data collected over the internet is usually useful and high quality. The data in this paper were gathered using an online survey; 243 usable questionnaires were collected. Of these, 73.4% were filled out by males and 54.2% were filled out by students. The income per month of most participants was NT\$18000(\$600) ~ NT\$20001(\$666.7) (81.3%). The product category that was most often used for transparent windows was food (32.4%), followed by books/magazines (27.8%), bus situation (22.9%), and others (16.9).

#### 4.2 Reliability and Validity

The items of each construct were examined for reliability, convergence and discriminant validity. Cronbach's alpha values of all constructs exceeded 0.7, which is the recommended threshold for reliability (Nunnally, 1994). Cronbach's alpha for convenience, information availability, fashion consciousness, value, enjoyment, utilitarian motivation, hedonic motivation and importance for assurance were 0.883, 0.872, 0.888, 0.817, 0.761, 0.839, 0.871 and 0.905, respectively. **A single negatively-worded question was comprised to decrease the probability of common method bias (Podsakoff et al., 2003).** Convergent validity using varimax rotation was performed for all constructs. The number of factors was based on an Eigen value greater than 1 and a loading factor greater than 0.5. No item was dropped. Composite reliability (CR) was used to measure internal consistency, in which constructs ranged from 0.81 to 0.94, and the average variance extracted (AVE) was used to find the variance of the measurement error captured by the indicators, ranging from 0.51 to 0.71. These numbers all exceeded the recommended cut-off levels of 0.70 and 0.50, respectively (Fornell and Larcker, 1981). This demonstrated good internal consistency, and indicated that the scale was trustworthy. Table 1 shows the loading factor, mean and standard deviation (SD) for each item, Cronbach's alpha, component reliability and AVE for each construct.

Table 1. The loading factors, means, SD of each construct

no	Items(Mean/SD)	Loading factors
Convenience derived from To et al. (2007) $\alpha=0.883$ CR=0.81 AVE=0.51		
During purchasing, products presented by transparent windows no matter from the real or the Internet, I can get further information to confirm....		
1	.....whenever I want	0.749
2	.....with free effort	0.624
3	.....fits with my need	0.795
4	.....conveniently	0.695
Information availability derived from To et al. (2007) $\alpha=0.872$ CR=0.84 AVE=0.64		
1	I can quick access large volumes of information from transparent windows	0.845
2	The Information obtained from the transparent windows is useful	0.796
3	Transparent windows make acquiring information easily and clearly.	0.758
Fashion consciousness derived from Shim and Gehrt (1996) $\alpha=0.888$ CR=0.85 AVE=0.58		
1	I usually have interest in transparent windows of the newest ways.	0.786
2	I keep my information up-to-date with the changing fashions.	0.814
3	Fashionable and attractive transparent windows are very important to me.	0.819
4	To get variety, I choose products or services that offer transparent windows.	0.611
Value derived from To et al. (2007) $\alpha=0.817$ CR=0.84 AVE=0.64		
1	I go shopping when there are products presented by transparent windows.	0.734
2	I enjoy looking for products that offer transparent windows.	0.825
3	I enjoy watching for products that offer transparent windows.	0.835
Enjoyment derived from Lin and Hsieh (2011) $\alpha=0.761$ CR=0.87 AVE=0.63		
1	The information of the transparent windows is interesting.	0.799
2	I feel good being able to use the transparent windows.	0.761
3	The transparent windows have interesting additional information.	0.713
4	The transparent windows provide me with all relevant information.	0.889
Utilitarian motivation derived from To et al. (2007) $\alpha=0.839$ CR=0.88 AVE=0.59		
The transparent windows show what the process of products are making or transporting.....		
1	....is useful	0.761
2	....is helpful	0.792
3	....is functional	0.718
4	....is necessary	0.871
5	....is practical	0.696
Hedonic motivation derived from To et al. (2007) $\alpha=0.871$ CR=0.88 AVE=0.62		
The transparent windows show what the process of products making or transporting ....		
1	....is fun	0.719
2	....is exciting	0.875
3	....is delightful	0.720
4	....is thrilling	0.740
5	....is enjoyable	0.853
Importance for assurance derived from Laurent and Kapferer (1985) $\alpha=0.905$ CR=0.94 AVE=0.71		
1	Choosing products that offer transparent windows for assurance is a good decision in purchasing.	0.842
2	I attach great concern to selecting products that offer transparent windows for assurance.	0.867
3	I don't usually get overly concerned about selecting products that offer transparent windows for assurance (R).	0.877
4	Whether products offer transparent windows for assurance or not, I purchase doesn't really matter to me (R).	0.852
5	Purchasing products without offering transparent windows for assurance takes a lot of careful thought.	0.821
6	Selecting products that offer transparent windows for assurance are serious, important decisions.	0.836
7	It means a lot to me to purchase products that offer transparent windows for assurance.	0.798

Note:  $\alpha$ - Reliability; R- reverse;

CR-Composite reliability=  $(\sum \text{standardized loading})^2 / (\sum \text{standardized loading})^2 + \sum \epsilon_j$ ;

AVE-Average variance extracted=  $\sum (\text{standardized loading})^2 / \sum (\text{standardized loading})^2 + \sum \epsilon_j$ ;

$\epsilon_j$ -Indicator measurement error.

Discriminant validity refers to the degree of measuring different concepts being distinct. The notion is that if two or more concepts are unique, then valid measures of each should not be too highly correlated (Bagozzi,

1993). The assessment used the guidelines suggested by Fornell and Larcker (1981). The square root of each construct's AVE was larger than its corresponding correlation coefficients with other factors, as shown in Table 2; it showed good discriminant validity (Fornell and Larcker, 1981; Niedergassel and Leker, 2011).

Table 2. Correlation coefficient matrix and roots of the AVEs

Constructs	1	2	3	4	5	6	7	8
1 convenience	0.707							
2 information availability	0.286 <sup>a</sup>	0.800						
3 fashion	0.347 <sup>a</sup>	0.445 <sup>a</sup>	0.762					
4 value	-0.046	0.232 <sup>a</sup>	0.280 <sup>a</sup>	0.800				
5 idea	0.239 <sup>a</sup>	0.462 <sup>a</sup>	0.499 <sup>a</sup>	0.179 <sup>b</sup>	0.728			
6 utilitarian	0.511 <sup>a</sup>	0.340 <sup>a</sup>	0.429 <sup>a</sup>	0.169 <sup>b</sup>	0.456 <sup>a</sup>	0.768		
7 hedonic	-0.089	0.204 <sup>b</sup>	0.250 <sup>a</sup>	0.326 <sup>a</sup>	0.242 <sup>a</sup>	0.171 <sup>b</sup>	0.721	
8 importance for assurance	0.110	0.358 <sup>a</sup>	0.433 <sup>a</sup>	0.361 <sup>a</sup>	0.541 <sup>a</sup>	0.372 <sup>a</sup>	0.360 <sup>a</sup>	0.843

note: <sup>a</sup>:  $p < 0.01$ ; <sup>b</sup>:  $p < 0.05$ .

### 4.3 Analysis Results

The hypotheses were used to test the motivation theory with regard to utilitarian value (convenience, information availability, fashion consciousness), hedonic value (fashion consciousness, value, enjoyment), utilitarian motivation, satisfaction and tendency toward impulse purchases) using Amos 18.0. The chi-square ( $\chi^2$ ) was 2.14,  $\chi^2/df=2.147$ , GFI (0.913), CFI (0.942), NFI (0.930), IFI (0.969), AGFI (0.889) and RMSEA (0.049) of the current model; the all fit index suggested an adequate model fit for the empirical data (Liao et al., 2007). The evaluations of hypotheses 1, 2 and 3 showed that the customers perception of convenience ( $\beta=0.394$ ,  $t=4.958$ ,  $p<0.001$ ;  $\beta=0.238$ ,  $t=2.795$ ;  $p<0.01$ ) and fashion consciousness ( $\beta=0.238$ ,  $t=2.795$ ;  $p<0.01$ ) positively impacts on utilitarian motivation, except for information availability ( $\beta=0.122$ ,  $t=1.1460$ ,  $p>0.05$ ). The evaluation of hypotheses 4, 5 and 6 showed that customers perception of value ( $\beta=0.222$ ,  $t=2.789$ ;  $p<0.01$ ) and enjoyment ( $\beta=0.428$ ,  $t=5.445$ ;  $p<0.001$ ) positively impact on hedonic motivation, except for fashion consciousness ( $\beta=0.090$ ,  $t=1.123$ ;  $p>0.05$ ). The evaluation of Hypotheses 7 and 8 showed that the affect of importance on assurance was influenced by utilitarian and hedonic motivation ( $\beta=0.305$   $t=3.785$ ,  $p<0.001$ ;  $\beta=0.320$   $t=3.965$ ,  $p<0.001$ ). Specifically, these indicate that customers feel that the more convenient and fashionable with, the more they enhance utilitarian motivation, and are viewed as more important. Comparatively, these also indicate that the more enjoyable and valuable with transparent windows, the greater their hedonic motivation. Consequently, they will think the transparent windows are very important. Utilitarian motivation has a slightly lower evaluation of importance than hedonic motivation does in regard to assurance. This means that customers concern transparent windows somewhat fun more than useful. Overall, all of the hypotheses, except 2 and 4, are supported.

Baron and Kenny (1986) proposed that mediators validated the statistical steps in regard to evaluation as follows: (1) a significant relationship exists between the independent variable and the dependent variable; (2) a significant relationship exists between the independent variable and the presumed mediator; and (3) in the presence of a significant relationship between the mediator and the dependent variable, the previous significant relationship between the independent variable and the dependent variable is no longer significant, or the strength of the relationship is significantly decreased.

In this paper, the utilitarian motivation is a full mediates of information availability on the importance for enhancing assurance. Utilitarian motivation is a partial mediator between fashion consciousness and the importance regarding assurance (hypothesis 9-1 is supported mostly), as shown in Table 3. Obviously, customers feel that information availability from transparent windows impact on importance for generating assurance through only utilitarian motivation. The fashion consciousness of customers derived from transparent windows combined with utilitarian motivation impact on importance in strengthening assurance. Clearly, hedonic motivation is not a mediator between all of the hedonic values, such as fashion consciousness, value, and enjoyment and importance related to assurance. In this paper, only utilitarian motivation is found to act as a mediator between utilitarian value (information availability and fashion consciousness) on importance enhancing assurance. Furthermore, in the statistic explanation, the utilitarian motivation is a full mediator between information availability and importance linked to assurance, as well as a partial mediator between

fashion consciousness and importance related to assurance. However, hedonic motivation does not have the mediating effect between hedonic value (fashion consciousness, value and enjoyment) and importance related to assurance. In the managerial explanation, both cognition and emotions are combined to understand customers' feelings about transparent windows in an online or offline environment.

Table 3. Direct, indirect and total effects of importance for assurance—estimates

Independent	Mediator							
	utilitarian motivation			Result	hedonic motivation			Result
	Direct effect	Indirect effect	Total effect		Direct effect	Indirect effect	Total effect	
Convenience				No				
information availability	0.170	0.037	0.207	Full				
fashion consciousness	0.273	0.069	0.342	Partial				No
value								No
enjoyment								No

Note: no means the mediated effect is not significantly.

## 5. Discussion and Conclusion

### 5.1 Discussion

This study applied motivation theory in the domain of importance linked to assurance about the product/service situation promoted by transparent windows, including: the utilitarian value (convenience, information availability and fashion consciousness), the hedonic value (fashion consciousness, value and enjoyment), utilitarian and hedonic motivations of customers, as well as both mediators of importance related to assurance. The majority of hypotheses were supported. Customers feel that convenience and fashion consciousness derived from transparent windows positively impact on their utilitarian motivation positively. Relatively, customers' value and enjoyment of hedonic value from the transparent windows impact on their hedonic motivation. Customers feel that importance linked to assurances through transparent windows is mainly predicted by the utilitarian and hedonic motivations. This paper showed that hedonic motivation is slightly greater than utilitarian motivation on the importance for assurance. The result is contrary to Cheema and Papatla's (2010) result; they found the relative importance of online information to be higher for utilitarian products than for hedonic products. The transparent windows present products with detailed information, so customers can save time and effort in obtaining the information they desire. In this study, contrary to expectations, the information availability of transparent windows does not impact utilitarian motivation; fashion also does not impact hedonic motivation. The reason may be that since the information could be available anywhere now, customers are not so concerned. Indeed, the results need to be explored further in the future. The advantages of providing transparent windows for products or transporting packages include attracting people and influencing their purchase decision. In addition, the utilitarian and hedonic motivations derived from transparent windows are basic concerned by customers. Customers need to get information on products/services with transparent information to reduce their worries about buying. Finally, importance related to assurance can be predicted by information availability and fashion consciousness through the utilitarian motivation mediator. This study confirms the applicability of motivation theory regarding products presented or promoted by transparent windows for enhanced assurance, and establishes a new model within both real and virtual world contexts. The new model thoroughly enables a better understanding of customers' utilitarian and hedonic motivations in regard to the impact of importance on assurance. It also provides valuable insights into assuring the quality of products or transportation through the use of transparent windows. This paper emphasizes the importance of assurance promoted by transparent windows in corporate strategy; in other words, transparent windows technology is now widely recognized as a key competitive weapon online or offline. Someday it may be the key differential advantage in the global marketplace.

### 5.2 Implications

The empirical evidence reveals that it is worthwhile to provide transparent windows for promoting or assuring the quality of products or services. In the following, the author presents a theoretical discussion and managerial implications of findings.

### 5.2.1 Theoretical Discussion

The motivation theory is a prominent theory that has been widely applied in understanding customers' feelings and consumption in relation to technology. Examples of motivation theory include: e-commerce environments (O'Brien, 2010), internet shopping (To et al., 2007), retail shopping (Childers et al., 2001), instant messaging (IM), usage of technology (Premkumar et al., 2008), online cart use (Close and Kukar-Kinney, 2010) and adaption museum guides (Pianesi et al., 2009). There is a dearth of research on importance related to assurance regarding motivation theory linked to transparent windows in both the real and virtual worlds. This study fills in the gap of importance related to assurance between utilitarian and hedonic values and motivations. The current research empirically finds that customers' utilitarian and hedonic motivations impact the perceived importance for enhancing assurance via transparent windows. Utilitarian and hedonic motivations are the key determinants. Clearly, enjoyable information technology (transparent windows) for presenting products or the transportation process might be more effective than emphasizing utilitarian benefits. The results find that transparent windows are the new weapons of promotion in both the real and virtual worlds, by enhancing customers' assurance.

### 5.2.2 Managerial Implications

There are multifold practical and empirical implications of this study. First, from the practical perspective, customers' utilitarian and hedonic motivations make themselves feel the importance of assurance via transparent windows in the real or virtual worlds. The hedonic motivations of customers are slightly greater than utilitarian motivations in regard to the impact of importance for assurance generated by transparent windows. Therefore, products or services with transparent windows are particularly attractive in the global marketplace. Corresponding to Pianesi et al.'s (2009) study, the utilitarian and hedonic motivations in technology shows the two motivations play the important roles. This study also has practical implications for business practice. First, **managers** should choose appropriate products or services to visually present the processes to fit customers' needs. These production or transporting processes are presented by transparent windows will motivate customers to be a new competitive advantage in the global marketplace. Second, this study shows the importance of assurance regarding convenience, fashion, value, enjoyment, and utilitarian and hedonic motivations to attract more customers through transparent windows. The **owners** should encourage employees to arrange stronger incentives to induce motivation with windows, such as showing the production or transporting process to match customers' needs. Third, any increase in motivators leads to the increased importance of assurance offered by transparent windows, directly or indirectly. In other words, the **builders** of transparent windows should let their customers experience a sense of control; when the services are very fashionable and the interfaces are friendly, this should especially increase customers' motivation. Therefore, customers are more likely to be eager to watch the transparent windows, leading to buying more product or service. Finally, from the standpoint of **academic research**, this study marks the commencements to explain the importance of assurance in the transparent windows context. The related hypotheses are mostly supported. In this study, the enjoyment of customers has the most significant effect on customers' hedonic motivation in the real and virtual real worlds. Indeed, hedonic motivation is more important than utilitarian motivation concerning customers' perceptions.

### 5.3 Limitations and Future Work

There are a number of limitations to this study. First, this study presents only a snapshot of the importance of assurance provided by transparent windows, and does not measure customers' perception over time. Longitudinal studies would be needed for greater generalization. Second, even though all possible constructs were made to investigate significant relationships, considerable work still remains. For example, the fitness of product information is an important factor influencing customers' satisfaction (Tsao, 2013), particularly for transparent windows to promote products and services. Third, sensation seeking (Donohew et al., 2000), effectiveness (Teo et al., 2003), sensitivity (Brown et al., 2012) and peer influence (Luo, 2005) are interesting online or offline factors. Impulsivity is one of the behavioral phenomena regarding which motivation plays an important role (Tanno et al., 2011; Tsao, in press July). Therefore, impulsive purchases would be impacted by utilitarian and hedonic motivations. Hedonic motivation has a direct impact on the intention to search and indirect impact on the intention to purchase (To et al., 2007). As a result of the above, the impulsive purchase intention or purchase itself is an interesting result of transparent windows. Finally, there are still a few hypotheses without sufficient support, and these deserve further exploration in the future.

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