

THE ROLE OF CONCERN FOR THE ENVIRONMENT AND PERCEIVED CONSUMER EFFECTIVENESS ON INVESTORS' WILLINGNESS TO INVEST IN ENVIRONMENTALLY-FRIENDLY FIRMS

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With a growing awareness on the need to provide better care for the environment, there is a greater need to understand the factors that facilitate environmentally-sustainable behaviour among the populace. Various researchers have studied factors influencing investors' willingness to invest in the past. This study however covers a segment of finance research, specifically behavioural finance as it examines investors' perceived consumer effectiveness (PCE). Specifically, this study examines the role of investor behaviour on corporate environmental strategies, which is relatively an underexplored field of study. This study contributes to the theme of sustainable development, more precisely, sustainable finance. The study of sustainable finance has become the attention of investors around the world and this study aims to analyse whether this sector of investment (green companies) will interest investors. It is proposed that consumers' concern towards the environment and perceived consumer effectiveness are significant predictors of investors' willingness to invest in the shares of environmentally-friendly firms in Malaysia. An understanding of the role of concern for the environment and perceived consumer effectiveness on investors' willingness to invest in environmentally-friendly firms will be useful to the government and NGOs in the formulation of policies that would encourage investment in firms that are sensitive towards the needs of the environment.

Keywords: investors' willingness to invest, perceived consumer effectiveness, environmental concern

INTRODUCTION

Studies on the impacts of environmental strategies on economic sustainability are few and far between (Callon, 2009). In relation to this, it of a greater concern that there are very limited studies that measure the influence or effects of corporate environmental strategies on investors' behaviour. As Hoffmann and Broekhuizen (2010) assert, there is surprisingly a lack of research in the field of investment decision, especially with regard to new investment products. Therefore, there is a

need to examine the investors' perceived consumer effectiveness towards their willingness to invest in companies that are actively involved in environmentally-sustainable or "green" activities. This paper reviews the extant literature and, subsequently, develops the measures for the variables to be investigated.

This study is rooted in the traditions of behavioural finance and will accordingly attempt to examine individual investor behaviour. According to Ritter (2002), behavioural finance can be divided into two categories, which are cognitive psychology and the limits to arbitrage. However, there is very little research on the relationship between corporate environmental strategies and investor behaviour. Although a number of past research on environmental strategies have been conducted in countries such as the USA, the Netherlands, Denmark, Africa and even Malaysia (Reyers, Gouws and Blignaut, 2011; Maxwell et al., 1997), these studies have not attempted to examine the linkage between environmental strategies and financial decisions.

In view of this observation, the variables that will be measured in this paper are concerns for the environment, perceived consumer effectiveness (PCE) and willingness to invest. Although it has been gleaned from the various economic literature, either those that were theoretical or empirical, that there are concerns on the key role of corporate social responsibility (CSR) on investment decisions and firm performance (Tsoutsoura, 2004; Brine, Brown and Hackett, 2007), very few studies have delved into the issue of corporate environmental strategies and investor decision. Hence, this research also attempts to provide a conceptual framework by explaining the linkage between PCE and investors' willingness to invest, moderated by environmental concern. This paper therefore aims to study the role of PCE in influencing investors' willingness to invest in environmentally-friendly shares, recognising the fact that environmental concern may act as the moderating variable in the hypothesised relationship. A pilot study will, first, be conducted to determine and confirm the measures that can be used to measure these variables.

Bridging firms' environmental strategies and investors' willingness to invest might pose a challenge as there is limited research that specifically examines this link. Additionally, there are also very few research that focuses on the relationship between investor decision and other factors, for example, the money attitude model (Keller and Siegrist, 2005), innovative products (Hoffmann and Broekhuizen, 2010), real estate investment (Shim, Lee and Kim, 2008), and socially-responsible investment (SRI) (Kempf and Osthoff, 2007; Nilsson, 2008; Renneboog, Horst and Zhang, 2008).

Further motivation to conduct this study stems from the scarcity of research on environmental strategies in both developing and developed countries. Moreover, research on the impacts of environmental strategies towards economic sustainability are few and far between (Callon, 2009). More importantly, it is noted that there are hardly any studies that measure corporate environmental strategies towards individual investor behaviour. Thus, the next section of this

paper will review the existing literature with an emphasis on the role of PCE in affecting investors' willingness to invest, moderated by environmental concerns.

LITERATURE REVIEW

In recent years, pressures from stakeholders have triggered firms to take a long, hard look at their approach to the environment, discovering well-formulated environmental strategies that can lead to business advantages, such as better quality, cost reduction, improved company's image and the opening of new markets (Maxwell et al., 1997). This section will discuss on the ideas that were gathered from previous literature with regard to willingness to invest, PCE and environmental concerns.

Willingness to Invest

Although it is true that individuals invest to increase their wealth, the profitability of a particular investment cannot be ascertained (Lewis, 2001). According to Chandra and Sharma (2010), the fundamental objective of an investor is to obtain good profits from their investment. Kasilingam and Sudha (2010) add that investment behaviour is linked to the individual investor's act in evaluating, searching, reviewing and acquiring a particular investment product.

Although an investor's investment decision is an important concept, very few research has been carried out to investigate decisions on the adaptation of new investment products and this lack adds to the risk that investors face as not many are aware about the performance of new investment products (Howcroft, Hamilton and Hewer, 2007). According to Zhou and Pham (2004), past literature on consumer behaviour indicates that consumers pay very little attention on investment decisions. Thus, it is important to look at PCE and its effects towards investors' willingness to invest.

It has been proven that incomplete financial information often makes it impossible for consumers to accurately estimate their risk and investment returns (Goldstein, Johnson and Sharpe, 2008; Hoffmann and Broekhuizen, 2010). Other researchers state that some investors do not delve much into risk and return, instead they consider issues that go beyond it such as status deliberation and entertainment value (Zhou and Pham, 2004; Dorn and Sengmueller, 2009; Hamilton and Biehal, 2005; Hoffmann and Broekhuizen, 2010). In view of these, Goldstein, Johnson and Sharpe (2008) argue that there is a need to integrate both finance and marketing insights to improve and increase investors' understanding regarding investment decisions.

Hoffmann and Broekhuizen (2010) had built upon the existing body of finance and marketing literature and examined the sociological and psychological personality traits that influence investors decision to invest in new products.

Steenkamp and Gielens (2003) were of the view that the distinctive factor on investment products from tangible products is due to the sociological and psychological traits of consumer innovativeness. A survey conducted by Zoghalmi and Matoussi (2009) on investor behaviour in Tunisia had suggested that the five psychological traits that influence Tunisian investor behaviour include conservatism, lack of confidence, precaution, informational inferiority and under opportunism. Based on these reviews, this paper will attempt to look at the perspective of PCE and investors' willingness to invest, moderated by environmental concerns.

Several researchers have studied investment decisions pertaining to pension plans (Byrne, 2007; Gough and Nurullah, 2009). The findings reveal that younger people believe that pension provisions is their individual responsibility and that they should not solely rely on the available retirement provisions (Gough and Nurullah, 2009). On the other hand, Byrne (2007) observes that many employees have demonstrated a lack of interest towards their personal pension provision. Nevertheless, it was found that those who have received their pension advice are likely to calculate their savings, actively evaluate their portfolio and have a greater knowledge of investment (Byrne, 2007).

Socially-responsible investing (SRI) is deemed as "value-driven" investment advancement where personal and social values are taken into consideration instead of using a purely financial basis to make investment decisions (Derwall, Koedijk and Horst, 2011). According to Lewis (2001), majority of the respondents are willing to accept a 20% loss on returns if their investment is regarded as ethical. Socially-responsible investors are the ones that choose investment products for not-for-profit purposes and avoid unsustainable or "sin" stocks that violate social norms (Derwall, Koedijk and Horst, 2011).

In an earlier categorisation by Statman and Glushkov (2009), these "sin" stocks among others include companies that are associated with alcohol, gambling and tobacco but if applied to the domain of environmentally-responsible investing, this would include companies that have poor environmental records such as unsustainable operations, pollution or high carbon and greenhouse gasses footprint. Conversely, an alternative view of SRI is the "shunned stock hypothesis" in which socially-controversial stocks enjoy better profits as they are shunned by value-driven investors who push the prices of these stocks below those of responsible stocks, while all else remains equal (Pantazalis and Park, 2009). Some investors also have ethically-mixed investment portfolios, where the "unethical" segments of their portfolio are legacy or historical shares which have not been sold (Lewis, 2001).

Statman and Glushkov (2009) opine that there are three alternative hypotheses about the profitability or relative returns that can be amassed when investing. The first hypothesis is "doing good but not well" hypothesis in which the profitability of the stocks of socially-responsible companies are lower than that of conventional companies. Nevertheless, investors are willing to forego

some of the profits in exchange for their commitment and role in SRI (Statman and Glushkov, 2009).

The second hypothesis is the "doing good while doing well" hypothesis where the profitability of socially-responsible stocks are better than those of conventional stocks because of the tangible and intangible benefits derived from the socially-responsible company's investment decisions that bear fruit in the long term (Statman and Glushkov, 2009). For example, a company with high environmental performance might generate higher profits in the long run, even if attaining the high level of environmental performance would require higher costs in the short run.

Finally, the third hypothesis is the "no effect" hypothesis where the profitability of socially-responsible stocks is equal to those of conventional stocks. According to Statman and Glushkov (2009), the "no effect" hypothesis might be true in situations where the company's actions toward social responsibility are costless to the extent that they amount to no more than words per se or in situations where the benefits of the socially-responsible initiatives are countered by the costs to achieve these initiatives.

A review of the extant literature had identified several issues that raised the question on the determinants affecting investor behaviour (Vyvyan, Ng and Brimble, 2007). As such, this study shall define willingness to invest as a person's decision on investment that is influenced by various emotional and predictable cognitive biases that swerve them from behaving rationally, relevant in the case of investor's behaviour in the stock market (Kahneman and Tversky, 1979; Chandra and Sharma, 2010).

Concern towards the environment has been suggested as one of the main reasons for a particular SRI managed fund's rapid growth (Vyvyan, Ng and Brimble, 2007). However, there is a lack of empirical support for investment decisions in the context of SRI (Vyvyan, Ng and Brimble, 2007) as many of these studies conducted examined the conception of environmental or ethical consumer (Mohr, Webb and Harris, 2001; Rosen, Sandler and Shani, 1991). On the other hand, willingness to invest is an act that involves investors' behaviour. This paper, thus, proposes the linkage between willingness to invest and PCE, recognising that environmental concern as the moderating variable as illustrated in Figure 1. Both perceived consumer effectiveness and environmental concern shall be discussed in the following sections.

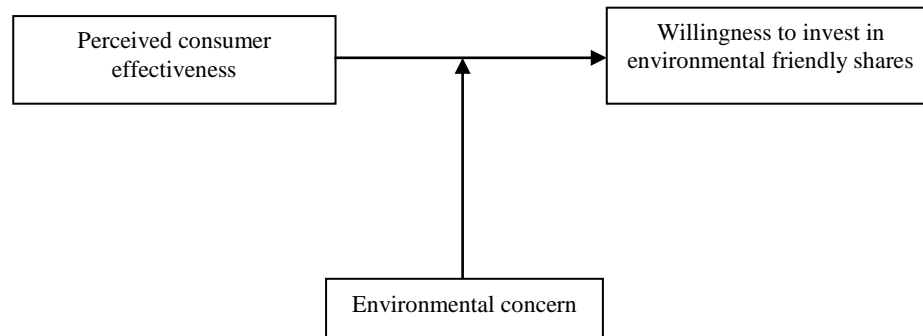


Figure 1: Conceptual framework.

Perceived Consumer Effectiveness

Perceived consumer effectiveness (PCE) posits that consumers are expected to act on social problems if they consider their action as being capable to resolve problems (Nilsson, 2008). It also explains the appraisal of an individual in the context of the issue, in other words, a person may feel exceptionally concerned about an issue, but still be powerless to act on it (Berger and Corbin, 1992). According to Antil (1984), there are two components that play a role in PCE which are the awareness of the consumer about the existing issue, and the consumer's trust that their efforts will contribute to a viable solution to resolve the issue. On the other hand, Thogersen (1999) suggested that the PCE concept that captures a person's perception on the ability to solve social issues is mediated by personal attitude. PCE is also defined as consumers' self-belief in the capability to improve the environment (Lord and Putrevu, 1998).

Berger and Corbin (1992) describe PCE as a unique and distinct entity as compared to attitude, arguing that PCE can be categorised as a model by itself. For example, a group of individuals who are concerned about the environment but are convinced to believe that others can generate better solutions, or are more concerned than them, are known to have high attitude scores, but low PCE scores. Conversely, another group of individuals who may not be concerned about the environment and deem that without doing anything extra, individual effort is efficient, are expected to have low attitude scores, but high PCE scores (Berger and Corbin, 1992). Hence, attitude refers to a particular issue while PCE refers to a person's role in solving the issue (Nilsson, 2008).

Recent findings on PCE reveals that it has a strong positive correlation with ecologically-conscious consumer behaviour (Roberts, 1996a; Straughan and Roberts, 1999). Roberts (1996a) has asserted that PCE is by far the most influential variable to explain the variation sample of ecologically-conscious consumer behaviour. By combating environmental destruction, PCE is expected to be the thrust behind ecologically-conscious consumer behaviour (Roberts,

1996a). Other research such as the one by Lord and Putrevu (1998) measure the impact on high and low PCE towards intention to recycle and they found that consumers with high-PCE are more likely to be receptive to negatively-framed messages about the cost of failing to recycle than those who are low in PCE. Webster (1975) further demonstrated that PCE has a strong influence on both socially-conscious consumers and recycling. Even though socially-conscious consumers and recycling had a strong influence in their study, both measures are different. The categorisation of socially-conscious consumers is based on items in a questionnaire while recycling behaviour was based on observation. Thus, it cannot be ascertained that one is a more valid measure than the other.

Research that studies the effects of collectivism, environmental concern and PCE suggests that collectivism influences the flow through PCE and, thus, is statistically significant (Kim and Choi, 2005). In another study on green consumption and sustainable lifestyles, the researchers highlight that even individuals' who are least environmentally inclined have relatively high scores for PCE (Gilg, Barr and Ford, 2005). Nilsson (2008) who studied pro-social attitude argues that PCE has a significant effect on consumers' behaviour for SRI. The researcher also concludes that investors who score high on pro-social attitudes regarding SRI and PCE were expected to invest a larger amount of their portfolio in SRI (Nilsson, 2008). Based on the discussion above, the working definition for PCE used in this study is as follows: PCE is the notion that consumers are to act on environmental and social problems if they believe that their actions may assist in overcoming these problems (Nilsson, 2008).

Environmental Concern

Environmental issues have caused great alarm among an increasing number of people all around the world (Schultz, 2001). The world has suffered significant environmental degradation at an alarming rate especially in the recent years which include the thinning or depletion of the ozone layer, loss of available land for agriculture, depletion of natural resources, global warming and acid rain (Ramlogan, 1997; Mainieri et al., 1997). Environmental concern can be described as an assessment or a person's stance and behaviour towards the environment (Takala, 1991). Fransson and Garling (1999) believe that environmental concern may also be framed either broadly as a general attitude that determines intentions towards the environment, or more specifically as attitude that directly influences the environmental intentions of an individual.

Tikka, Kuitunen and Tynys (2000) contend that growing prominence and public concern over environmental issues and the failure to preserve and conserve our environment is due to the overemphasis placed on other values such as political and socio-economic factors, and the lack of or even absence of attention placed on non-economic values toward the environment. According to Mainieri et al. (1997), people have depended on technology such as alternative or generic

resources to resolve environmental dilemmas, rather than changing their own lifestyles and behaviours. However, they believe that consumers should adopt environmental activities such as recycling to achieve a more sustainable environment and/or to prevent further damage to the environment, instead of relying entirely on technology (Mainieri et al., 1997). This view has also been supported by Chukwuma (1998) who found that public awareness is the most significant determinant influencing the environment, not government policy alone.

Previous researchers who studied environmental concern have suggested a somewhat disconnected, broad brushed and weak relationship on environmental measures (Guber, 1996; Bamberg, 2003). However, Bamberg (2003) believes that this is the result of looking at environmental concern as a direct determinant rather than an indirect determinant. In Fujii's view (2006), an individual's behavioural intention is not affected by environmental concern.

Several researchers have also studied environmental concern from an ethnic perspective. According to Newell and Green (1997), their study conducted in a large metropolitan city in the south-eastern United States reveal there are indeed significant differences in environmental concern between African Americans and white Americans at lower income and educational levels. However, this environmental concern gap between different races decreases as education level and income rises. Shen and Saijo (2008) who studied on the socio-demographic factors towards environmental concern in Shanghai, found that men are more concerned in relation to the environment than their female counterparts. The study also resulted in findings that contradict the findings of previous research where the older generation are generally more concerned about the environment compared to the younger generation (Shen and Saijo, 2008).

The study of environmental concern found that people who live in highly polluted areas are likely to be more concerned about environmental issues compared to those who live in low polluted areas (Nilsson and Kuller, 2000). However, other studies have indicated that the reduction in the number of cars on the road is unrelated to environmental concern (Fujii, 2006; Nilsson and Kuller, 2000). Fujii (2006) also suggests that a person must also have respect for resources to have pro-environmental behaviour. For the purpose of this study, environmental concern shall be defined as the assessment or a person's behaviour and attitude towards the environment derived from the work of Takala (1991). Having discussed all the three variables in the study, the following section shall provide an overview of the research method employed for this study.

RESEARCH METHOD

This study uses a quantitative approach to analyse the conceptual framework proposed. It shall begin with the identification of the data sources for the study

followed by the measurement of the variables. For the latter, the process to determine the face validity of the measurement constructs shall be explained and presented.

Data Sources

Primary data will be obtained through the personal administration of survey questionnaires that are distributed by hand to respondents. The purpose of using survey questionnaires is to assess the different viewpoints of individual investors' and to gather investors' behaviour toward investing in environmentally-friendly shares. The sample for this study would be individual investors who are selected using convenience sampling at several investment firms in Melaka. The results of the pilot study based on the responses of 80 respondents sampled using the convenience sampling method at investment firms in Melaka will be presented in the following sections. The 80 responses for the pilot study is deemed sufficient for the preliminary stages of this research as it is more than the required minimum of 30 respondents from the study population recommended for a pilot study (Johanson and Brooks, 2009).

Measurement

Investors' willingness to invest in environmentally-friendly shares, perceived concern for the environment and environmental concern are measured using the five-point Likert scale in ascending order with "Strongly disagree" represented by a "1" and "Strongly agree" represented by a "5". The use of Likert scales to measure how strongly a respondent agrees or disagrees with the questionnaire statement is consistent with the approach adopted in previous studies. The items or constructs for the three variables used in the study as well as the sources from which they are adopted are presented in Table 1.

Face Validity

These three variables had gone through the face validity process where the reviews and comments from six professionals from different finance professions were gathered. These professionals include a personal banker, customer acquisition and merchant support executive, financial planner, securities brokers and senior investment associate. In general, face validity is a good initial step to scrutinise the measures for the study and assists researchers in finding impending flaws before progressing to the more advanced stages of the study (Shuttleworth, 2009).

Face validity is described as a simple form of validity that is evidenced through measuring what is intended to be measured. In actual fact, face validity is not a type of validity in the technical sense. It does not refer to what the test

actually measures, but to what extent the test is seen as superficially for the purpose (Burns, 1995/1996). This approach of "common sense" often saves time, stress and resources. Churchill (1979) proposes a widely accepted model in developing marketing construct measures whereby the generated items are tested for face and content validity. According to Schriesheim et al. (1993), face and content validity has been defined vigorously by past researchers, however, there is no clear distinction between these two concepts (Hardesty and Bearden, 2004).

According to Hardesty and Bearden (2004), if initial items or target variables are not face valid, the overall measure cannot be a valid construct of interest. Hence, face validity is necessary in the early stages of measurement development to reflect what the item or construct is intended to measure. However, many researchers often fail to include face validity in their study when they develop items (Hardesty and Bearden, 2004). In view of these reasons, it is appropriate to advise that new, modified and untested items on survey research should undergo the face validity test to provide evidence for the items used (Schriesheim et al., 1993).

Apparently, there is very little literature on the specific rules that can be used to judge the scale items in terms of face validity (Hardesty and Bearden, 2004). As there are very few directions and guidance provided on how to evaluate the scales, we will employ the "complete" decision rule approach (Obermiller and Spangenberg, 1998). According to this approach, one point will be given if the respondent feels the variables are representing the intended meaning. We will then adapt the requirement of Saxe and Weitz (1982), where only items which are 50% and above are retained. At the close of the face validity session, all items had scores exceeding 50% which resulted in all these items being retained for further use in the study.

Table 1: Items/Constructs for the variables

Variable	Items/Constructs	Source(s)
Willingness to invest	W1: Although stock market is unpredictable, I will still invest in stocks. W2: I would invest a larger sum of money in stocks. W3: The uncertainty of stock markets will not prevent me from buying stocks. W4: When I hear the word "stocks", the term "possible gain" comes to mind immediately.	Keller and Siegrist (2005: 293).
Perceived consumer effectiveness (PCE)	PCE 1: By investing in SRI every investor can have a positive effect on the environment. PCE 2: Every person has power to influence social problems by investing in responsible companies.	Nilsson (2008: 315).

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Table 1: (continued)

Variable	Items/Constructs	Source(s)
Perceived consumer effectiveness (PCE)	PCE 3: I am willing to invest my money in SRI unit trust as I believe that one person's acting can make a difference. PCE 4: It is important for individual consumer to address any pollution matter.	Nilsson (2008: 315).
Environmental concern	EC 1: I am very concerned about the problem of pollution in general. EC 2: I am very concerned about air pollution and the problem of ozone depletion. EC 3: I become angry when I think about the harm caused to life by pollution. EC 4: When I think of the ways in which firms pollute, I get frustrated and angry.	Paco and Raposo (2010: 433).

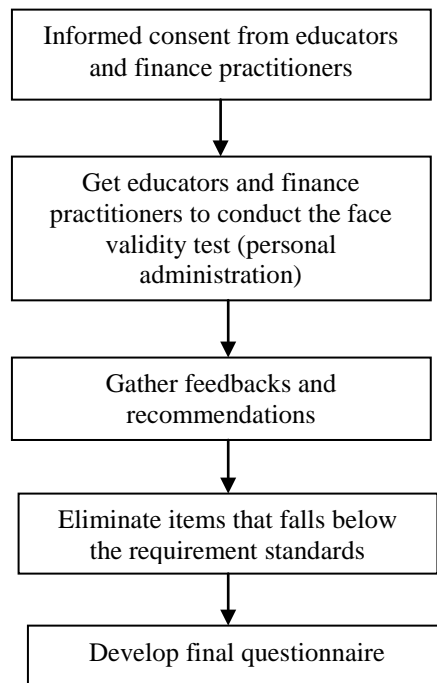


Figure 2: Stages of face validity adopted for this study.

Table 2: Results of face validity

Variable	Items/Constructs	Results (%)
Willingness to invest	W1: Although stock market are unpredictable, I will still invest in stocks.	100
	W2: I would invest a larger sum of money in stocks.	100
	W3: The uncertainty of stock markets will not prevent me from buying stocks.	100
	W4: When I hear the word "stocks", the term "possible gain" comes to mind immediately.	83.33
Perceived consumer effectiveness (PCE)	PCE 1: By investing in SRI every investor can have a positive effect on the environment.	83.33
	PCE 2: Every person has power to influence social problems by investing in responsible companies.	83.33
	PCE 3: I am willing to invest my money in SRI unit trust as I believe that one person's acting can make a difference.	100
	PCE 4: It is important for individual consumer to address any pollution matter.	100
Environmental concern	EC 1: I am very concerned about the problem of pollution in general.	100
	EC 2: I am very concerned about air pollution and the problem of ozone depletion.	100
	EC 3: I become angry when I think about the harm caused to life by pollution.	100
	EC 4: When I think of the ways in which firms pollute, I get frustrated and angry.	100

Table 2 shows the results of face validity that was distributed to six finance professionals. As can be seen from the table, all the above items were accepted and were retained as they met the requirement of 50% and above.

Data Analysis Techniques

This study utilised the Statistical Package for Social Sciences (SPSS) to test and analyse the data collected using the Cronbach's alpha test. Cronbach's alpha is used in this research to test the reliability coefficient that shows how well the items in a set of questionnaire are positively correlated to one another. According to Sekaran (2010), Cronbach's alpha is the average intercorrelations among items that measures the concept. Therefore, the higher internal consistency reliability will result in Cronbach's alpha closer to 1 (Sekaran, 2010). Based on the 80 responses collected for the pilot study, the Cronbach's alpha for the measures being tested will be calculated and presented.

RESEARCH FINDINGS AND DISCUSSION

As can be seen from Figure 1, PCE is expected to influence investors' willingness to invest through the moderating role of environmental concern. This study is supported by many past studies (Berger and Corbin, 1992; Lord and Putrevu, 1998; Nilsson, 2008; Fransson and Garling, 1999) on PCE. Berger and Corbin (1992) suggest that PCE is an important construct in explaining the relationship between environmental attitudes and personal consumer behaviours. Lord and Putrevu (1998) find that people with high PCE scores tends to react positively towards recycling activities. Pro-social attitude also proves that PCE have an effect towards consumers' acting socially responsible on investments (Nilsson, 2008). Fransson and Garling (1999) state that environmental concern refers to an array of attitude determining intentions, or a more specific attitude that influence environmental intentions.

Table 3: Results of pilot study

Variable	Cronbach's alpha	N of items
Willingness to invest	0.819	4
Perceived consumer effectiveness (PCE)	0.795	4
Environmental concern	0.826	4

As can be seen in Table 3, the results from the pilot study show the Cronbach's alpha of the three variables. As stated earlier, the closer the Cronbach's alpha is to 1.0, the higher the internal consistency reliability (Sekaran, 2010). Willingness to invest (dependant variable) shows a Cronbach's alpha of 0.819 with 4 items. On the other hand, PCE (independent variable) has a 0.795 Cronbach's alpha with 4 items. Lastly, environmental concern (moderating variable) with Cronbach's alpha of 0.826 and 4 items. Thus, it is deemed that environmental concern can be best suited as a moderating variable bridging PCE and investors' willingness to invest in environmentally friendly shares. Most of the previous studies on this looked at environmental practices as being the dependent variable. This paper, however, postulates that willingness to invest is influenced by PCE and moderated by environmental concern.

EXPECTED SIGNIFICANCE

This study is expected to be significant both to research and practice as follows.

Significance to Research

As can be seen from past literature, PCE has been studied in various "green" fields, for example PCE and recycling (Lord and Putrevu, 1998), PCE and ecologically-conscious consumer (ECCB) (Roberts, 1996b; Straughan and Roberts, 1999). However, the approach of this paper is relatively new as it examines the linkage between willingness to invest and PCE, with environmental concern as the moderating variable. This paper contributes to the literature on behavioural finance which is an essential aspect as it gives better clarifications to existing research as the variables in existing research is rather isolated. This study also adopted and fine-tuned the measurements for perceived consumer effectiveness, environmental concern and willingness to invest from the perspective of investment in environmentally-friendly shares. Framework adopted in this study acts as an initial platform for other researchers to engage in such research.

Significance to Practice

The development of the measurements for perceived consumer effectiveness, environmental concern and willingness to invest in this study is expected to aid practitioners by providing a means to measure these concepts in an empirical manner. This research is particularly useful for securities brokers as they may adapt and analyse their brokering services and strategies for future improvement. Furthermore, brokers can distinguish the important factors that influence investors' willingness to invest and guide investors in managing their investment portfolio. Furthermore, this research is believed to be useful to individual investors as they can further refine their portfolio.

CONCLUSION

PCE has shown to have an influence on consumer behaviour as a number of findings have found to correlate with pro-social consumer behaviour (Nilsson, 2008). Indeed, there are studies that link PCE with other factors which postulates that PCE was the major factor influencing consumer behaviour (Roberts, 1996a; Straughan and Roberts, 1999). As supported by Nilsson's (2008) findings, there is a need to look at the role of PCE environmental friendly shares. In addition to that, environmental concern is recognised as a moderating variable to test the relationship between PCE and investors' willingness to invest. Thus, if investors are concerned towards the environment, and they support the act of investing in environmentally-friendly shares, then, they will support these firms by investing in their shares.

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