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CONTENTS

- 1 To Buy or Not to Buy: Factors that Influence Consumers' Intention to Purchase Grocery Online
Sook Fern Yeo, Cheng Ling Tan, Kah Boon Lim and Jia Hui Wan
- 25 Adopting The Planned Behavioural Theory in Predicting Whistleblowing Intentions Among Indonesian Public Officials
Maheran Zakaria, Normah Omar, Ida Rosnidah, Hasnun Anip Bustaman and Siti Nur Hadiyati
- 49 The Determinants of Islamic and Conventional Banking Profitability in Asian Countries
Nurhafiza Abdul Kader Malim and Sarini Azizan
- 69 The Impact of Cognitive Factors on Individuals' Financial Decisions
Marhanum Che Mohd Salleh, Mohammad Abdul Matin Chowdhury, Ahmad Fawwaz Bin Mohd Nasarudin and Ririn Tri Ratnasari
- 89 Ponzi Schemes and its Prevention: Insights from Malaysia
Eley Suzana Kasim, Norlaila Md Zin, Hazlina Mohd Padil and Normah Omar
- 119 Accounting Treatment of Cryptocurrency: A Malaysian Context
Teh Sin Yee, Angelina Yap Kiew Heong and Wong Siew Chin
- 151 Company-specific Characteristics and Market-driven Fixed Asset Revaluation in an Emerging Asian Economy
Md. Tahidur Rahman and Syed Zabid Hossain
- 185 Earnings Management Behavior in Malaysia: The Role of Ownership Structure and External Auditing
Nor Irdawati Mahyuddin, Mohd Nazli Mohd Nor, Hafiza Aishah Hashim and Hairul Suhaimi Nahar

The Impact of Cognitive Factors on Individuals' Financial Decisions

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ABSTRACT

The objective of this paper is to examine the effect of cognitive factors which are financial knowledge, herding behaviour and financial planning towards individuals' financial decisions. A total of 173 survey data were collected from university staff consisting of administrative and academic members. This research adopted a quantitative methodology for data collection as well as data analysis. Multiple regression analysis was used to examine the effect of cognitive factors towards the dependent variable which is financial decision. Results indicate that only two cognitive variables which are financial knowledge and financial planning have a significant effect toward financial decisions. Herding behaviour was found to insignificantly effect the individual financial decision process. Results of this research would be of significance to proof that other than external factors, internal factors which are cognitive elements are crucial in influencing individual financial decisions.

Keywords: Financial planning, herding behaviour, financial knowledge, financial decision, cognitive factor

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BACKGROUND OF STUDY

Behavioural Finance is a study that believes that there are psychological influences in the form of cognitive aspects that influence a person in the decision-making process (Costa et al., 2019; Valaskova et al., 2019). The decision making process is considered as risk taking behaviour among individuals that may affect their future financial position (Bakar et al., 2016). It can make them to become rich or poor. Therefore, the individual should be aware of his/her decision-making and the factors affecting these decisions. There are various factors affecting the individual's decision-making both economical and psychological. The economic factors are expected profit, economic conditions, recent price movements, risk, and other factors (Valaskova et al., 2019). Unfortunately, the psychological factors are hard to evaluate like the emotional biasedness, experiences, financial literacy, and other cognitive factors that have strong effects on decision-making (Katarachia & Konstantinidis, 2014).

Accordingly, this study would be concerned with cognitive factors that would become significant determinants in the financial decision-making process. Among them are financial knowledge. Herdjiono and Damanik (2016) have proven that financial knowledge is needed by the community to avoid financial problems, especially in the context of financial decision making. Past theories of economics have shown that individuals make their financial decision rationally through evaluating all available information. Based on the individual decision making theory, basic assumptions of individual rationality is to maximize their utility of choices (Gabbi & Zanotti, 2019; Monika et al., 2019). Besides external factors that are obviously seen and easy to measure, cognitive factors should also be considered to maximize the positive outcome of decisions made by the decision maker. This study has identified three cognitive factors which are financial planning, herding behavior, and financial knowledge as determinants towards financial decisions. Financial planning and financial knowledge have been widely examined by the past literature whereby herding behavior can be a new contribution to the literature that also influences financial decision making. In the current technology age, it is believed that the tendency to be influenced by various information is very high because information has no limit and it may influence people's judgment. Therefore, herding behavior which is people's behavior to herd or react towards other information is considered important in the decision-making process.

The rest of the paper is organized as follows; this part is continued with a discussion of the relevant literature hypotheses development, and the methodology adopted. It is followed by data analysis, results, and discussion of findings.

LITERATURE REVIEW

Financial decision making is very important to promote people's well-being which at the end reflect a country's economic well-being. It is also to preserve property, financial affairs and enhance the potential of existing assets (Acierno et al., 2010; Ghesquiere et al., 2017; Henye & Kulcsar, 2015). Poor financial decisions would invite financial difficulty and increase poverty in a society (Nga & Yien, 2013). Effective financial decision would enhance the quality of life as well as living standards through managing costs of living and medical expenses (Ghesquiere et al., 2017; Nga & Yien, 2013). There are various factors that may influence an individual's decision making both internal and external factors. This research would consider the internal factors which is a cognitive behaviour as determinants for financial decision making. The next part presents review of the literature on financial planning, herding behaviour, and financial knowledge in the domain of financial decision making.

Financial Knowledge

Financial knowledge plays a crucial part in financial decisional behaviour as it enables individuals to understand financial concepts, procedures of financial activities and evaluation of making sound financial decisions (Baker, 2019; Ghesquiere et al., 2017; Lichtenberg et al., 2015; Loewenstein & Lerner, 2003). The concept of financial literacy according to the Organization for Economic Cooperation and Development is a knowledge, understanding of concepts and confidence to make effective decisions in the financial context, improve the financial well-being of individuals and society, and allow participation in economic life (Garg & Singh, 2018). Thus, financial knowledge would enhance individuals' financial capacity which is the ability to emphasize individuals' financial literacy and selection of financial activities within practical life settings, realizing individuals' financial situation and rationalizing the global financial

performance (National Academies of Sciences, Engineering, 2016; Robb & Woodyard, 2011). Furthermore, financial knowledge/literacy inclines managing, utilizing capital in a most effective way to generate profit (Anamaria et al., 2017).

Sinha et al. (2018) stated that lower outcome and higher level of stresses are contributed by lack of financial knowledge and skills among people through impacting lower economic conditions. So, those enriched with financial literacy have healthy financial behaviours. However, if knowledge about financial literacy is still lacking, it will be a challenge for each individual (Yushita, 2017). Furthermore, this behaviour associates people with regard to ignoring costly financial mistakes in forthcoming crisis such as default on credit cards or using other financial activities (Baker et al., 2019; Sinha et al., 2018). In fact, a financially knowledgeable individual has positive attitudes and confidence towards successful financial decision making (Barbić et al., 2019; Takeda et al., 2013).

Yue and Zhu (2019) have found a positive impact of financial knowledge on the individuals' financial decision process. Similar findings were found in the studies of Anderson et al. (2017); Cucinelli et al. (2019); Hadar et al. (2013); Netemeyer et al. (2018); Riitsalu and Murakas (2019); Robb and Woodyard (2011); Shawahna et al. (2017); Sivaramakrishnan et al. (2017); Wang (2009); Weisfeld-spolter et al. (2018). Indeed, adequate financial knowledge enhances individuals' intellectual skills (Regionalia et al. 2015; Shawahna et al., 2017). In contrast, Barbić et al. (2019) and Huston (2010) both found that financial knowledge is not sufficient for individuals to make successful financial decisions due to cognitive biases and self-confidence. Supported by Aydemir and Aren (2017); Cucinelli et al. (2016); Takeda et al. (2013); Kennedy (2013) where both studies did not find a direct effect of financial knowledge/literacy on individuals' financial decision. In addition, among young adults, women have lower levels of financial well-being than men (Hirvonen, 2018). However, financial literacy might enable individuals to be familiar with basic information to make conscious decisions, capacity to analyse information and make decisions by foreseeing future financial and general consequences. So, the hypothesis developed is;

H1: Financial Knowledge has a significant impact on individuals' financial decisions.

Financial Planning

Individuals make financial decision based on future financial planning where it varies according to their income level, mortality and risk attitudes (Alonso-garcía & Sherris, 2019). Furthermore, life expectancy among individuals would influence their future financial planning and it then would affect their current financial decision. This is proven by Alonso-garcía and Sherris (2019) where mortality differentials have an effect on financial planning. In addition, past experiences of financial crises have a great impact on individuals as they have observed how their financial capacity has declined because of job crises and uncertain events that have affected their financial planning (Fiksenbaum et al., 2017; Greenglass et al., 2013).

Preparation for the retirement period would also become an important point for future financial planning. Individuals would use their assets (such as land or houses) wisely, fulfillment of tertiary education and pension funds (retirement) and some property is left to heirs (Aribawa, 2016). Additionally, public policies also influence individuals over future financial planning (Alonso-garcía & Sherris, 2019). Therefore, future financial planning (saving behavior) is positively related to financial behavior (Strömbäck et al., 2017). Białowolski (2019) have confirmed a positive influential relationship between financial decision behavior and savings (future financial planning) among households in Poland. Financial planning needs to be done by individuals and families to protect themselves and their families from various risks that may affect their financial position (such as accidents, illness, death, and lawsuits), reduce personal / family debts, finance life when it is no longer in the productive age range, this is related to the rising level of life expectancy of the average human in a country, paying the costs needed to raise a child, providing children's education costs to go to college, paying the cost of marriage, buying a vehicle, buying a house, being able to determine retirement with the lifestyle we want, paying long-term maintenance costs, and bequeathed welfare to the next generation.

Accordingly, financial planning becomes more significant due to instability of the job market that may reduce the financial constraints in future (Safari, Mansori, & Sesaiah, 2017; Cottier, 2018). It can be summarized that there is a tendency to do financial planning among the society because of various factors. Anderson et al., 2017; Cucinelli et al., 2019; Netemeyer et al., 2018). Thus, it is hypothesized that;

H2: Financial planning would significantly influence an individuals' financial decision.

Herding Behaviour

Herding behaviour is defined as an individual who prompts to follow the decision made by the majority or because of certain news (Bakar et al., 2016; Qasim et al., 2019). In this context, the individuals may ignore their own instincts or other internal factors where evaluation is made by following others' decision and emulate them (Rihards et al., 2019; Simões & Valente, 2015). Some researchers have argued that herding is a behaviour that worsens market volatility and causes market instability (Bikhchandani & Sharma, 2001; Guney et al., 2017; Spyrou, 2013). Nevertheless the herding behaviour is more common among institutional investors than individual investors (Bakar et al., 2016; Camara, 2017). Thus, the herding behaviour is not only influenced individuals but also institutional investors (Metawa et al., 2019).

Some other scholars have found that the herding behaviour is practiced among investors to make decisions during the financial market downturn or is unstable (Filip et al., 2015; Lee, 2017; Rihards et al., 2019). In general, individuals apply the herding behaviour in the process of financial decisions due to uncertainty and huge of information in the market (Bikhchandani & Sharma, 2001). Qasim et al. (2019) found that the herding behaviour have significantly influenced Pakistani investors in the decision-making process. Furthermore, Balcilar and Demirer (2013); BenSaïda (2017); Boubaker et al. (2015); Huang et al. (2015) found the relationship with special volatility and the herding behaviour found that pastoring increased market volatility. Consequently, Wamae (2013) found that the herding behaviour is a significantly positive factor on individual investment decisions. Similarly, the herding behaviour was found as a significant factor on individuals' financial decision making processes (Kengatharan & Kengatharan, 2014; Metawa et al., 2019). However, social influence (herd behaviour) positively moderates the relationship between extraversion and perceived investment performance (Akhtar et al., 2018). Consequently, humans tend to decline the herding behaviour in the existence of past experience whereby individuals desire to gather financial literacy (Shantha, 2019). Therefore, the herding behaviour may affect individuals in the process of financial decision making. So, the hypothesis developed is;

H3: Herding behaviour significantly influences individuals' financial decision.

DATA & METHODOLOGY

In this study, the constructs were developed with three independent variables; financial knowledge, financial planning and herding behaviour whereas financial decision was the dependent variable. A total of 125 survey data out of 173 was used for data analysis and the data were collected from lecturers and administrative staff from a local university. Among the selected respondents, there are 40 male and 85 female respondents and most of the respondents belonged to the age-group 30-39 (56%), married (83.2%), PhD holders (75.2%) and have been involved in both saving and financing activities (57.6%). All variables and measurement items were adopted from a previous relative validated study. There were 6 items for financial knowledge (FK), 7 items for future financial planning (FP), 5 items for herding behaviour (HB) and 5 items for financial decision (FD). All questions were applied a five-point Likert scale (1- strongly disagree, 2- disagree, 3-uncertain, 4-agree and 5-strongly agree).

A reliability test was conducted for the items through computing Cronbach's alpha. According to Nunnally (1978), a minimum of 0.6 suited for reliability estimation. The Cronbach's alpha (Table 1) for financial decision is 0.777, financial knowledge is 0.907, financial planning is 0.852, and herding behaviour is 0.547.

Table 1: Reliability Test

Variable	Cronbach's alpha
Financial Decision (FD)	.777
Financial Knowledge (FK)	.907
Financial Planning (FP)	.852
Herd Behaviour (HB)	.547

Descriptive analysis and Pearson correlation were applied to show the details of mean, standard value and correlations for variables of this study. Structural Equation Modelling (SEM) analysis was adopted to examine the effect of the cognitive variables towards financial decisions. All hypotheses

were tested simultaneously in a SEM model. Fitness of model were reordered to show that all variables in the model are fit.

RESULTS

Descriptive statistics

According to descriptive analysis (Table 2), the highest mean among variables recorded for financial decision (FD) which is 4.11 and standard deviation is 0.57. The lowest mean value recorded for the variable herd behaviour (HB) which is 3.18 and standard deviation is 0.56. The mean value and standard deviation for the variable financial knowledge (FK) is recorded 3.37 and 0.85, for future financial planning (FP) is 3.38 and 0.81 consecutively. Thus, the correlation for three variables, financial knowledge ($r = .483, p < .05$) and future financial planning ($r = .443, p < .05$) were positively and significantly correlated to dependent variable (financial decision). Finally, herd behaviour ($r = .275, p < .05$) was also positively correlated with financial decisions whereby the result is significant.

Table 2: Descriptive Statistics & Correlations

Variables	Mean	Std. Deviation	Pearson Correlation (r)	p-Value
Financial Decision	4.11	.57	1	
Financial Knowledge	3.37	.85	.483	.000
Financial Planning	3.38	.81	.443	.000
Herding Behaviour	3.18	.56	.275	.002

Measure of Sampling Adequacy

Based on KMO and Bartlett test, the sample chosen in this is adequate for further analysis where the value is 0.836 with the 0.00 significant level. Table 3 below presents result of KMO test.

Table 3: Result of KMO and Bartlett test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.836
Bartlett's Test of Sphericity	Approx. Chi-Square	1499.580
	df	253
	Sig.	.000

Regression Analysis

The multiple analysis regression analysis was used to examine the connection between independent variables and dependent variable. According to the Table 4, the regression model was significant whereas the F-value is 15.636 with p-value .0001. The results showed coefficients of determination is R square = .279 which indicates that about 27.9% of the variation in financial decisions can be explicated by the independent variables (financial knowledge, financial planning and herd behaviour). Meanwhile, the adjusted R square value was 0.261. Details of the regression analysis indicated that the model is adequate. The equation presented below for regression model.

$$FD_i = \alpha + \beta_1FK_i + \beta_2FP_i + \beta_3HB_i$$

Results are shown in Table 4.

Table 4: Regression Analysis

Variables	R square	Adjusted R square	F value	Standardized Coefficients Beta	t-Value	p-Value
FD					9.288	.000
FK				.235	2.473	.015
FP	0.279	0.261	15.636	.322	3.329	.001
HB				.073	.859	.392

The multiple regression analysis for this study denoted that the three constructs have different relationships towards financial decisions. The results in Table 4 shows that financial knowledge had positive relationship to financial decision and the result is significant at 95% confidence level whereas p-value = 0.015 ($p < 0.05$) with Standardized Coefficients Beta = 0.235. Thus, H1 is accepted.

The results also show that future financial planning influences an individual's financial decision positively. And the result is significant as p-value recorded was lower than 95% confidence level which is $p = 0.001$ ($p < 0.05$) with Standardized Coefficients Beta = 0.322. Therefore, H2 is accepted. However, the results indicated that herd behaviour positively related to individuals' financial decision. But, the p-value is 0.392 ($p > 0.05$) with Standardized Coefficient Beta = 0.073 which indicates that the result is insignificant. Thus, H3 is not accepted.

DISCUSSION AND CONCLUSION

The main purpose of this study was to examine the effect of cognitive factors towards individuals' financial decisions. Through multiple regression analysis, financial knowledge was found to have a very important role in influencing an individual in the financial decision-making process. This finding aligns with earlier studies by Yong et al. (2018), Delafrooz and Paim (2014) and Wahab et al. (2018) whereas financial literacy plays an important positive impact on an individual's financial behaviour. In this case, the researchers also stress the importance of financial knowledge to an individual before making any financial decision. This is because a tendency to be cheated as well as manipulated by other parties who are prone to take advantage over those who are unknowledgeable financially is very high. As based on observation, there are many cases of fake financial schemes in the market that have targeted an individual that have no financial knowledge especially village people.

The findings of this study have also indicated that financial planning has a positive relationship with individuals' financial decisions which in line with Safari et al. (2016), Nawati (2018) and Mahdzan et al. (2017). Future financial planning is believed would motivate individuals to save for future income which have influenced their current financial decision making.

On the other hand, the herding behaviour was found as an insignificant factor in influencing individuals' financial decision. This result indicates that the individual under study would ignore any external news to make any financial decision. It might be true that with a high level of financial knowledge, an individual already has confidence to make financial decision

without following other external information. This finding is similar with previous studies conducted by Bakar et al. (2016) and Kamil and Abidin (2017). However, it is noticed that other studies by Mand et al. (2018) have found different results where the herding behaviour has a positive impact towards Malaysian investors. Hence, results of the previous studies might be because of different targeted samples and contexts. The current study has focused on university staffs where the majority are lecturers and the context are financial decisions related to savings and financing rather than investments. That is why, the findings are different from Mand et al. (2018) who have focused on investment decision making where investors would much depend on the market or other investors' sentiments where the herding behaviour is highly practiced.

IMPLICATIONS AND LIMITATIONS

The findings of this study exhibit the importance of cognitive behaviours, thus depict that individuals are not rational in the making financial decisions. Eventhough the respondents are well educated academically they still are required to be financially knowledgeable to make better financial decisions. With acknowledgement of the findings, institutions can organize training or workshops for its employees to make better financial decisions. Policy makers may adopt an effective strategic plan partnering with higher education institutions to enhance financial knowledge, thus improve the individuals' financial decision making at the national level. Individuals may justify their ability to make financial decisions with these findings, thus influence them to gather proficiency in financial information.

However, this study has several limitations. Firstly, the respondents were only from one renowned public university and the sample data was relatively small. Secondly, the research methodology was only focused on survey data and multiple linear regression analysis. Thirdly, the model requires to be improved by adding other psychological factors and risks behaviour with mediating or moderating effect of demographic factors. Future studies may increase the number of respondents, use in-depth interviews and advanced statistical data analysis methods.

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