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The Mediating Role of Attitudes in Using Investor Relations Websites

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Abstract

Publicly listed companies have been utilizing their Web presences to achieve many different goals including serving their Investor Relations (IR) functions. These online functions can be regarded as effective when their intended users keep re-using the companies' IR Websites as they are satisfied with the provided information and facilities. This study finds that users' ' intentions to re-use IR Websites' are the outcomes of their perceptions of the Websites related to 'information usefulness', 'usability' and 'attractiveness', mediated by 'attitude towards IR Websites'. This finding suggests that apart from providing relevant information for investors, managers of publicly traded companies should also consider Website technical and aesthetic attributes that may shape investors' overall evaluation of their IR Websites.

Keywords: Investor Relations, Internet Financial Reporting, Attitude towards Websites.

1.0 Introduction

For many publicly listed companies, a specialised function is established to deal with the needs of their investors. This Investor Relations (IR) function is dedicated to serve specific informational needs of existing shareholders as well as to attract new investors. Marston (1996, p. 477) defines IR as 'the link between a company and the financial community, providing information to help the financial community and the investing public evaluate a company'. This view suggests that the role of investor relations is to complement existing information flows, not by adding new information content but by improving the method of providing that information. One new method that has been utilised by most companies is by leveraging their corporate Websites to include specific pages for investors – commonly known as IR Websites. The Internet has paved the way for companies to effectively communicate with their stakeholders quickly and at low cost, as compared to traditional means of corporate communication.

Since it has been almost a must for publicly traded companies to have corporate Websites, leveraging their Web presences to establish good relationships with investors clearly provides an added benefit. In addition, because companies can voluntarily disseminate investor-related information on their Websites, they can select favourable information to properly and 'persuasively' design IR Websites to engage investors directly, and not through third-party providers. Through effective Web design, companies hope that their IR Websites can satisfy the informational needs of their current and prospective investors. Of different groups of investors, individual investors can become the target for companies utilizing Web marketing strategies in their effort to court new investors. These investors are believed to be emotionally affected in making decisions (Aspara & Tikkanen, 2008). Therefore, this study is interested to assess the mediating role of attitude on Web attributes and investors' decision to re-use IR Websites.

2.0 Theoretical Discussion and Hypothesis Development

The main idea behind this study is that Websites can be strategically designed to affect users' perceptions on the Websites and their likelihood of returning to the Websites. In the process, it is hoped that users may also engage in activities that benefit the Web owners including purchasing products, providing positive feedback and investing in the companies' shares. Therefore, the effectiveness of IR Websites can be measured based on repeat use by investors who may at some future point in time trade on the companies' shares.

2.1 IR on the Internet

IR on the Internet can act as a specific instrument for reducing information asymmetry, which in turn lowers agency costs (Ashbaugh, Johnston & Warfield, 1999; Ettredge, Richardson & Scholz, 2002). Corporate reporting on the Internet partially remedies the problem of information asymmetry by enabling investors to obtain important information easily and at low cost. Furthermore, the traditional paper-based disclosure has limitations and costly due to increase in investor geographic dispersion, which has meant that the paper form becoming increasingly expensive and limited in capacity to reach users. In contrast, Internet disclosure is cost-effective, fast, flexible in format, and accessible to all types of users within and beyond national boundaries (Debreceny, Gray & Rahman, 2002).

Traditionally, the role of IR has been to distribute corporate reports (annual and interim), organise annual general meetings, arrange press and financial analyst conferences and attend to telephone calls (Bollen, Hassink & Bozic, 2006). Apart from being used as an alternative means of implementing these IR activities, the Internet can also act as a new form of communication with investors (Deller, Stubenrath & Weber, 1999). Because investors are highly reliant on the information provided on company Websites (ASX, 2009; Loranger & Nielsen, 2003), companies should constantly manage their IR Websites to satisfy these informational needs of investors. When investors are satisfied from using online information and facilities provided on companies' IR Websites, they may form strong intention to invest in the companies. Nevertheless, for the sake of only evaluating the effectiveness of an IR Website, managers can rely on the number of repeat users as an indicator that their online IR functions are of use to their intended users.

2.2 Repeat Use of IR Websites

Many studies indicate that user behaviors such as adoption, purchase decision and repeat use are reliable surrogates for Website effectiveness (e.g., Chen & Wells, 1999; Gao & Koufaris, 2006; Karson & Fisher, 2005). As for a Website that contains information rather than product pre-purchase information, repeat use of the Website can be regarded as a more appropriate measure to assess its effectiveness. In the instance of IR Websites, investors may not be able to properly evaluate a company for investment purposes after one visit to its IR Websites because their evaluation also involves analysis of its financial performance. Therefore, they may need to use a particular IR Website a number of times before they can make an investment decision. Conversely, an IR Website that is unable to motivate further visits by investors can be regarded as ineffective; thus needs to be redesigned to justify its existence. Repeat use of IR Websites can be easily achieved when balance of *utilitarian* and *affective* elements within the Websites is met.

Investors are known to be 'selective seeker' and their informational needs tend to be specific (Ryan & Buchholtz, 2001; Loranger & Nielsen, 2003). Therefore, they expect to find specific information and facilities on a particular IR Website. For example, when they can locate the *price chart* of a company's shares on its IR Website easily, they will likely form positive attitudes towards the technical attribute of the Website. On another note, investors are known to be emotionally driven in their investment decisions (Aspara & Tikkanen, 2008). As Web technology can contain many aesthetic attributes that can affect Web users' emotions, companies can design their IR Websites to include such attributes that can encourage more visits to their IR Websites. Therefore, the first hypothesis of this study is stated as:

> *H1: 'Attitude towards IR Websites' is positively related to 'intention to re-use IR Website'*

2.3 Attributes of IR Websites

Websites which are effectively designed to meet the needs of their intended users do not need to be oftenly redesigned and can sometimes become an 'industry benchmark'. In this regard, companies can avoid expensive costs in redesigning their Websites while at the same time other companies are following their practices to come up with Websites that are of use to users. Realising the importance of effective IR Websites, the Australasian Investor Relations Association (AIRA) has been awarding 'best' IR Websites every year for Australasian-based companies. Similarly, Loranger and Nielsen (2003) have proposed important information and facilities for an IR Website based on three levels of priority – high, medium and low. Therefore, it is imperative for companies to identify certain Web attributes that are highly appreciated by investors in their use of IR Websites.The first important attribute of IR Websites is how the information provided on the IR Websites is perceived by investors in terms of its usefulness. Unlike static information, investors put high value to the information that can help them evaluate the true 'worth' of a company for their investment decision-making.

In selecting information, investors normally browse related pages to record necessary information and even download certain information that need to be evaluated offline. Although professional and retail investors differ in their preferences of using different types of information (Loranger & Nielsen, 2003), they will in the end judge the effectiveness of a particular IR Website in terms of its usefulness. In other words, the quality of information provided on Websites and its credibility play an important role.Internet-savvy information seekers such as Do-it-Yourself investors tend to use their knowledge to question the credibility of available information and to provide feedback or request specific information not available on company Websites. In providing information on Websites, companies can pursue persuasion techniques to select and disclose favourable information, and to hide or make subtle less favourable information. Therefore, investors tend to believe audited and value-added information, and when they regard the information provider to be accountable they will more likely be satisfied with the Website. Based on these arguments, this study hypothesizes the second hypothesis as:

> **H2: 'Information usefulness' is positively related to 'attitude towards IR Websites'**

The second important attribute for IR Websites relates to the more technical aspect of navigating such Websites. Here, a Website is considered of value when its intended users can interact with the technology to carry out their activities (Zimmerman & Muraski, 1996). People often avoid a Website after an initial visit because they encounter difficulties navigating complex collections of information, or cannot find (or re-find) an item they want. Websites that do not provide positive experiences may cause investors to decide that it is easier to consult an investment broker or read third-party opinions on a company's prospects, rather than analysing that firm's financial performance using information presented on its Website. Hence, the third hypothesis tested in this study is:

> **H3: 'Usability' is positively related to 'attitude towards IR Websites'**

Investors' perceived attractiveness of IR Websites is also an important factor that may lead to their satisfaction. Users are likely to stay longer on a Website when they are highly impressed with good Web design, are satisfied with its content and feel engaged visiting it (Cao, Zhang & Seydel, 2005; Smith & Merchant, 2001). Several studies have found that 'entertainment' and 'playfulness' act as influencing factors on users' perceptions of Web quality (Aladwani & Palvia, 2002; Cao et al., 2005; Chen & Yen, 2004). The final hypothesis of this study is given as:

> **H4: 'Attractiveness' is positively related to 'attitude towards IR Websites'**

3. Research Method and Design

This study is based on the concept of attitudes as having an important role in predicting users' behaviours. Therefore, the effectiveness of a Website can be assessed through favourable attitudes formed towards that Website as result of users' positive Web experiences. Research indicates that the persuasive impact of a communication is determined by evaluative thoughts (cognitive responses) and feelings (affective responses) experienced by the audience as they process the communication (Brown & Stayman, 1992; MacKenzie, Lutz & Belch, 1986; Sicilia, Ruiz & Reynolds, 2006). These internal responses supporting or contradicting the message are supposed to mediate the effects on beliefs, attitudes and behaviours. Further, Teo, Oh, Liu and Wei (2003) assert that users of a system cannot form attitudes towards the system until they have some feelings about it.

3.1 Theoretical Frameworks

Related theoretical frameworks include the Elaboration Likelihood Model (ELM) and the Dual Mediation Hypothesis (DMH). For example, Mackenzie et al. (1986) found that consumers' purchase intentions can be predicted by their cognition evaluation of a particular advertisement and its brand, mediated by attitudes towards the advertisement and its brand – thus the notion of *dual mediation*. Since the present study is more interested in assessing the role of effective IR Websites alone, but not the companies' brands, its research model only considers a single mediating role of attitude towards IR Websites on users' intention to re-use the Websites. Based on these related theoretical frameworks, this study uses the research model as given in Figure 1

[Insert Figure 1 here]

3.2   Data and Unit of Analysis

An online survey method was employed to collect respondents' answers following a *free simulation experiment* (Jenkins, 1985). Online surveys are regarded as advantageous since they can overcome place and time constraints (Wang & Emurian, 2005), whereas free simulation experiments avoid fictitious study cases.

IR Websites of three companies[1] listed on the Australian Securities Exchange (ASX) were chosen for the experiment. This selection has followed a narrowing technique to avoid having too many IR Websites but at the same time ensuring that these Websites have certain differing characteristics such as size, industry types and brand familiarity. The intended *unit of analysis* in the present study is individual investors. However, since one of the main aims of the study was to validate a proposed model (internal validity), a proxy for individual investors was chosen. Important aspects such as knowledge, skills and involvement[2] were carefully considered when selecting this proxy in order to also meet external validity. As a result, 341 students enrolled in the Investment and Portfolio Management subject at a major university in Victoria, Australia have been identified and selected as the study's sample frame. From this sample frame, 136 usable responses were gathered during six weeks of administering the survey, wherein students answered in their own preferred time, not in a laboratory setting.

3.3 Measurement and Questionnaire

Measurement of data was based on existing measures used in earlier studies in related fields (Agarwal & Venkatesh, 2002; Aladwani & Palvia, 2002; Chen & Wells, 1999; Cao et al., 2005; Karson & Fisher, 2005; MacKenzie et al., 1986; Wang & Strong, 1996). Majority of the constructs in the model were conceptualised as factors with reflective indicators but the 'information usefulness' construct was conceptualised as second-order factors made up of formative indicators of both 'information quality' and 'credibility'. Further, 'attitude towards IR Websites' was also conceptualised as a second-order factor with reflective indicators. To test these second-order factors, this study followed the procedures suggested by Wetzels, Odekerken-Schröder and van Oppen (2009). All items measuring latent constructs are given in Table 1, using both 7-point Likert scale items and 7-bipolar points for semantic differential items. These measures have been adequately piloted and found to be reliable and unambiguous.

[Insert Table 1 here]

Data from the 136 responses were first refined. In doing so, an exploratory factor analysis was run on all original measures before the model with valid measures was finalised for hypothesis testing. This analysis has resulted in eight original indicators being dropped. As for formative indicators, a *variance inflation factor* (VIF) analysis was performed in order to check for redundant items and any collinearity problem. The final model with respective valid indicators is given in Figure 2.

[Insert Figure 2 here]

3.4 Analysis of Data

Data analysis was based on partial least squares (PLS) path modeling to test hypotheses included in the research model. This method was chosen due to normality assumptions of the data distribution have not been met, small sample size and the conceptualisation of formative indicators in the model. The specific PLS tool used in the present study is a freeware application, SmartPLS, developed by Ringle, Wende and Will (2005).

4. Results

In utilizing a PLS path modeling technique, a similar two-step procedure normally conducted in structural equation modeling (SEM) was followed (Anderson & Gerbing, 1988). Through this technique, results of both confirmatory factor analysis of the model and path effect were obtained. In completing this procedure, a model validation analysis was also performed.

4.1 Measurement (outer) Model

Results of the measurement model using a PLS algorithm (300 maximum iteration, standardised values and centroid weighting scheme) suggest that all constructs that were made up of reflective indicators are reliable with loadings all above the desired level of 0.70 (see Table 2). From this procedure, only one reflective item (ATR5) was removed from the model.

[Insert Table 2 here]

4.2 Model Validity

In SEM, a research model is said to be valid when both convergent and dicriminant validity have been achieved. Table 3 and Table 4 provide the results of these validity tests.

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[1] The companies were Woolworths, Lion-Nathan and Super Cheap Auto Group.
[2] Procedures included share analysis assignment and adding involvement items in the questionnaire.

The research model demonstrates a strong convergent validity as the latent constructs with reflective items have high *composite reliability* (CR) and *communality*. Similarly, as can be seen in Table 4, the square roots of all average variance extracted (AVE) were greater than inter-construct correlations suggesting that discriminant validity has been achieved.

[Insert Table 3 here]

[Insert Table 4 here]

4.3 Structural (inner) Model

Using a bootstrapping technique (500 re-samples), a test on the structural model was conducted to assess the effect of each causal path, thus testing the stipulated hypotheses. As can be seen in Figure 3, all causal paths are significant at 1% level of significance. Therefore, all hypotheses are supported suggesting that attitude plays a mediating role for investors to decide in returning to an IR Website after their first visit to the Website.

[Insert Figure 3 here]

4.4 Model Fit

Finally, the research model was analyzed in terms of its model fit. As can be seen in Table 5, the research model explains 40.9% variation in the construct of 'intention to re-use IR Websites'. The Goodness-of-Fit statistic appears to be high at 0.7376, while fit statistics for both outer model (H^2) and inner model (Q^2) are also high.

[Insert Table 5 here]

5. Discussion and Conclusion

As hypothesized perceptual antecedents of attitude towards IR Websites, the three Web attributes have comparable path coefficients towards the attitudinal variable. Among them, perceived information usefulness of an IR Website was found to be the largest contributing factor ($\beta = 0.341$) in the formation of investor attitudes. This finding affirms that investors are Web users with specific informational needs, thus their overall emotional evaluation of an IR Website is strongly influenced by the provision of essential investment information on the site. With path coefficients of 0.311 and 0.297, both perceived attractiveness and usability are also significant contributing factors of attitudes. Findings of this study have empirically confirmed the claim in extant literature that investor behaviours may be emotionally biased (Aspara & Tikkanen, 2008). Although the outcome variable used in this study was only repeat use of IR Websites, but not investors' ultimate investing decisions, we have shown that attitude is a strong mediator between attributes of IR Websites and repeat visits to the sites with a path coefficient of 0.640, resulting in 40.9% variance in the outcome variable being explained. At that level, we believe that the model used in this study is of use to both practitioners and researchers in related area.

6. Implications of Findings

The findings of this study have important implications to both theoretical and practical considerations. First, it was found that a research model based on the concept of attitude as a mediator can be applied in the context of investors using IR Websites. Being human, investors are subject to emotion and this emotional effect can be stronger in an online context because the Internet has enabled strategic use of Web attributes. Therefore, investors' attitudes towards the online IR tool (IR Websites) can be expected to play a significant role alongside cognitive evaluation of the tool in predicting their final behaviours of re-using the tool, and possibly their investment decisions.Second, there are specific perceptual antecedents to 'attitude towards IR Websites' that shape investors' overall affective evaluation of a particular IR Websites. This study has conceptualised three Web attributes which have resulted in the research model explaining 40.9% variance in the behavioural intention outcome, through attitudinal variable as a mediator. Among these three antecedents, 'information usefulness' is the most significant attribute with beta of 0.341 followed by 'attractiveness' ($\beta = 0.311$) and 'usability' ($\beta = 0.297$). Third, from a pragmatic perspective, companies should carefully select information that meets the highly-prioritised needs of investors. From this study, it was found that richness in Web content is only appreciated by investors when such content comes from the companies themselves. In other words, content is viewed by its usefulness, and it becomes useful when the source credibility of that content is established.Fourth, once certain information has been selected to be posted on their IR Websites, companies should ensure that such information can easily be accessed and used by investors. Certain information should be presented in an easily understandable form, with clear information flow and in downloadable formats so that less expert investors can fully digest and comprehend it by being able to read it offline.

Fifth, the effectiveness of IR Websites should be evaluated by considering the number of repeat visits to those Websites. This study has shown that when balance between specific informational needs of investors, technical and aesthetic Web attributes is met, investors can easily form positive attitudes towards a particular IR Websites. As a result, they keep returning to the Websites to carry out future information seeking tasks for their investment purposes.

7. *Limitations and Future Directions*

There are a few limitations to this study. First, the research setting for the study was an educational institution and respondents were limited to undergraduates enrolled in the Investment and Portfolio Management unit at a university in Victoria, Australia. As such, the study's findings are limited due to the extent to which similar behaviours can be generalised to real investors could not ascertained. To minimise this drawback and to mitigate real investment activity, a share evaluation assignment was administered at the same time these students participated in the survey. Second, since the research setting used in this study relied upon perceptual measures through the use of a self-reported survey, the study findings may, to some degree have been tainted with response bias. However, from two relevant tests, it was found that common method bias[3] was not a main concern.Third, the research model used in this study relied on a number of pre-identified antecedent variables of attitudinal constructs. As such, these antecedents explain only a portion of the variances in the attitudinal construct and in the outcome variable. There may be other factors which, although not part of this study, may have significant influence on respective attitudes and investors' behaviours. Some examples include information flow, security and past financial performance. Therefore, future research may include these suggested variables in order to increase the robustness of the findings.Fourth, the study's findings are based on a modest sample size of 136 responses. Although PLS path modelling adequately handles small sample sizes and generates valid results, it is not as reliable as covariance-based structural equation modelling in testing relationships of multiple latent variables. Future research may verify the findings of this study by employing a larger sample that will permit the use of covariance-based SEM.

8. Conclusion

This study has attempted to use a model based on the concept of attitudinal factor having a mediating role in predicting users' behaviour as a result of using a system/innovation. Research on the use of specific Websites such as IR Websites has been scarce; thus this study has provided some insights on the importance of investors' attitudes being formed after using a particular IR Websites. In particular, this study has shown that despite that certain Web attributes are regarded as important for investors' decision-making, their final evaluation of the Websites is also conditioned upon their attitudes towards those Websites, which then have a direct relationship with their intentions to re-use the Websites. Therefore, when designing and evaluating IR Websites, site managers/designers should consider including relevant Web attributes that may encourage user positive attitudes towards the sites. These positive attitudes may then trigger repeat visits to their IR Websites. By achieving high traffic on IR Websites, companies can justify their big expenditure in having the sites in the first place.

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[3] Results of common method bias can be obtained from the author upon request.

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Figure 1: Research Model

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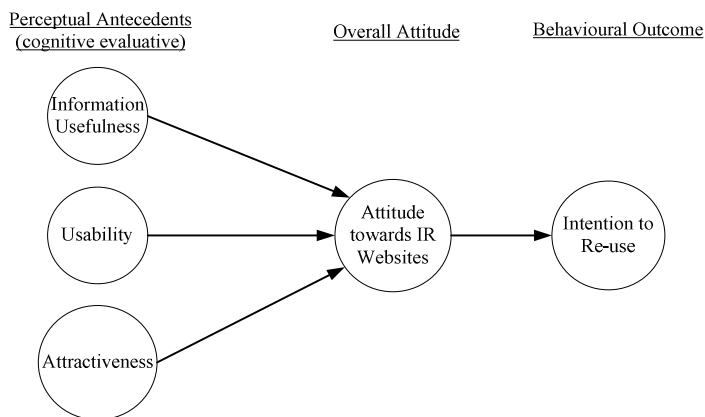
Figure 2: Research Model with Valid Indicators[4]

Figure 2: Research Model with Valid Indicators

Figure 3: Results of Structural (inner) Model
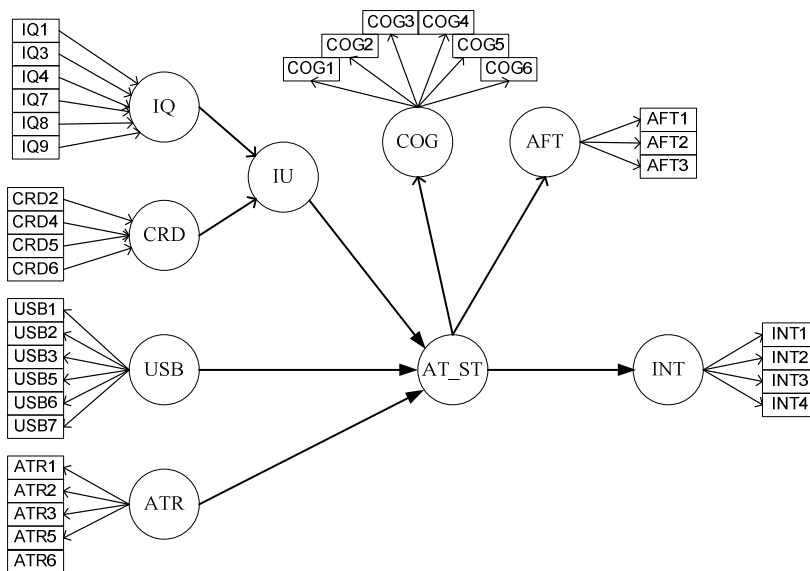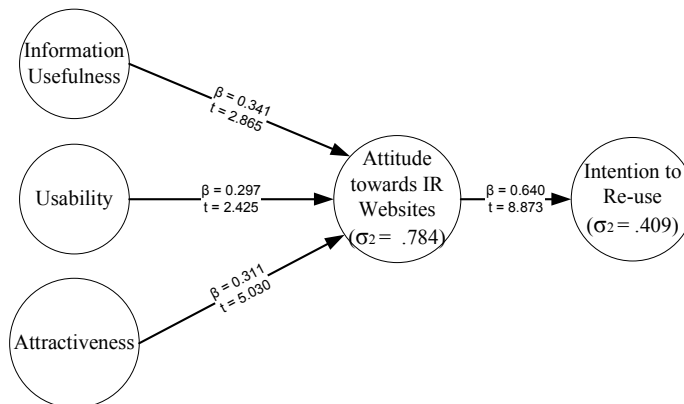

Figure 3: Results of Structural (inner) Model

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[4] For IU and AT_ST constructs, see Wetzels et al. (2009) for using hierarchical higher-order latent variables in a measurement model.

Table 1: Measures of Latent Constructs

Constructs	Mode	Order

Information Usefulness
    IQ1 – Information given on this Website is accurate
    IQ2 – The Website contains relevant information for investors
    IQ3 – Information given on this Website is reliable
    IQ4 – Information given on this Website is complete
    IQ5 – I can easily interpret the information given on this Website
    IQ6 – This Website has current information
    IQ7 – Information posted on the Website is timely
    IQ8 – Information on the Website adds value
    IQ9 – Overall, I find that the information provided on this Website
         is of high quality
    CRD1 – Information provided on this Website is believable
    CRD2 – Information provided is unbiased
    CRD3 – Financial information provided on the Website is audited
    CRD4 – The Website contains an appropriate amount of information
    CRD5 – I can easily contact responsible persons if I am not happy
         with certain information given on the Website
    CRD6 – Overall, I find that this Website has credible information
	Formative	2nd order

Usability
    USB1 – Navigating pages to find the required information is easy
         for me
    USB2 – I find the information flow on the Website is clear
    USB3 – I find the design of this Website made it easy for me to find
         the required information
    USB4 – I think the information on the Website is useless*
    USB5 – It was easy for me to skilfully navigate the pages on this
         Website
    USB6 – When navigating through the pages, I felt in control
    USB7 – Overall, I find that it is easy to perform my tasks on the
         Website
	Reflective	1st order

Attractiveness
    ATR1 – Navigating this Website is fun
    ATR2 – Finding information on the Website is enjoyable
    ATR3 – The Website contains a lot of interesting information
    ATR4 – The Website does not make the full use of the latest Internet technology*
    ATR5 – The Website design is very professional
    ATR6 – Overall, I find that this Website is attractive
	Reflective	1st order

Attitude towards IR Websites**
    COG1 – Unfavourable ↔ Favourable
    COG2 – Bad ↔ Good
    COG3 – Negative ↔ Positive
    COG4 – Difficult ↔ Easy
    COG5 – Ineffective ↔ Effective
    COG6 – Unhelpful ↔ Helpful
    AFT1 – Boring ↔ Interesting
    AFT2 – Dull ↔ Exciting
    AFT3 – Unenjoyable ↔ Enjoyable
	Reflective	2nd order

Intention to Re-use IR Websites**
    INT1 – Unlikely ↔ Likely
    INT2 – Improbable ↔ Probable
    INT3 – Uncertain ↔ Certain
    INT4 – Impossible ↔ Possible
	Reflective	1st order

***Reversed items.
****Semantic differential measures.

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Table 2: Loadings of Reflective Indicators

	Loadings		Loadings
Usability		**Attitude towards IR Site**	
USB1	0.864005	COG1	0.863281
USB2	0.905230	COG2	0.895687
USB3	0.937818	COG3	0.859421
USB5	0.884431	COG4	0.806751
USB6	0.839965	COG5	0.680582
USB7	0.897202	COG6	0.776996
		AFT1	0.869597
Attractiveness		AFT2	0.836387
ATR1	0.893916	AFT3	0.843053
ATR2	0.923181	**Intention to Re-use IR Site**	
ATR3	0.884036	INT1	0.922731
ATR5*	0.105803	INT2	0.901001
ATR6	0.903005	INT3	0.932694
		INT4	0.882920

 * Deleted in the final model.

Table 3: Convergent Validity

	No. of items	CR	AVE	Communality
Usability	6	0.957452	0.789697	0.789697
Attractiveness	4	0.945366	0.812278	0.812278
Attitude towards IR Websites	9	0.951264	0.685595	0.685595
Intention to Re-use IR Websites	4	0.950668	0.828175	0.828175

Table 4: Discriminant Validity

	USB	ATR	AT_ST	INT
USB	.889*			
ATR	.778	.901		
AT_ST	.848	.792	.828	
INT	.661	.539	.639	.910

* Diagonal elements are square roots of AVE.

Table 5: Model Fit Statistics

Construct	Structural Model	Model Quality (H^2) (Q^2)
INT	0.408993[a] (0.828074)[b] 0.336686[c]	0.828182[d] (0.332465)[e]
AT_ST	0.784225 (0.685600) 0.271908	0.685665 (0.532704)
IU	0.995844 (0.594612) 0.456906	0.602816 (0.603847)
COG	0.938884 (0.790545) 0.742018	0.790584 (0.737104)
AFT	0.678615 (0.847454) 0.570006	0.847526 (0.565652)
IQ	- (0.687052) -	0.705153 (-)
CRD	- (0.558615) -	0.564710 (-)
USB	- (0.789696) -	0.789634 (-)
ATR	- (0.812278) -	0.812301 (-)
Average	0.761312 0.714539[f] 0.475505	0.736286 (0.554354)
GoF[g]	**0.737555**	

a = variance explained, b = communality, c = redundancy, d = cv-communality, e = cv-redundancy,
f = computed as a weighted average of the different communalities with the weights being the number of
manifest variables per construct (Guenzi, Georges & Pardo 2009, p.306; Tenenhaus et al. 2005, p.180).
g = GoF equals $\sqrt{}$ [(average communality) x (average R^2)].