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Determinants and preferences for a crowdfunding project

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Abstract

This paper aims to investigate what determines young working individuals' willingness to fund a crowdfunding project, and their preferences for a crowdfunding model (e.g. debt-based crowdfunding or equity-based crowdfunding). Using a survey dataset ($n = 297$) from an emerging country where crowdfunding is gaining popularity, the results demonstrate that an easy investment process, which is viewed as perceived development and innovation of crowdfunding, and financial training cause young working individuals' higher willingness to invest in a crowdfunding project, whereas perceived risk involved with a crowdfunding project reduces the willingness to fund a crowdfunding project. With regard to the preference for a crowdfunding model, the results show that managing a bank account is positively related to the likelihood of investment in debt-based crowdfunding model. The findings provide implications for crowdfunding investors, project founders, and policy makers.

Keywords: Crowdfunding, Financial training, Perceived risk, Types of crowdfunding model, Malaysia

Background

Introduction

From the demand side, small businesses, start-ups, or small- and medium-sized enterprises (SMEs) typically face barriers in accessing finance from the traditional financial institutions such as banks. This is due to long waiting period, lot of documentation, collateral, financial records, creditworthiness, and the nature of new businesses. These barriers become more prevalent especially for developing countries. As such, alternative financing, i.e. crowdfunding, emerges as one of the alternative financing options for small businesses, start-ups, and SMEs. Online crowdfunding platforms allow small businesses, or start-ups to campaign their projects to raise funds from a larger number of investors through their small contributions [8]. Based on the contract terms, payment, and nature of crowdfunding project, crowdfunding was recognized as either reward-based or donation-based crowdfunding before US Congress passed the 'Jumpstart Our Business Startup Act' (JOBS) Act in 2012 [14]. In

line with the JOBS Act, another type of crowdfunding, known as equity crowdfunding, was discovered. In equity crowdfunding (ECF), small businesses raise fund by selling equity stake to individuals without going through regulatory requirements guided by securities commission in issuing stock publicly [14]. Besides equity crowdfunding, debt-based crowdfunding also allows small businesses to raise fund, but instead of selling equity, they borrow money from the crowd with the condition of interest and repayment of loan. From the supply side, investors act as an important source supplying fund to a crowdfunding project for its successful venture. Investors inject their fund either lending money or buying equity stake via crowdfunding platforms. Although small businesses, or start-ups, or SMEs find this type of funding as convenient and lucrative, the concern is mainly from the supply side that what causes investors to invest in crowdfunding. Because investors are less protected in crowdfunding investments; and the survival rate of small businesses and start-ups are lower [14].

Factors influencing investment decision of a crowdfunding project grab attention to academia, and a number of factors have been documented including financial

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and non-financial motivations, extrinsic and intrinsic motivations, crowdfunding platforms-related factors, perceived risk of crowdfunding, and regulatory issues [8, 15, 17, 25, 33, 34]. These studies, however, concentrate mainly on the attributes of crowdfunding platforms influencing crowdfunding investment. Attributes of crowdfunding platforms alone may not adequately explain one's willingness to fund a crowdfunding project. Furthermore, these studies ignore non-attributes of crowdfunding which might influence funding a crowdfunding project. With regard to non-attributes of crowdfunding, financial training and managing a bank account may influence an individual's willingness of crowdfunding investment. Financial training has been used as a predictor in different contexts, for example, investment decisions or stock market participation [7, 11, 19]. Financial training helps individuals to obtain knowledge and skills on basic terminologies of different investment instruments and money management as well. This may influence one's tendency to invest in alternative investments such as crowdfunding. Adding to that, managing a bank account, has been used mostly for financial inclusion [27] and it is suggested to have link with alternative investment decisions [22]. Both financial training and managing a bank account as non-attributes of crowdfunding are incorporated with the attributes of crowdfunding platforms to fill the research gaps. Moreover, existing studies on crowdfunding focus less attention on one's preference for a crowdfunding model despite a variety of crowdfunding model available for investment. Hence, factors leading to preference for a crowdfunding model are unknown. This study also attempts to fill this gap by understanding the effect of both attributes and non-attributes of crowdfunding investment on preference for a crowdfunding model. Particularly, the study examines whether attributes of crowdfunding (perceived attractiveness of lending in crowdfunding, perceived development and innovations of crowdfunding, and perceived risk of crowdfunding) and non-attributes of crowdfunding (financial training and managing a bank account) influence the proportion of amount willing to invest in crowdfunding and the preference for a specific crowdfunding model.

Crowdfunding market in Malaysia is considered as a context of this study. While prior studies on crowdfunding have gained much attention in developed markets, only a handful of studies have concentrated on emerging markets. Due to different regulatory requirements and guidelines for the crowdfunding markets, factors that drive investors' investment decisions on crowdfunding may be different from those factors found in developed or other markets. In this case, Malaysia as a developing country is considered given that SMEs and small businesses face a large funding gap. The financing gap for

Malaysia's micro-SMEs is estimated at around \$21.5 billion [26]. Crowdfunding can aid in minimizing this funding gap. Equity crowdfunding was introduced in Malaysia after releasing the guidelines on recognized market operators in December 2015. The funding amount and the number of successful campaign have been impressive in Malaysia. For example, funding amount raised via equity crowdfunding was almost double from RM54.91 million to RM110.26 million in between June 2019 and June 2020. Simultaneously, the number of successful campaign has increased from 64 to 106 within the same period of time [29] (Securities Commission Malaysia, 2020). Individual investors are the majority contributing to the crowdfunding campaigns [29]. Therefore, the success of crowdfunding largely depends on individual investors who provide fund to the platforms. Without the support of investors, crowdfunding platforms are not able to close the financing gap. To encourage individuals for the growth of crowd investing, it is utmost important to focus on the factors leading to crowdfunding investment. Asian Institute of Finance shows that while 25% individuals were aware of crowdfunding, only 11% had invested in a crowdfunding project, in 2015 [10]. Lack of knowledge and investment may result in lack of funding and thereby keep rising the funding gap. Therefore, to ascertain the growth of crowdfunding industry and to motivate individuals, it is necessary to understand how investors in Malaysia perceive the attributes and non-attributes of crowdfunding and their impacts on investment in crowdfunding and preference for a crowdfunding model.

Survey methodology is adopted to collect the data from young working individuals in Malaysia on the attributes of crowdfunding (perceived attractiveness of lending in crowdfunding, perceived development and innovation of crowdfunding, and perceived risk of crowdfunding), non-attributes of crowdfunding (financial training and managing a bank account dummy), the proportion of amount willing to invest in crowdfunding, and the preference for a crowdfunding model. The data are collected from 297 usable responses and analysed using ordered logistic and multinomial regression models. The results show that when investors perceive an easy investment process of crowdfunding and receive financial training, they are more willing to invest in a crowdfunding project. On the other hand, when investors perceive the risk involved with crowdfunding project to be lower, they are more likely to invest in a crowdfunding project. About the preference for a crowdfunding model, the results show that investors managing a bank account are more likely to prefer debt-based crowdfunding model. Among the control variables, age, education level of the respondents, and city residence have a positive significant influence on the crowdfunding investments, while Malay ethnic group

is significant but shows lower willingness. Regarding control variables for a preferred crowdfunding model, Malay ethnic group has less preference for equity-based crowdfunding and male respondents have less preference for debt-based crowdfunding.

Theoretical literature

An individual's willingness to fund a crowdfunding project and preference for a crowdfunding model are related to information asymmetry, the theory of cognitive evaluation, and self-determination. George Akerlof was the pioneer to study information asymmetry theory. According to Akerlof's view, information asymmetry occurs when one party has better information than another in a transaction [2]. Crowdfunding function involves a high level of information asymmetry because of information gap between project founders (i.e. borrowers) and investors (i.e. funders), and this leads to well-known adverse selection and moral hazard problems [3]. Agarwal et al. [1] examined the market dynamics of crowdfunding and explored the problems of moral hazard and adverse selection. In the light of this theory, less information asymmetry would increase an investor's willingness to fund a crowdfunding project. The opposite would occur when there is a greater level of information asymmetry. This paper assumes that soft information including perceived attractiveness of lending in crowdfunding, perceived development and innovation of crowdfunding, and perceived risk of crowdfunding would decrease information gap and lead to fund a crowdfunding project. Besides, financial training and managing a bank account may help individuals to minimize the information gap and lower the tendency to make adverse selection. This, in turn, causes higher willingness to fund a crowdfunding project.

As different types of crowdfunding models (e.g. equity- and debt-based crowdfunding) exist as the recognized market operators, it is possible that individuals may have preference for a specific crowdfunding model. In this regard, cognitive evaluation theory focuses on extrinsic motivation (i.e. monetary rewards), whereas self-determination theory considers factors that may facilitate intrinsic motivation [12, 13]. Allison et al. [4] extend the explanation of cognitive evaluation and self-determination theories in the context of crowdfunding. They illustrate that an investor's (i.e. funders or lenders) extrinsic motivation is more crucial to provide fund than an intrinsic motivation when entrepreneurs/founders focus on future extrinsic rewards. Through the lens of extrinsic and intrinsic motivations, the paper considers perceived attractiveness of lending in crowdfunding, perceived development and innovation of crowdfunding, perceived risk of crowdfunding, financial training, and managing a

bank account as motivating factors to prefer a particular crowdfunding model.

Empirical studies

Existing literature can be divided into two strands. One strand of literature concentrates on attributes of crowdfunding platforms in influencing one's intention to invest in a crowdfunding project. Another strand of literature covers studies on different types of crowdfunding models. Gerber et al. [15] investigate what motivates funders to lend in crowdfunding, using semi-structured interviews of US-based creators and funders. Analysing qualitative data with Nvivo, they find that seeking reward, supporting project creators, trust and creative community affect investors' lending in crowdfunding. In the next study, Gerber and Hui [16] examine funder's willingness to invest in the crowdfunding community. Conducting semi-structured interviews among participants in the USA, they document that funder's willingness to fund a crowdfunding project is driven by the desire to collect rewards, helping other people, supporting causes, and be part of the community. Distrust on project founder's use of fund adversely affects lending in crowdfunding platform. Cholakova and Clarysse [8] investigate whether financial and non-financial motivation affect one's decision to invest in equity crowdfunding and reward-based crowdfunding. Conducting a survey of 454 participants from a platform in Netherlands, they find that non-financial motivation has no significant role in crowdfunding and further they document that investment in equity crowdfunding is a positive determinant of keeping a pledge. Using a survey response of 169 individuals in Malaysia, Wasiuzzaman et al. [33] examine if both intrinsic and extrinsic motivations affect willingness to fund equity crowdfunding. They report that aesthetic value, trust, emotional value, and novelty have impact on equity crowdfunding investment, while financial motive has no impact on one's willingness to support equity crowdfunding. With respect to Shariah-based equity crowdfunding, Rahman et al. [23] attempt to investigate Shariah-complaint equity crowdfunding for small business development in Malaysia using a survey of 200 entrepreneurs, and find that the ease of use of crowdfunding affects raising capital in crowdfunding. Ghazali and Yasuoka [17] emphasize that perceived development and innovation of crowdfunding play a significant role for one's willingness to invest in crowdfunding in Malaysia. They investigate the awareness and perception of SMEs and start-ups towards Malaysian crowdfunding relying on a sample of 30 respondents from different companies. These authors report an insufficient level of awareness about crowdfunding as an alternative financing. Despite that a majority of respondents have positive perception towards the

development of fintech. They report that fintech crowdfunding would become an alternative source of financing for start-ups and SMEs, and crowdfunding would have an easy investment process. Overall, the respondents have positive reaction to the improvement of crowdfunding in Malaysia. Perceived development and innovation of crowdfunding are suggested to affect one's probability of funding in crowdfunding.

Using a mixed method technique in France and UK, Pranjivan [21] indicates attractiveness of lending in crowdfunding, which includes higher financial return, interest about specific companies, disappointment of traditional finance, advantage of a new form of investment in order to support the growth of crowdfunding activities, and maintain market confidence. Attractiveness of lending in crowdfunding is shown as one of the important determinants of crowdfunding investment. Risk of crowdfunding also gains attention in the literature. Bradford [6] explains perceived risk of crowdfunding as the risk associated with the investment in crowdfunding such as fraud and information asymmetry. As the risk of crowdfunding may vary across one project to another, Renwick and Mossialos [25] investigate the risk of crowdfunding in a health project using semi-structured interview in the UK. They demonstrate five types of economic risk of crowdfunding in health projects including budgetary dangers, indistinct administrative systems, wasteful need setting, danger of misrepresentation, and issues of responsibility. Using a questionnaire survey, Wasiuzzman [34] investigates perceived risk of investing in equity crowdfunding projects and finds that perceived information quality and regulation decrease the perceived risk of equity crowdfunding. On the relationship between perceived information quality and perceived risk of crowdfunding, regulation acts as a significant moderator.

Hoegen et al. [18] focus on a range of variables to investigate the factors influencing one's decision to fund a crowdfunding project. Apart from crowdfunding-related attributes, an individual's financial training may influence the tendency to loan a crowdfunding project possibly because receiving financial training causes individuals to explore more about alternative investment including crowdfunding. Talla et al. [31] explore the effectiveness of the training programme in increasing crowdfunding awareness. Using experiment among Palestinian students, they demonstrate that training programme is effective to increase awareness of crowdfunding. In turn, crowdfunding's awareness may lead to funding a crowdfunding project. The significance of training has also been observed in other disciplines. Rahman and Akhter [24] report that investment in training positively predicts bank performance in Bangladesh. Anjum [5] stresses on the practical training in the form of internship

programme for business students to improve personal and professional development.

Before investing in a crowdfunding project, one needs to understand different types of crowdfunding model, which have different functions and activities. Existing literature illustrates equity-based crowdfunding, debt-based crowdfunding, reward-based crowdfunding, and donation-based crowdfunding [20, 28, 32]. Meyskens and Bird [20] investigate different types of crowdfunding model and the value of social culture. They suggest that equity-based crowdfunding model is used when there is high economic value and low social value; debt-based crowdfunding model is used if there is high social value and high economic value; reward-based crowdfunding model is used if there is low social value and low economic value; and finally, donation-based crowdfunding model is used if there is high social value but low economic value.

At this point, the following gaps have been identified by reviewing the existing studies. Studies that have investigated attributes of crowding platforms (e.g. perceived attractiveness of lending in crowdfunding, perceived development and innovation of crowdfunding, and perceived risk of crowdfunding) fail to consider other possible factors that may impact one's crowdfunding investment. In this case, non-attributes of crowdfunding may play an important role in crowdfunding decisions. For example, financial training and managing a bank account are suggested to impact crowd investing decisions. These factors, however, are not addressed in crowdfunding literature. Besides, even though crowdfunding model has different classifications based on the equity, debt, reward, and donation, the preference for a crowdfunding model and its determinants remain unexplored. This study intends to fill the above research gaps by extending the attributes of crowdfunding with the non-attributes of crowdfunding, and their influence on the willingness to invest in crowdfunding and preference for a specific crowdfunding model. There are until now less studies that have focused on young working individuals in Malaysia to fill the above knowledge gaps.

Methods

Data collection

The study adopts survey methodology to investigate the determinants of willingness to fund a crowdfunding project and preference for a crowdfunding model. The target population of this research is young working individuals. The sampling frame is defined as those young working individuals who are familiar with online banking transaction and use at least one of the fintech services (e.g. payment or mobile transactions) in Malaysia. Young working individuals are defined as those working

individuals whose age spans between 15 and 40 years old [9]. An individual with the age range of 15 and 40 years is defined as youth in Malaysia, prior to the amendment of the Youth Societies and Youth Development Act 2019 (Amendment) of Malaysia. Non-probability sampling method was adopted due to lack of information regarding the actual number of working individuals who meet the two criteria (i.e. online banking experience and users of fintech services) in Malaysia. In particular, convenience sampling was used to conduct the study due to its convenience, less costly, fast, and easy to collect data. Before distributing the questionnaires, it was ensured whether the respondents meet the following criteria: working as full time or part time with the age range between 15 and 40 years, having online banking experience, and using any fintech services (e.g. payment or mobile transaction). The questionnaires were distributed by the researcher to the target respondents personally between January 2019 and March 2019 in the two states in Malaysia (i.e. Malacca and Johor), which are known as the southern region in Malaysia, using paper-based questionnaires. Of the distribution of 380 sets of questionnaire, the completed responses were received from 297 respondents after sorting incomplete responses. This represents a response rate of 78.15%. The collected sample size was adequate and it fulfilled the minimum required sample size for analysis. After inserting anticipated effect size of 0.15, desired statistical power of 0.80, probability level of 5% with 12 predictors, a priori sample size calculator for multiple regression shows 127 as the minimum sample size needed for this study [30].

The survey questionnaire is divided into three sections. Section A solicited demographic information about respondents such as gender, age, ethnicity, educational level, and regional residence. Next, section B collected the information about crowdfunding-related attributes (i.e. perceived attractiveness of lending in crowdfunding, perceived development and innovation of crowdfunding, and perceived risk of crowdfunding) and non-crowdfunding-related attributes (i.e. financial training and managing a bank account). Lastly, section C required the respondents to indicate their willingness to invest in crowdfunding and preference for a crowdfunding model (Table 1).

Demographic profile and descriptive statistics

The demographic profile of respondents (i.e. frequency and percentage) is summarized in Table 2. The respondents are almost equally distributed to 152 males and 145 females with 51.2% and 48.8%, respectively. Young working individuals' age distribution in the survey falls into four categories, where 25 respondents (8.4%) fall between 18 and 20 years old, 55 respondents (18.5%) aged

between 21 and 24 years old, 102 respondents (34.3%) aged between 25 and 28 years old, and 115 respondents (38.7%) aged between 29 and 32 years old. This indicates that mostly millennials are interested to invest in crowdfunding investments. Most of the respondents are Chinese ethnic group involved 141 respondents (47.5%). About 104 respondents (35%) are from Malay ethnicity and the rest, 52 respondents (17.5%) are from Indian ethnic groups. With regard to the education level, most of respondents' educational level was degree, which involved 169 respondents (56.9%). About 100 respondents (33.7) have earned diploma, 26 respondents (8.8%) have graduated with master and 2 respondents (0.7%) are with PhD. A majority of the respondents were living in cities (70%) during the time of data collection. About 68 respondents (22.9%) were living in towns, whereas only 21 respondents (7.1%) were living in villages.

Table 3 shows the summary statistics of variables comprising mean, standard deviation, minimum and maximum statistics. With respect to perceived attractiveness of lending in crowdfunding, the result indicates the highest mean for interest about specific companies or start-ups (0.32) on a scale of 0 and 1 with a standard deviation of 0.46. Advantage of a new form of investment as perceived attractiveness of lending has the lowest mean value of 0.19 with a standard deviation of 0.39. About perceived development and innovation of crowdfunding, the highest mean value is observed for crowdfunding becoming an alternative source of financing for start-ups and SME in various sectors (0.31) on a binary scale of 0 and 1. This is reported as the most influential reason for the development and innovation of crowdfunding. The lowest mean score is observed for Islamic-complaint financing option as perceived development and innovation of crowdfunding (0.07) with a standard deviation of 0.25. Respondents perceive crowdfunding as risky indicated by a mean value of 3.27 on a 5-point scale and a standard deviation of 1.10. It is observed that most of the respondents are managing a bank account and they attended financial training as suggested by the mean values of 0.98 and 0.90, respectively. The standard deviations of these variables are 0.14 and 0.30, respectively. The mean value for the willingness to fund a crowdfunding project is 2.41 on an ordinal scale from 1 to 3 with a standard deviation of 0.63. Young working individuals prefer to invest equally in equity-based crowdfunding and debt-based crowdfunding with a mean value of 0.27.

Empirical models and measurement of variables

The conceptual framework is designed to examine how perception towards attributes of crowdfunding platforms, financial training, and managing a bank account affect willingness to fund a crowdfunding project and

Table 1 Measurement of independent variables and dependent variable

Variables	Definition and items
Perceived attractiveness of lending in crowdfunding	<p>'Please indicate the reasons for choosing crowdfunding platforms rather than lend your money elsewhere.'</p> <p>Dummy variable assigned 1 if individuals select 'higher expected financial return', 0 otherwise;</p> <p>Dummy variable assigned 1 if individuals select 'interest/excitement/curiosity about specific companies or start-ups', 0 otherwise;</p> <p>Dummy variable assigned 1 if individuals select 'disappointment/mistrust of traditional finance', 0 otherwise;</p> <p>Dummy variable assigned 1 if individuals select 'taking advantage of a new form of investment (increased diversification)', 0 otherwise</p> <p>Pranjivan [21]</p>
Perceived development and innovation of crowdfunding	<p>'What do you hope from crowdfunding developments and innovations in Malaysia?'</p> <p>Dummy variable assigned 1 if individuals select 'to become alternative source of financing for start-ups and SME in various sectors', 0 otherwise;</p> <p>Dummy variable assigned 1 if individuals select 'to offer better interest rate compare to the existing financing', 0 otherwise;</p> <p>Dummy variable assigned 1 if individuals select 'to have Islamic-compliant financing option', 0 otherwise;</p> <p>Dummy variable assigned 1 if individuals select 'to have an easy investment process', 0 otherwise;</p> <p>Dummy variable assigned 1 if individuals select 'to have a robust or strong investor protection', 0 otherwise;</p> <p>Modified from Ghazali and Yasuoka [17]</p>
Perceived risk of crowdfunding	<p>'Please rate the following risks associated with crowdfunding lending'</p> <p>The borrower may prove to be fraudulent</p> <p>The platform may prove to be fraudulent</p> <p>Poor ongoing information about the borrower</p> <p>Poor returns or losses on the money lent</p> <p>Measured on a 5-point scale, where 1 = 'no risk', 2 = 'low risks', 3 = 'some risks', 4 = 'important risks', 5 = 'high risks';</p> <p>Pranjivan [21], Cronbach's alpha is 0.778;</p>
Financial training	<p>'Have you attended any financial education course?'</p> <p>Dummy variable assigned 1 if respondents select 'yes', 0 otherwise</p>
Managing a bank account	<p>'Do you have responsibility for managing a bank account?'</p> <p>Dummy variable assigned 1 if respondents select 'yes', 0 otherwise</p>
Willingness to fund a crowdfunding project	<p>'How much money are you willing to invest in a crowdfunding project (equity or debt crowdfunding) in the next 12 months?' 1 = < RM1000, 2 = RM1000-RM5000, 3 = > RM5000;</p>
Preference for a crowdfunding model	<p>'Assume you prefer to invest in a Crowdfunding platform, which model you will be considered to invest?'</p> <p>Dummy variable assigned 1 if respondents select 'equity-based crowdfunding model', 0 otherwise;</p> <p>Dummy variable assigned 1 if respondents select 'debt-based crowdfunding model', 0 otherwise;</p> <p>Dummy variable assigned 1 if respondents select 'other types of crowdfunding models (reward or donation based)', 0 otherwise;</p> <p>Meyskens and Bird [20]</p>
Gender	Male, female
Age	18–20 years old, 21–24 years old, 25–28 years old, 29 years old, and above
Ethnicity	Malay, Chinese, Indian
Educational level	Diploma, degree, master, PhD
Regional residence	A city, a town, a village

Table 2 Demography of respondents

Individual characteristics	Frequency	%	Individual characteristics	Frequency	%
Gender			Education level		
Male	152	51.2	Diploma	100	33.7
Female	145	48.8	Degree	169	56.9
Age			Master	26	8.8
18–20 years	25	8.4	PhD	2	0.7
21–24 years	55	18.5	Regional residence		
25–28 years	102	34.3	A city	208	70.0
29–32 years	115	38.7	A town	68	22.9
Ethnicity			A village	21	7.1
Malay	104	35.0	Observations	297	
Chinese	141	47.5			
Indian	52	17.5			

Table 3 Summary statistics of variables

Variables of interest	Mean	Std. Dev.	Min.	Max.
Perceived attractiveness of lending in crowdfunding				
Higher financial return	0.27	0.44	0	1
Interest about specific companies or start-ups	0.32	0.46	0	1
Disappointment of traditional finance	0.23	0.41	0	1
Advantage of a new form of investment	0.19	0.39	0	1
Perceived development and innovation of crowdfunding				
Become an alternative source of financing for start-ups and SME in various sectors	0.31	0.46	0	1
Offer better interest rate compare to the existing financing'	0.19	0.39	0	1
Islamic-compliant financing option	0.07	0.25	0	1
An easy investment process	0.19	0.39	0	1
A robust or strong investor protection	0.25	0.43	0	1
Perceived risk of crowdfunding	3.27	1.10	1	5
Financial training	0.90	0.30	0	1
Managing a bank account	0.98	0.14	0	1
Willingness to fund a crowdfunding project	2.41	0.63	1	3
Preference for a crowdfunding model				
Equity-based crowdfunding	0.27	0.44	0	1
Debt-based crowdfunding	0.27	0.44	0	1
Other types of crowdfunding (reward or donation based) (Reference category)	0.23	0.41	0	1
Observations	297			

'Std. Dev' is standard deviation. 'Min.' is minimum and 'Max.' is maximum

preference for a crowdfunding model. The dependent variables in the proposed model are the willingness to fund a crowdfunding project and preference for a crowdfunding model, respectively. The explanatory variables include perceived attractiveness of lending in crowdfunding, perceived development and innovation of crowdfunding, perceived risk of crowdfunding, financial training, and managing a bank account. The estimated equations are shown as below:

$$\begin{aligned}
 &\text{Willingness to fund a crowdfunding project} \\
 &= a_0 + b_1 u_{1 \text{ to } 4} + b_2 v_{1 \text{ to } 5} + b_3 w_1 \\
 &+ b_4 x_1 + b_5 y_1 + \varepsilon.
 \end{aligned} \tag{1}$$

$$\begin{aligned}
 &\text{Preference for a crowdfunding model} \\
 &= a_0 + b_1 u_{1 \text{ to } 4} + b_2 v_{1 \text{ to } 5} + b_3 w_1 \\
 &+ b_4 x_1 + b_5 y_1 + \mu.
 \end{aligned} \tag{2}$$

In Eq. (1), the dependent variable is willingness to fund a crowdfunding project measured on an ordinal scale where higher value indicates the higher proportion of amount respondents are willing to fund a project via crowdfunding in the next 12 months, and lower value indicates the lower proportion of amount willing to fund a crowdfunding project in the next 12 months. In Eq. (2), the dependent variable is preference for a crowdfunding model [20], which is a categorical variable measured by three different crowdfunding dummy variables where 1 is assigned if an individual selects 'equity-based crowdfunding', else 0. For the second dummy variable, 1 is assigned if an individual selects 'debt-based crowdfunding', else 0. The third dummy variable is used as a reference category and indicates either 'reward-based crowdfunding' or 'donation-based crowdfunding'.

The explanatory variables are same in both equations, where u = perceived attractiveness of lending in crowdfunding measured using four dummy variables [21]; v = perceived development and innovation of crowdfunding measured using five dummy variables [17]; w = perceived risk of crowdfunding measured by taking an aggregate score of four items with a Cronbach's alpha of 0.778 [21]; x = financial training measured as a dummy variable where 1 equals respondents attended financial training, else 0; y = managing a bank account measured as a dummy variable where 1 equals respondents are managing a bank account, else 0. In addition, the demographic variables such as gender, age, ethnicity, educational level, and regional residence are controlled in the model. The definition of variables is reported in Table 1. Based on the nature of the dependent variables, the study estimates ordered logistic and multinomial regression models that relaxes the assumption of normality, autocorrelation, and multicollinearity.

Results

Willingness to fund a crowdfunding project

The estimation results of willingness to fund a crowdfunding project are presented in Table 4. Column (1) shows the results without any control variables and estimation using ordered logistic regression. This column reports that perceived development and innovation of crowdfunding have significant impact on the willingness to fund a crowdfunding project. An easy investment process is significant and positively related to willingness to fund a crowdfunding project. A one-standard deviation increase in easy application process increases the probability of willingness to fund a crowdfunding project by 1.06%, other things remain constant. Another element of perceived development and innovation of crowdfunding, a strong borrower protection has statistically

significant and positive impact on willingness to fund a crowdfunding project. The coefficient of this variable is 0.64 and significant at 10% level. This suggests that perceived development and innovation of crowdfunding contribute positively to the amount willing to fund in crowdfunding platform. The positive effect is also observed for financial training. A one-standard deviation increase in financial training is likely to increase the funding amount in a crowdfunding project by 2.43%. This coefficient is significant at 1% level. Perceived risk of crowdfunding is likely to reduce willingness to fund a crowdfunding project. A one-unit increase in perceived risk of crowdfunding decreases the likelihood of willingness to invest in this financing platform by -0.47%. This indicates that individuals are more likely to invest in crowdfunding if the perceived risk crowdfunding is lower. Column (2) controlled the demographic variables and the results suggest that all the significant variables remain significant, except strong borrower protection. About demographic controls, young respondents' age, education level, and their regional residence are significantly and positively related to willingness to fund a crowdfunding project. Overall, the coefficient of determinants suggests that the significant variables are able to explain 24% variations in the probability of willingness to fund a crowdfunding project, without inclusion of demographic controls.

Preference for a crowdfunding model

Multinomial regression is estimated to investigate respondents' preference for a crowdfunding model, which includes equity-based crowdfunding, debt-based crowdfunding, and others (reward-based and donation-based crowdfunding). The results are demonstrated in Table 5, where other category (reward-based and donation-based crowdfunding) is used as a reference category. In case of equity-based crowdfunding model, none of the variables has significant effect on the preference for an equity-based crowdfunding project (Columns 1 and 2). In case of debt-based crowdfunding model, the results indicate that managing a bank account leads to preference for a debt-based crowdfunding project. Managing a bank account is positive and statistically significant for the selection of debt-based crowdfunding model. A one-unit increase in managing a bank account rises likelihood to prefer a debt-based crowdfunding project by 1.80%. Overall, the results indicate that managing a bank account has significant positive impact on the preference for debt-based crowdfunding model, whereas none of the variables is able to explain this type of crowdfunding model. Among demographic

Table 4 Willingness to fund a crowdfunding project

	(1)	(2)
Perceived attractiveness of lending in crowdfunding (Ref: Advantage of a new form of investment)		
Higher financial return	0.063 (0.030)	0.017 (0.002)
Interest about specific companies or start-ups	0.028 (0.007)	0.015 (0.001)
Disappointment of traditional finance	0.097 (0.068)	-0.117 (0.079)
Perceived development and innovation of crowdfunding (Ref: Offer better interest rate compare to the existing financing)		
Become an alternative source of financing for start-ups and SME in various sectors	0.259 (0.487)	-0.063 (0.024)
Islamic-compliant financing option	0.767 (2.006)	-0.107 (0.031)
An easy investment process	1.060*** (6.962)	1.019** (5.218)
A strong investor protection	0.647* (2.892)	0.680 (2.620)
Perceived risk of crowdfunding	-0.479*** (17.125)	-0.633*** (21.768)
Financial training	2.439*** (29.988)	2.507*** (23.349)
Managing a bank account	0.580 (1.203)	0.029 (0.002)
Demographic controls		
Gender		0.048 (0.030)
Age		1.384*** (54.590)
Ethnicity		
Malay		-0.723* (3.036)
Chinese		0.004 (0.000)
Education level		0.552** (4.386)
Regional residence		
A city		1.026* (3.659)
A town		0.907 (2.474)
- 2 Log likelihood	413.493	381.018
R-square	0.24	0.54
Observations	297	297

Wald *t*-statistics are given in parentheses

***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively

controls, the coefficient on Malay ethnic group is negative and statistically significant for equity-based crowdfunding meaning that they are less likely to prefer equity-based crowdfunding for investment. For debt-based crowdfunding, male individuals are unlikely to prefer debt-based crowdfunding for investment.

Discussion

The findings show that among perceived development and innovation of crowdfunding, an easy investment process increases willingness to fund a crowdfunding project. An easy investment process of crowdfunding platform induces young working individuals to fund a crowdfunding project. This finding is similar to the previous study of Ghazali and Yasuoka [17], who suggested

Table 5 Preference for a crowdfunding model

	Equity-based CF		Debt-based CF	
	(1)	(2)	(3)	(4)
Perceived attractiveness of lending in crowdfunding (Ref: Advantage of a new form of investment)				
Higher financial return	0.064 (0.026)	0.074 (0.033)	0.261 (0.395)	0.201 (0.224)
Interest about specific companies or start-ups	-0.147 (0.143)	-0.230 (0.339)	0.534 (1.871)	0.562 (1.993)
Disappointment of traditional finance	-0.102 (0.062)	-0.202 (0.231)	-0.252 (0.307)	-0.206 (0.197)
Perceived development and innovation of crowdfunding (Ref: offer better interest rate compare to the existing financing)				
Become an alternative source of financing for start-ups and SME in various sectors	0.306 (0.523)	0.378 (0.757)	0.005 (0.000)	0.037 (0.008)
Islamic-compliant financing option	0.152 (0.059)	0.253 (0.156)	0.427 (0.538)	0.494 (0.690)
An easy investment process	0.523 (1.371)	0.474 (1.080)	-0.358 (0.589)	-0.261 (0.299)
A strong investor protection	0.060 (0.018)	-0.063 (0.019)	0.015 (0.001)	0.060 (0.019)
Perceived risk of crowdfunding	-0.047 (0.144)	-0.039 (0.092)	0.022 (0.031)	0.036 (0.071)
Financial training	0.418 (0.681)	0.477 (0.807)	-0.076 (0.027)	-0.101 (0.043)
Managing a bank account	-0.136 (0.057)	-0.169 (0.084)	1.800* (2.930)	1.758* (2.744)
Demographic controls				
Gender		0.066 (0.056)		-0.517* (3.297)
Age		0.068 (0.177)		-0.055 (0.118)
Ethnicity				
Malay		-0.815** (4.101)		0.534 (1.397)
Chinese		-0.458 (1.346)		0.185 (0.170)
Education level		-0.316 (1.389)		0.233 (0.751)
Regional residence				
A city		-0.275 (0.258)		0.058 (0.010)
A town		-0.002 (0.000)		0.195 (0.101)
- 2 Log likelihood	342.185	336.637	331.582	325.612
R-square (Nagelkerke)	0.019	0.045	0.060	0.088
Observations	297	297	297	297

Other types of crowdfunding (donation and reward based) are used as reference category

Wald *t*-statistics are reported in parentheses

***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively

that an easy investment process may attract more investment towards crowdfunding. The development and innovation of crowdfunding (i.e. an easy investment process) attract investors to crowdfunding, and this attractiveness would increase crowdfunding investment [21].

Adding to this, financial training leads to increase the probability of funding a crowdfunding project. This can be explained by the fact that those who receive financial training regarding basic financial terms are well aware about the potential alternative investment and hence,

like to exploit new investment opportunity. Young working individuals consider crowdfunding to be an attractive alternative investment opportunity depending on the type of crowdfunding and express higher willingness to invest in a crowdfunding project. This finding is relevant with the existing literature [18, 31] and contributes to the literature on crowdfunding investment. Perceived risk of crowdfunding, by contrast, reduces the probability of willingness to fund a crowdfunding project. Those who perceive crowdfunding as risky investment are less likely to invest in a crowdfunding project. This means that individuals are more likely to invest in crowdfunding if they perceive risk of crowdfunding is lower. Although the risk of crowdfunding varies one project to another, individuals who are risk-averse tend to avoid risk. Therefore, they tend to invest less in crowdfunding. This risk may arise from the crowdfunded project. For example, the risk of equity-based crowdfunding can be business failure as a new venture; the risk of debt-based crowdfunding can be borrower's default possibly due to unsuccessful project or moral hazard. Fraud and information asymmetry could be another type of risk associated with crowdfunding investment which lowers the possibility of investment in crowdfunding. The negative relationship between perceived risk of crowdfunding and willingness to fund a crowdfunding project is relevant with the previous literature [6, 25, 34]. When it comes for the selection of specific type of crowdfunding model, the findings reveal that only managing a bank account is positively related to debt-based crowdfunding investment. It can be explained by the fact that managing a bank account has resemblance with the function of debt-based crowdfunding when depositing money in a bank in terms of principal and periodic interest. Hence, a positive relationship is established between an individual's managing a bank account and preference for a debt-based crowdfunding investment. The preference for equity-based crowdfunding is not predicted by the proposed explanatory variables. All in all, the findings contribute to the literature on crowdfunding in emerging markets.

Conclusions

This study aims to provide a better understanding on the factors determining the willingness to invest in a crowdfunding project, and the preference for a crowdfunding model (equity- or debt-based crowdfunding) in Malaysia. Using young working individuals as a sample of this study and conducting a cross-sectional survey questionnaire, the results indicate that both the attributes of crowdfunding platforms (an easy investment process and perceived risk of crowdfunding) and the non-attributes of crowdfunding platforms (financial training) significantly influence the probability of

willingness to fund a crowdfunding project. While an easy investment process and financial training have a positive relationship with one's willingness to invest in crowdfunding, perceived risk of crowdfunding has a negative relationship with the likelihood of funding a crowdfunding project. Of the equity- or debt-based crowdfunding model, managing a bank account is significantly related to the preference for a crowdfunding model. Those who are managing a bank account prefer to invest in debt-based crowdfunding investment. The results indicate that not only the attributes of crowdfunding platforms, but also the non-attributes of crowdfunding platforms influence an investor's willingness to invest a proportion of amount in a crowdfunding project and preference for a crowdfunding model.

The findings provide implications for project funders (i.e. investors), project founders, and regulators. For investors, they may attend financial training before involving in a crowdfunding project. Acquiring sufficient knowledge about crowdfunding may assist in taking crowd investment wisely. This would increase investment diversification through crowdfunding and an opportunity to earn a higher expected rate of return on their investment. Investors should also assess the risk of crowdfunding because inadequate evaluation of risk may reduce the chances to exploit potential upside risk in a crowdfunding project. Individuals who hold a bank account may consider investing in debt-based crowdfunding as the return of debt-based crowdfunding is relatively higher than the return of bank deposit. Small businesses or SMEs (i.e. project founders) should ensure investors that the investment process to apply for crowdfunding investment is easy and user friendly. They need to illustrate clearly the risk of investing in a specific crowdfunding project because miscommunication about financial risk may reduce the likelihood of investing in crowdfunding. Regulators may encourage young working individuals to participate in financial training in order to have better understanding about crowdfunding investment.

Future research may focus on different samples (e.g. retail and sophisticated investors) and behavioural aspects of crowdfunding investment. It is also encouraged to carry out similar studies in other emerging markets to test whether the attributes of crowdfunding platforms have stronger influence than non-attributes of crowdfunding platforms.

Acknowledgements

Not applicable.

Author contributions

MTIK conceptualized and analysed the data and interpreted the results, discussion, and conclusion. MTIK prepared the whole manuscript. The author read and approved the final manuscript.

Funding

This research did not receive any funding.

Availability of data and materials

The datasets used in this study are available upon request.

Declarations**Ethics approval and consent to participate**

The ethical approval is obtained by the research ethics committee of Multimedia University.

Consent for publication

Not applicable.

Competing interests

The author declares that he has no competing interests.

Received: 3 January 2022 Accepted: 12 April 2022

Published: 13 May 2022

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