Disclosures through Websites – A Study on the Factors Influencing the Investors' Behavior on the usage of Financial Website

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Abstract: *Financial firms disclose a great deal of information on their websites to help individuals to take investment decisions. This article examines whether the actual usage of financial websites and the intention to use the websites are influenced by the factors like perceived ease of use and perceived usefulness of the websites. Modified Technology Acceptance Model was used to specify the causal linkages between the key constructs: perceived ease of use, perceived usefulness, behavioural intention to use and actual usage. Data analysis is done using structural equation modelling.*

Keywords: *Actual Usage, Financial website, Intention to Use, Modified Technology Acceptance Model*

1. INTRODUCTION

Information symmetry is extremely important in a capital market for the efficient allocation of resources. Information dissemination in the real time will help the investors to take the correct investment decisions. Non availability of information or lack of correct information will result in the wrong judgements made by the investors. Information asymmetry may result in investors judging the good projects as bad ones and bad projects as good ones. With the advancement of technology, internet is one of the most important source on which the firms rely to disclose information. Multimedia rich websites allow information to be disseminated to broad base of investors in real time and at low cost, thus expanding the universe of investors with access to information. These changes are expanding market participation and bring dramatic changes in the investors' behaviour.

Several studies have been done in the past to understand the features which the individuals will look for when they use (or intend to use) a financial website. This will help the companies which offer financial services to design their websites in such a way as to draw more number of customers. This study attempts to identify the factors which the individual investors will look for in a website when they plan to use the website as a source of information, to take investment decisions. The basic premise of this study is that, the features of financial websites will have an impact on the perceptions of the customers, regarding the ease of use and usefulness of the website. The perceptions of the individuals regarding the ease of use and usefulness of the website will influence their intention to use the website, which may result in the actual usage of the website. Understanding the causal relationships between these factors will be useful for those firms who are engaged in website design. This could also impact future decisions taken by such firms on how financial information can be disclosed to investors.

2. REVIEW OF LITERATURE

Information disclosure is used to enhance a company's transparency and efficiency by presenting its financial, investment and strategic information for public scrutiny. Financial information disclosure via conventional way (not on the web sites) was addressed by Petty and Caccioppo (1986), Mori (1996), Lewellen et al. (1996), and Cordella and Yeyati (2002). User behaviour, as it pertained to financial information, was analyzed by Petty and Caccioppo (1986), who suggested

an elaboration likelihood model to show that users are first persuaded by financial information, and then influenced by peripheral cues such as the media associated with information. According to Mori (1996), laws prescribing public disclosure of a firm's financial performance create asymmetries between integrated multi-plant organizations and independent single plant firms as to the release of information about firm profitability. Cordella and Yeyati (2002) analyzed the impact of competition on banks' risk-taking behaviour under different assumptions about deposit insurance and the dissemination of financial information. Lewellen et al. (1996) tested whether managers' self-serving behaviour is also manifested in discretionary information disclosure decisions. In contrast, financial information disclosure on the web was tackled by Lymer et al. (1999) and Trites (1999).

With the advent of the internet, web-based information disclosure has gained increasing popularity among financial firms. The World Wide Web (web) considerably enhances corporations' ability to convey their strategies and other relevant information directly to their key stakeholders. It appears that this is more than a mere trend; firms are now able to provide users with fast and accurate financial information via their official web sites. The web's multimedia function, which makes media-rich computer based presentations possible (Graves et al. 1996, McKinstry 1996), is intended to persuade users and alter their opinions (Hopwood 1996). Corporations have been posting financial information on the web since the mid-1990s; indeed, the corporate finance and investor relations sectors were among the earliest adopters of web technology. Web-based financial reporting is now all-pervasive (Lymer et al. 1999, Trites 1999, FASB 2000). FASB states that 99% of the top 100 Fortune 500 companies have web sites, and that 94% of these include financial information. Zhang et.al (2000) had listed the five most important features users will look for when they use financial websites (1) upto date information (2) accuracy of information (3) multiple information sources (4) ease of navigation (5) timely information.

Several researchers (Benbasat & Dexter, 1986; Franz & Robey, 1986; Markus & Bjorn Anderson, 1987; Robey & Farrow, 1982) have investigated individual, organisational and technological variables that will determine the user acceptance of information systems. But past researches indicated that there had been shortage of high quality measures for determining user acceptance. (De Sanctis, 1983; Ginzberg, 1981; Schewe, 1976; Srinivasan, 1985). Information systems researchers have suggested many models based on social psychology as a theoretical foundation for research on the determination of user behaviour (Swanson, 1982; Christoe, 1981; Fisbein & Ajzen, 1975; 1980). The Technology Acceptance Model (TAM) is one of the most referred models in the research works which studied about the determinants of information technology acceptance. TAM was proposed by Davis (1986) to explain the information technology usage behaviour. The theoretical background for the TAM was laid in the Theory of Reasoned Action (TRA) suggested by Fishbein & Ajzen (1975). Theory of Reasoned Action (TRA) suggested that beliefs influences attitude, which will lead to intentions, which then cause behaviour. TAM adopted this theoretical model to explain the user acceptance of information technology. Technology Acceptance Model is less general than Theory of Reasoned Action and it applies only on computer usage behaviour, as it is developed by incorporating the findings accumulated from over a long period of information systems research.

The two constructs included by Davis in Technology Acceptance Model are, perceived usefulness and perceived ease of use. TAM postulates that the actual system usage is dogged by the intention to use the system which in turn is influenced by an individual's attitude towards using the system and its perceived usefulness. One of theoretical grounds on which the perceived usefulness in user behaviour is based on, is the expectancy theory proposed by Vroom (1964), which was later developed by Porter and Lawler (1968). The expectancy theory suggests that perceived attractiveness of different alternative paths is related to individual's beliefs about the consequence of each alternative path and their views about the desirability of the consequences. Triandis (1979) developed a theory of user acceptance in eth field of psychology that incorporated many of the concepts in the expectancy theory. He modified the term perceived usefulness as perceived consequences which can be either near term or long term.

Matheison (1991) compared Technology Acceptance Model with another model based on theory of planned behaviour (TPB) which predicted a person's intention to use an information system. It was found that TAM had a slight empirical advantage in predicting the intention to use an information system by the individuals. A lot of researchers re-examined the validity of the measurement scales of the perceived usefulness and perceived ease of use (Adams, Nelson & Todd (1992); Hendrickson, (1994); Segars & Grover (1993); Campbell & Fiske (1959). Later several researchers (Moore & Benbasat, 1991; Ramiller, 1993; Chang et.al., 2008; had used modified technological acceptance models to study how the perceptions of individuals are leading to actual usage.

3. METHOD

The study seeks to identify the factors which prompt individual investors to look to a given financial web site for the information they need to make investment decisions. It checks whether the features of the website such as consistency and technical convenience influence the individual's perceptions regarding the ease of use. Along with this, the researchers examine whether the website features like investment information, information quality and decision quality influence the perceptions of users regarding the usefulness of the website. After understanding the role of website features in influencing the perceived ease of use and perceived usefulness, the study attempts to analyse the influence of these two variables on the intention of individuals to use the website, which will finally lead to the actual usage of the website. The following are the objectives of this study. (1) To find out the effect of consistency and technical convenience on perceived ease of use. (2) To find out the effect of decision quality, investment information and information quality on perceived usefulness. (3) To find out the effect of perceived ease of use and perceived usefulness on the intention to use and the actual usage of the website by the individuals.

This study uses Modified Technology Acceptance Model (TAM) to understand the computer usage behavior among individuals who use the website '*moneycontrol.com* on a regular basis to take investment decisions (Chang et. al. 2008). The data is collected using a standard questionnaire from 250 respondents who use the website '*moneycontrol.com*' regularly for taking financial and investment decisions and the time period of the study is during September to December 2013.

The model as shown in Fig. 1 has four variables namely perceived ease of use, perceived usefulness, intention to use and actual usage. In the original Technology Acceptance Model (TAM), the two "perceived" variables influence attitudes towards using a technology, which in turn influences intention to use and then actual usage. In the modified TAM model used for this study, the "attitudes" variable is not considered to simplify the model. A link between perceived ease of use and intention to use is included in the modified model although it is not present in the original TAM. This is included because many earlier studies have established a linkage between perceived ease of use and intention to use. The main purpose of the study is to analyze the relationship in the modified model empirically.

4. OPERATIONAL DEFINITIONS

Consistency: Is defined as the conformity in the application of the contents of the website which is used for decision making

Technical Convenience: Is defined as the quality of technology which is suitable for an individual user's purpose or need

Investment information: Is defined as the facts provided for facilitating investment decisions

Information Quality: Is defined as the appropriateness, consistency, correctness and timeliness of information provided by the website.

Decision Quality: Is defined as the degree of correctness or refinement shown in the decisions taken by the individuals.
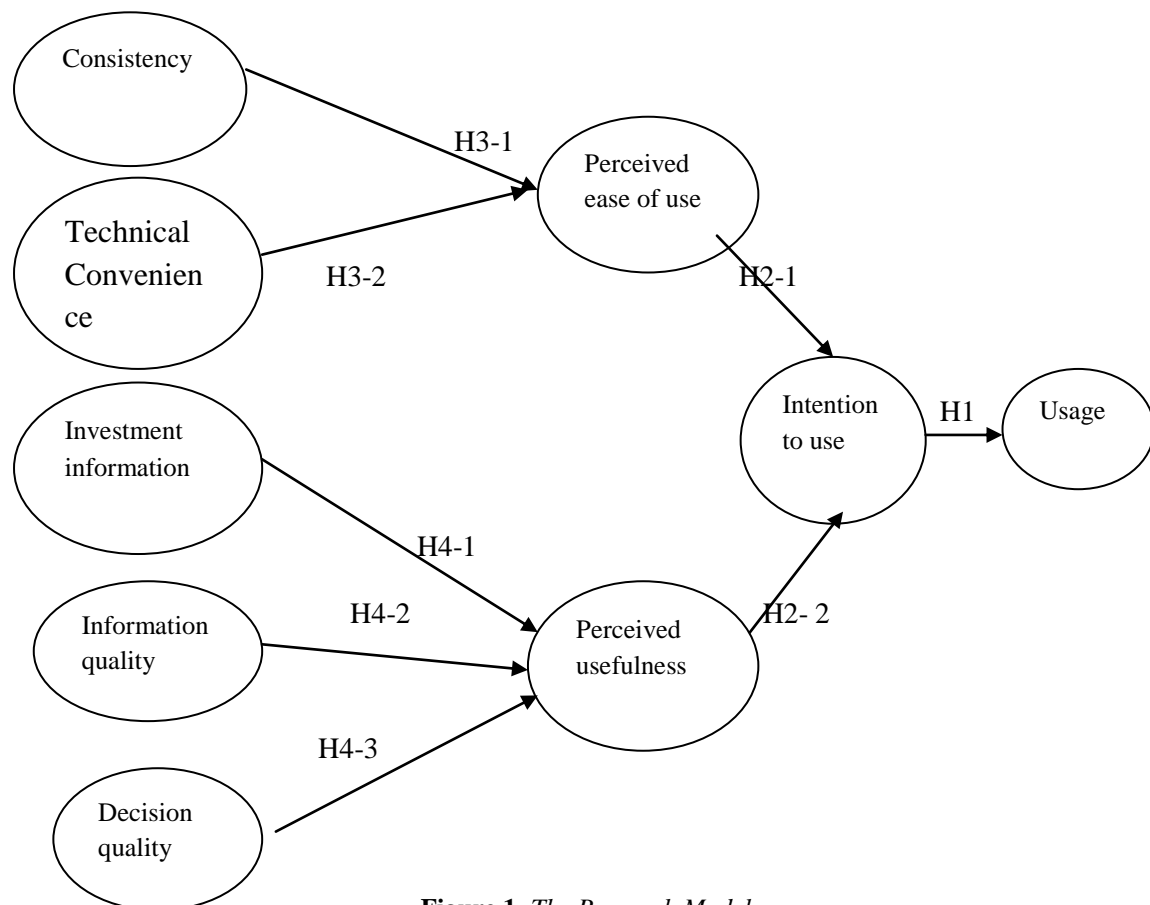
Figure 1. *The Research Model*

Perceived Usefulness: Perceived usefulness is the degree to which a person believes that a particular information system would enhance his or her job performance. Within an organizational context, people generally receive positive reinforcement for good performance through raises, promotions, bonuses and other rewards. In the same way, a system high in perceived usefulness is one which causes a user to believe in the existence of a positive use-performance relationship (Davis 1989).

Perceived ease of use: Perceived ease of use, on the other hand, refers to the degree to which a person believes that using a particular system is free of effort. Effort is the finite resource an individual allocates to the various activities for which he or she is responsible. When all other things are equal, an application that is perceived to be easier to use than another is more likely to be accepted by users.

Intention to use: Intention to use is the likelihood that a person will employ the application (Fishbein and Ajzen 1975, Ajzen and Fishbein 1980).

Usage: Usage refers to the self-reported measure of time or frequency of employing the application.

The following are the hypothesis for the study;

H1: Intention positively influences an individual investor's financial website usage.

H2-1: Perceived ease of use positively influences an individual investor's intention to use a financial website.

H2-2: Perceived usefulness positively influences an individual investor's intention to use a financial website.

H3-1: Consistency positively influences an individual investor's perceived ease of use.

H3-2: Technical convenience positively influences an individual investor's perceived ease of use.

H4-1: Investment information is positively related to perceived usefulness.

H4-2: Information quality is positively related to perceived usefulness.

H4-3: Decision quality is positively related to perceived usefulness

Table 1. *Dimensions and Measurement Items*

Dimensions	Measurement Items
Consistency	Subjects dealt with in each web page are consistent
	Terms used in each web page are consistent
	Graphic styles used in each web page are consistent
Technical convenience	Can locate target information easily
	Can surf this web site easily
	Can move to the previous page easily
Investment information	Useful investment information is provided
	Market indicator information is provided
	Information about investment strategy and analysis is provided
Information quality	Appropriate information is provided by this
	web site
	Information is consistent
	Information provided by this web site is highly
	correct
	Up-to-date investment information is provided by
	this web site
	Timely information from this web site and use it on time
Decision quality	Future investment strategy is improved by using information
	from this web site
	Investment decision quality is improved by using information
	from this web site
	Investment decision is refined by using information from
	this web site
Perceived ease of use	Can easily obtain target information from this web site
	Can easily learn to use this web site
	Can easily get myself trained to use this web
Perceived usefulness	Investment decision usefulness is improved from using this

	web site
	Investment profit ratio is improved from using this web site
	Investment risk is reduced from using this web site
Intention to use	Very satisfied with using this web site
	Have intention to use this web site continually
	It wise to use this web site
Usage	Frequency of visiting this web site for the past one month
	Frequency of using this web site for the past one month

The research design is explanatory in nature, and the sampling method is convenience sampling. Data analysis was done using structural equation modelling.

5. LIMITATION OF THE STUDY

As this article is prepared based on the usage / access of only one website (www.moneycontrol.com), the findings may not be a representative of other websites.

6. RESULTS AND DISCUSSION

Structural equation modeling (SEM) is often used for testing theory associated with latent variable models because it enables the inference of complex relationships among variables which cannot be directly observed. SEM is a multivariate statistical methodology, which takes a confirmatory approach to the analysis of a structural theory. SEM provides researchers with the ability to accommodate multiple interrelated dependence relationships in a single model. (Hair et al., 1998). AMOS 4.0, a leading SEM package, was used in this study.

The overall fit of a model in SEM can be assessed using a number of fit indices. There is broad consensus that no single measure of overall fit should be relied on exclusively and a variety of different indices should be consulted (Tanaka, 1993). The indices used include Chi-square (χ^2), Goodness of Fit Index (GFI) (Joreskog and Sorbom, 1989), Non-normed Fit Index (NNFI) (Bentler and Bonet`t, 1980), Comparative Fit Index (CFI) (Bentler, 1990) and Root Mean Squared Residual (RMSR).

Table 2 shows major fit measures and the following are the guidelines for their acceptable values

GFI, the goodness of fit index calculated using Chi - square, tells us what proportion of the variance in the sample variance-covariance matrix is accounted for by the model. This should exceed .8 for a moderate model. For the full model it will be a perfect 1.

AGFI (adjusted GFI) is an alternate GFI index in which the value of the index is adjusted for the number of parameters in the model. The fewer the number of parameters in the model relative to the number of data points (variances and covariances in the sample variance-covariance matrix), the closer the AGFI will be to the GFI.

The Comparative Fit Index (CFI) uses a similar approach (with a non central chi-square) and is said to be a good index for use even with small samples. It ranges from 0 to 1, and .8 indicates moderate fit. The Root Mean Square Error of Approximation (RMSEA) estimates lack of fit compared to the saturated model. RMSEA of .08 or less indicates moderate fit.

Table 2. *Goodness of Fit*

Fit measure	χ2	GFI	AGFI	TLI	RMSEA	CFI
value	2.554	.801	.764	.870	.079	.882

The models can also be evaluated based on the magnitude and the significance of the loading coefficients. These loadings, or parameter estimates, are similar to the reliability measures between a set of indicators and the construct that they measure. The high magnitude and

significance of the loadings would further validate the models. When the calculated values (as given in Table 2) are compared with the acceptable values as per the guidelines, it can be concluded that the model fit is adequate.

Table 3. *The results of hypothesis testing*

Relationships		Standardised regression weights	Critical ratios	p values
Dependent Variable	Independent Variable			
Perceived ease of use	Consistency	0.359	5.337	.000
Perceived ease of use	Technology convenience	0.376	5.500	.000
Perceived usefulness	Investment information	0.141	2.546	.011
Perceived usefulness	Information quality	0.320	5.733	.000
Perceived usefulness	Decision Quality	0.683	9.996	.000
Intention to use	Perceived ease of use	0.258	4.086	.000
Intention to use	Perceived usefulness	0.631	8.227	.000
Usage	Intention to use	0.685	5.765	.000

The regression coefficients linking variables are all significant (Table 3) accepting all the hypotheses. The analysis done using structural equation modelling (SEM) establishes the fact that there is significant relationships exist between the variables selected for the study namely perceived ease of use, perceived usefulness, intention to use, and usage. The R^2 value for the dependent variable Usage is high at 0.685.

Among the two variables, perceived usefulness and perceived ease of use, it is found that perceived usefulness (path coefficient value 0.631) has greater influence on intention to use, compared with the perceived ease of use (path coefficient value 0.258)

The researchers analyzed the relationship between the three constructs namely investment information, information quality and decision quality and the variable perceived usefulness. It was proved that decision quality has greater influence (path coefficient value 0.683) on perceived usefulness, compared with the other two constructs, information quality (path coefficient value 0.320) and investment information (path coefficient value 0.141). Among the two constructs,

technology convenience and consistency, technology convenience influence the variable perceived ease of use at a higher degree (path coefficient value 0.376) compared with consistency (path coefficient value 0.359).

The results of this research show that all the eight hypothesis of the research model could be accepted and the research model is plausible. The model clearly shows that users have a behavioral intention to use the website, if the website is perceived as useful. The website is perceived as useful when useful, accurate and timely information is provided and the information given in the website helps to improve the quality of decisions taken. The model's (Modified Technology Acceptance Model) predictive and explanatory capabilities still hold true.

7. CONCLUSION

This study's findings will be useful to the information system practitioners and the researchers. For practitioners, the results throw light on the factors they should concentrate on to achieve implementation success. The findings suggest that improvements in user interface which will increase the perceived usefulness and perceived ease of use in the minds of the users will lead to the actual usage of the website. For researchers, Adams (1992) concluded that "the relationship of the constructs (usefulness and ease of use) to usage is perhaps more complex than is typically postulated". This study has shown a possible modification of Technology Acceptance Model. User reactions to computers are complex and multifaceted. But if the field continues to systematically investigate basic factors influencing user behavior, introducing better measures and critically evaluating unconventional theoretical models, sustainable advancement is within reach.

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