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Financial risk tolerance based on gender, age, and formal education: the perspective of businesspersons

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Abstract

In the marketplace competition, every business, including those belonging to micro, small, and middle firms, must face the risk. In the optimistic view of entrepreneurs, this risk may upsurge the return. This investigation tries to verify and analyze financial risk tolerance (FRT) based on three demographic factors: gender, age, and formal education. The population comes from entrepreneurs in Bandung City, who used the snowball sampling technique to obtain the samples. Through the survey between August and October 2022, this study successfully collected 101 people. This study uses a structural equation model based on a partial least square to analyze the response through hypothesis testing. The analysis results demonstrate that males are more tolerant of financial risk than females, and age negatively affects FRT. However, formal education does not relate to FRT.

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Abstrak

Dalam persaingan pasar, setiap pelaku usaha, termasuk usaha mikro, kecil, dan menengah, pasti menghadapi risiko. Dalam pandangan optimis mereka, risiko ini dapat meningkatkan tingkat pengembalian. Investigasi ini mencoba memverifikasi dan menganalisis toleransi risiko keuangan (TRK) berdasarkan tiga faktor demografi: jenis kelamin, usia, dan pendidikan formal. Populasi yang dimaksud berasal dari pengusaha di Kota Bandung, diambil dengan teknik bola salju untuk memperoleh sampelnya. Melalui survei pada Agustus hingga Oktober 2022, penelitian ini berhasil mengumpulkan 101 orang. Terkait dengan jumlah, penelitian ini menggunakan model persamaan struktural berdasarkan *partial least square* untuk menganalisis respon melalui pengujian hipotesis. Terakhir, penelitian ini menunjukkan bahwa laki-laki lebih toleran terhadap risiko keuangan dibandingkan perempuan, dan usia berdampak negatif terhadap TRK. Pendidikan formal tidak berhubungan dengan FRT.

Kata kunci: umur, toleransi risiko keuangan, jenis kelamin, para pengusaha

Introduction

Providing entrepreneurs is a brilliant idea for Schumpeter to grow the economy (Samuelson & Nordhaus, 2021). Indeed, businesspeople intended are the owners having micro, small, and medium (MSM) businesses, where their total is higher than the large ones (Gherghina et al., 2020; Sahabuddin et al., 2023). Consequently, the actors of MSM businesses become substantial partners for the government to diminish unemployment (Rinaldi et al., 2022).

Moreover, businesspersons must have creative ideas based on the chances to make their business compete advantageously in the marketplace (Fillis & Rentschler, 2010), quickly decide (Toke & Kalpande, 2020), and consider threats as their business risks (Wheelen et al., 2018). Considering the positive relationship between risk and return (Ahmed et al., 2018), they need to tolerate risk (Fillis & Rentschler, 2010). For them, the risk happens if they experience loss or profits less than their expectations (Alexandru, 2019).

At least three demographic determinants of risk tolerance become the focus of the researchers, such as gender (Grable & Rabbani, 2023; Heenkenda, 2015; Irandoust, 2017; Karim et al., 2016; Kozubíková et al., 2017; Muthia et al., 2022; Nosita & Lestari, 2019; Pak & Mahmood, 2015; Rahman et al., 2023; Rahmawati et al., 2015; Suherman et al., 2023; Thanki et al., 2022), age (Grable & Rabbani, 2023; Heenkenda, 2015; Irandoust, 2017; Karim et al., 2016; Kozubíková et al., 2017; Muthia et al., 2022; Pak & Mahmood, 2015; Rahman et al., 2023; Rahmawati et al., 2015; Thanki et al., 2022), and formal education (Grable & Rabbani, 2023; Irandoust, 2017; Karim et al., 2016; Kozubíková et al., 2017; Muthia et al., 2022; Pak & Mahmood, 2015; Rahmawati et al., 2015; Thanki et al., 2022).

Unfortunately, these facts vary. For gender, some studies declare that males are more risk-tolerated than females (Grable & Rabbani, 2023; Heenkenda, 2015; Irandoust, 2017; Karim et al., 2016; Muthia et al., 2022; Pak & Mahmood, 2015; Rahman et al., 2023; Rahmawati et al., 2015; Suherman et al., 2023; Thanki et al., 2022), females are more risk-tolerated than males (Heenkenda, 2015; Kozubíková et al., 2017), and inconsequential tendency (Heenkenda, 2015; Karim et al., 2016; Nosita & Lestari, 2019).

For the relationship between age and financial risk tolerance (FRT), Rahmawati et al. (2015) depict that a positive tendency of age toward FRT happens in the investor group from 20 to 49 years old. The RT level of 1.75 is for those above 50. Unfortunately, Rahman et al. (2023) exhibit

that a negative tendency of age toward FRT occurs in the investor group between 20 and 50 years old. In their study, Karim et al. (2016), Kozubíková et al. (2017), Muthia et al. (2022), and Grable and Rabbani (2023) demonstrate a negative association. Unlike them, Irandoust (2017) confirms the quadratic function. Heenkenda (2015) documents this function for urban and rural sectors and the meaningless propensity for the estate sector. Meanwhile, Pak and Mahmood (2015) and Thanki et al. (2022) display a pointless tendency.

For the association between education and financial risk tolerance, Rahmawati et al. (2015), Karim et al. (2016), Irandoust (2017), and Grable and Rabbani (2023) display a positive sign, but Kozubíková et al. (2017) demonstrate a negative sign. In the meantime, Pak and Mahmood (2015), Karim et al. (2016), Muthia et al. (2022), and Thanki et al. (2022) exhibit no propensity.

Based on this mixed evidence, this study aims to investigate the effect of gender, age, formal education, and marital status on the financial risk tolerance of businesspeople as the object, as Kozubíková et al. (2017) employ. This object differs from others utilizing citizens (Irandoust, 2017), employees (Karim et al., 2016; Muthia et al., 2022), households (Heenkenda, 2015), millennial university students (Suherman et al., 2023), and investors (Grable & Rabbani, 2023; Pak & Mahmood, 2015; Rahmawati et al., 2015; Thanki et al., 2022), and higher education students (Rahman et al., 2023).

Theoretical framework and hypotheses

Through his study of households, Heenkenda (2015) finds that males in rural areas have greater financial risk tolerance (FRT) than females. The opposite evidence exists in the estate. Gender and this FRT have no relationship in the urban. After utilizing a difference test, Rahmawati et al. (2015) document that male investors have a greater FRT than females. Karim et al. (2016) show this tendency when researching 147 Malaysian adult workers in Kuala Lumpur. Employing an ordered regression model, Irandoust (2017) shows a positive effect of the male on this FRT. Pak and Mahmood (2015) show the same evidence based on the estimated result of a multiple regression model. In their study, Muthia et al. (2022), Grable and Rabbani (2023), Rahman et al. (2023), and Suherman et al. (2023) demonstrate that gentleman is more risk-tolerant than ladies. Based on this explanation, the first research hypothesis declared is as follows.

H1: Men have a positive effect on financial risk tolerance.

When learning about Malaysian adult workers in Kuala Lumpur, Karim et al. (2016) found out that workers above 30 are more risk-tolerant than those under 30. After investigating 1141 entrepreneurs in 14 areas of the Czech Republic, Kozubíková et al. (2017) affirm that young people tend to tolerate financial business risk. Muthia et al. (2022) present a negative association between age and financial risk tolerance when researching 113 employees in Indonesia. Equally, Grable and Rabbani (2023) confirm this negative inclination of 8,093 investors, whose responses were from the survey of the University of Missouri. Based on the perspective of 1204 higher education students in Malaysia, Rahman et al. (2023) demonstrate a negative tendency. Based on this explanation, the second research hypothesis exhibited is as follows.

H2: Age negatively affects financial risk tolerance.

When studying 187 investors in Indonesia, Rahmawati et al. (2015) declare that financial risk tolerance (FRT) at the undergraduate level is below that of those at the graduate level. Finally, individual FRT at the post-graduate level is the uppermost. According to Karim et al. (2016), Malaysian adult workers in Kuala Lumpur with at least a college degree are more risk-tolerant than those with under a college degree. Irandoust (2017) and Grable and Rabbani (2023) confirm

a similar tendency based on a survey of 180 people in Sweden and 8,093 investors whose responses were collected by the University of Missouri, respectively. Based on this explanation, the third research hypothesis exhibited is as follows**.**

H3: Formal education has a positive effect on financial risk tolerance

Methods

Research design

This study adopts a quantitative design. According to Sugiyono (2019), it aims to verify the hypothesis. Theoretically, this study proposes a positive effect of male and formal education on financial risk tolerance as the first and third hypotheses. The negative influence of age on this risk tolerance becomes the second hypothesis.

Variable measurement

In this study, financial risk tolerance (RT) becomes the determined variable. Its measurements denote Rahman (2020) with the four items: I borrow money from a bank to fund gainful projects (RT1), I need to take the financial risk to elevate my financial status (RT2), I had better lose my current money to get something valuable in the future (RT3), and I readily take the immense risk on my business (RT4). Additionally, this study utilizes three determinants covering gender, age, and formal education. Furthermore, to measure gender, this study uses the dummy variable with males as the reference category (Male = 1 and Female = 0). For measuring formal education, the study quantifies 1 for senior high school, 2 for bachelor's degree, and 3 for master's degree. Finally, to determine the ages, this study utilizes the actual value given by respondents

Population and samples

The population comes from businesspeople in Bandung. Because their detailed number is unclear, this study uses the snowball sampling technique. Furthermore, Hartono (2014) describes it as a technique depending on the network to get respondents. Additionally, the survey becomes a tool to obtain the data. According to Sugiyono (2019), this survey distributes the questionnaires, with the choice to respond based on a 5-point Likert scale, one to five, from disagreement to agreement on the latent variable. After surveying the businesspeople, 101 responses exist.

Data analysis procedures

This study analyzes data by the structural equation model (SEM) based on variance by considering total responses next to 100, as Ghozali (2021b) declares. Moreover, this model is obtainable in equation one.

$$FRT = \beta_1 MALE + \beta_2 AGE + \beta_3 Formal\ Education + \zeta_1$$

Mentioning Ghozali (2021b), this study employs the Smart Partial Least Square to process the data. For the validity test on financial risk tolerance (FRT), confirmatory factor analysis by comparing the loading factor and average variance extracted (AVE) with 0.5 is essential. An accurate response will exist if LF and AVE are beyond 0.5 (Ghozali, 2017). Moreover, to check the reliability, the detection is based on Cronbach Alpha (CA) (Ghozali, 2021a) and composite

reliability (CR) (Ghozali, 2017). If CA and CR exceed 0.7, their response is reliable (Ghozali, 2017, 2021a).

After that, the model needs to asses by mentioning the f-square for each determinant, adjusted R-square, and Q-square (Ghozali, 2021b). They aim to know the partial effect, the contribution of all determinants, and predictive relevancy, respectively, with the standard in Table 1.

Table 1.
The assessment of the SEM based on variance

Measurement	Description
The f-square	If the f-squared is 0.02, 0.15, and 0.35, the partial effect is weak, medium, and strong.
The R-square	If the R-square is 0.19, 0.33, and 0.67, the contribution of all determinants is deficient, moderate, and virtuous.
The Q-square	If the Q-square is above 0, the predictive relevance of the model exists.

Source: Ghozali (2021b)

Results and discussion

The profiles of the respondents

Table 2 presents the features of 101 entrepreneurs in Bandung joining the survey between August and October 2022, i.e., gender, age, marital status, and business scales. Males (58.42%) are more dominant than females (41.58%) by denoting gender. Based on age, the adult takes the foremost position (39.60%), tracked by teenagers (38.61%) and the elderly (21.78%). From marital status, the single (49.50%) is almost the same portion as the married (48.51%), but the divorced is the bottommost (1.98%). By referring to scale, micro-entrepreneurs take the first place (68.32%), followed by small and middle businesspeople with the second and final places, i.e., 22.77% and 8.91%, respectively.

Table 2.
The respondent profiles

Feature	Description	Total	Portion
Gender	Male	59	58.42%
	Female	42	41.58%
Age	From 20 to 25 years old (Teenagers)	39	38.61%
	From 26 to 45 years old (Adult)	40	39.60%
	From 46 to 65 (Elderly)	22	21.78%
Marital status	Single	50	49.50%
	Married	49	48.51%
	Divorced	2	1.98%
Business scale	Mirco scale: one employee to four employees	69	68.32%
	Small scale: five to nineteen employees	23	22.77%
	Middle scale: twenty to ninety-nine employees	9	8.91%

Source: Survey Data

The testing result of validity and reliability

Table 3 shows the validity test result, i.e., loading factor and AVE. The LF for four risk tolerance items, i.e., RT1, RT2, RT3, and RT4, is 0.529, 0.858, 0.826, and 0.901, and AVE is 0.628. These

values exceed 0.5 as the cut-off for LF and AVE; hence the accurate answer exists. Also, Cronbach Alpha and composite reliability are 0.804 and 0.867, higher than 0.7, as the cut-off point; thus, the accurate answers to these items are consistent.

Table 3.
Loading factor, AVE, Cronbach Alpha, and Composite Reliability

Item	Loading factor	AVE	*Cronbach Alpha*	*Composite reliability*
RT1	0.531	0.628	0.804	0.864
RT2	0.858			
RT3	0.826			
RT4	0.901			

Source: Output of Smart PLS

The valuation result of the research model

Table 4 exhibits the assessment result of the research model based on several measurements, such as f-square, R-square, and Q-square. For the f-square, the value of male as the gender proxy, age, and formal education is 0.089, 0.154, and 0.001, respectively. Therefore, the partial consequence is between weak and medium for gender, middle for age, and defenseless for formal education. The R-square is 0.231, between 0.19 and 0.33; therefore, the contribution of all determinants is between frail and normal. Meanwhile, the Q-square is 0.125. Because it is more extensive than 0, predictive relevance happens.

Table 4.
Effect size (f-square), adjusted R-squared, and Q-square

The independent variable	f-square	R-square	Q-square
Males	0.089	0.231	0.125
Age	0.154		
Formal education	0.001		

Source: Output of Smart PLS

The estimation result of the research model

Table 5 reports the estimation result of the research model showing the probability of the t-statistic of 0.007 with a positive sign of 0.267 for males and 0.001 with a negative mark of 0.363 for age. Because these probabilities are lower than the 5% significance level, males positively affect financial risk tolerance (FRT) but age negatively does. For formal education (FE), the probability is 0.739. This value is more wide-ranging than the 5% significance level; thus, FE does not influence FRT.

Table 5.
The estimation of the research model: The impact of gender, age, marital status, and formal education on financial risk tolerance

The independent variable	Original Sample (O)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P-Value
Males	0.267	0.098	2.721	0.007
Age	-0.363	0.107	3.412	0.001
Formal education	-0.036	0.106	0.333	0.739

Source: Output of Smart PLS

Discussion

The males are more tolerant than females to face the financial risk. This inclination supports Shmailan (2016), who declares that male entrepreneurs like risk more than females. When males come and borrow money from the banks, they will easily get it. This loan will become a risk if males cannot manage it well. With this tendency, this study affirms Heenkenda (2015), when researching household behavior in rural areas; Rahmawati et al. (2015), when investigating the investors; Karim et al. (2016), when learning about adult workers; Irandoust (2017) with citizens as the object; Pak and Mahmood (2015), with investors as their object; Muthia et al. (2022), Grable and Rabbani (2023), studying employees and investors, respectively; Rahman et al. (2023) and Suherman et al. (2023), investigating the higher education students, one-to-one.

The age negatively affects the risk tolerance. It indicates that young entrepreneurs are energetic. They love challenging situations more than the old ones. With this tendency, this study aligns with Rahman et al. (2023), investigating university students; Karim et al. (2016), learning about adult workers; Kozubíková et al. (2017), utilizing entrepreneurs as their objects; Muthia et al. (2022), researching employees; and Grable and Rabbani (2023), using investors as their objects, declaring the younger the person, the more tendency to let the financial risk occur.

Formal schooling does not affect financial risk tolerance. It happens because education is only a complement to personal prestige for entrepreneurs and does not influence the quick financial decisions to take the risk. Instead, to make these decisions, they think to do it intuitively based on the habit. Based on this explanation, this study aligns with Pak and Mahmood (2015), Karim et al. (2016), Muthia et al. (2022), and Thanki et al. (2022), exhibiting no relationship between education and financial risk tolerance based on the perspective of Pakistanis, Malaysian, Indonesian, Indians, respectively.

Based on the results mentioned above, this study recommends that male entrepreneurs should manage bank loans properly to avoid bankruptcy because of their financial risk tolerance; therefore, they can get a higher return from risky investments. Indeed, capital budgeting can be an alternative to analyze the project's feasibility.

Limitations

The total employed samples are 101 entrepreneurs in Bandung, less than 200, inappropriate for theory testing; hence, the following scholars should add the sample size to 200 and above by applying the covariance-based structural equation model to fix this issue. Besides, three risk tolerance determinants become the other restriction. Thus, the subsequent researchers should add other factors, like marital status, revenue or profits, financial literacy, business portfolio structure, and expected economy.

Conclusion

This study intends to prove three relationships based on the perception of businesspeople in Bandung City. The first is between gender and financial risk tolerance (FRT). The second is between age and FRT. The last is between formal education and FRT. Based on the survey from August to October 2022, this study collected 101 responses. Once verifying the hypotheses, this study demonstrates that (1) men have higher FRT than women, (2) a positive association between age and FRT, and (3) formal education does not associate with FRT.

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