Determinants of financial risk tolerance among small business owners in Ghana and its influence on financial behaviour

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Abstract

Purpose: This study tries to examine the factors that determine financial risk tolerance and their consequent impact on the financial decisions of small business owners in Ghana. More precisely, this study intends to find how deliberative thinking, optimism, financial threat, and family financial socialization influence the concepts of risk tolerance and hence financial decisions.

Deign/methodology/approach: This study engaged the participation of 512 small-scale business owners in Ghana. The PLS-SEM model was used to analyse data on the following elements: deliberative thinking, optimism, financial threat, family financial socialization, financial risk tolerance, and financial behaviour.

Findings: Deliberative thinking, optimism, and financial threat have a significant positive effect on financial risk tolerance. However, family financial socialization did not influence risk tolerance; hence, family guidance opens guidelines toward being cautious rather than taking risky behaviour. Financial risk tolerance and family financial socialization collectively take the responsibility for proactive financial behaviour that motivates making decisions for business growth.

Implications for Research: The findings of this study show that policymakers and financial educators must focus on the building of deliberative thinking and optimism in small enterprise owners. The programs should also enhance the capabilities of financial decision-making in developing resilience and sustainability of businesses in Ghana.

Originality/Value: This study is one of the few conducted on financial risk tolerance among small business owners in Ghana, thus contributing to the literature on how family and cognitive traits influence financial behaviour, with implications for better business growth through appropriate financial education.

Keywords: Financial risk tolerance, financial behaviour, family financial socialization, small business owners

JEL Codes: M2, G4, G5

Introduction

In today's competitive and ever-changing business environment, understanding the determinants of financial risk tolerance among small business owners is crucial for promoting growth and stability, particularly in Ghana's budding economy (Herlina et al., 2024; Owusu et al., 2023; Purwidianti et al., 2021). Small business owners represent a critical drive for innovation, jobs, and economic growth (Padi et al., 2024; Bunyamin & Wahab, 2021). The issue of financial risk tolerance among small business owners is very important because, through decision-making, they affect the financial stability of SMEs, which play a vital role in Ghana's economy (Herlina et al., 2024; Padi et al., 2024; Owusu et al., 2023; Hirawati et al., 2021). Nevertheless, in most instances, the research on financial risk tolerance among small business owners in Ghana is considered limited, as much of the existing literature focuses on individual investors or salaried employees and not on entrepreneurs facing unique business and financial environments. For instance, they only major study on financial risk tolerance behaviour in Ghana focused on security service personnel in Ghana (Owusu et al., 2023). Risk tolerance can be defined as one's attitude towards or preference for taking financial risks (Xing, 2024; Hermansson & Johnson, 2021; Bapat, 2020). Financial risk tolerance, therefore, influences investment, saving, and other financial decisions. Because SMEs in Ghana are very prone to economic turbulence, the study of how the risk tolerance of their owners drives their financial behaviour is quite an elementary prerequisite for any efforts towards enhancing their financial sustainability in turbulent markets (Herlina et al., 2024; Blay et al., 2024). In the case of Ghana, for instance, most of the extant literature investigating SMEs does not examine financial risk tolerance as a leading factor that could explain their financial behaviour; hence, a current gap in understanding how risk tolerance may either improve or worsen their financial outcomes in that environment.

There is lack of research studying the determinants of financial risk tolerance among Ghanaian small business owners, despite the fact that they operate under peculiar business environments. The studies on financial risk tolerance have focused mainly on demographic factors as age, gender, and income level among salaried workers or general populations in developed economies (Rodigues & BV, 2024; Hemrajani et al., 2024; Kanadhhasan et al., 2016; Rahman et al., 2023; Fisher & Yao, 2017). The fact that previous studies were unable to consider variables specific to Ghana, like family financial socialisation towards risk, the level of trust and optimism, and-very importantly-the effects of deliberative thinking, creates a critical lacuna in existing literature. Moreover, not many studies have been done to ascertain how financial risk tolerance among business owners stands in relation to certain financial behaviours such as debt management and investment decisions in Ghanaian SMEs. The addressing of such empirical gaps, therefore, by focusing on the unique financial dynamics and determinants of risk tolerance among Ghanaian SMEs may contribute to an improvement in the local economic policies, if not bringing more tailored financial planning tools to business owners.

Theoretically, the study of financial risk tolerance in respect of financial behaviour among Ghanaian entrepreneurs is relatively unexplored; most studies depend on general behavioural theories applied in the wider population. Prospect Theory and Family Financial Socialization Theory have been the more prominent frameworks used for the understanding of risk tolerance among persons (Owusu et al., 2023; Hirawati et al.,2021), setting the grounds for an adaptation for Ghanaian entrepreneurs. For instance, this study wants to revisit Prospect Theory, which assumes that individuals assess risk by probable losses and gains to understand how entrepreneurs make decisions in business finances when in uncertainty. At the end, the family financial socialization theory also has implications for examining the family influence on the owner's financial risk tolerance. This, therefore, signifies a theoretical lacuna in the applications of these theories with regard to financial behaviours within SMEs in Ghana and hence presents an opportunity for stitching together significant nuances of the determinants of risk tolerance and financial decision-making in this context.

This study makes significant value to literature, theory, policy, and practice mainly by the nuanced understanding of the determinants of financial risk tolerance and its effect on financial behaviour amongst SBOs in Ghana. The findings enrich the literature by showing that cognitive traits, such as deliberative thinking and optimism, are of paramount importance to influence risk tolerance and, consequently, financial behaviour, while family financial socialization has a more nuanced influence. Theoretically, it extends the use of Prospect Theory and the Family Financial Socialization Theory regarding small business financial decision-making to press for the role of individual psychological factors and family influences. Policy-wise, the findings suggest that financial literacy programs for small business owners need to include elements that enhance cognitive and psychological characteristics propitious to responsible risk-taking. It would, therefore, be of practical importance that a balance attitude toward risk should be cultivated among small business owners so as to encourage those behaviours that would help in the growth of their business while averting potential financial risks.

Empirical Literature

Trust and Financial risk tolerance

Empirical studies indicate that trust significantly impacts the financial risk tolerance of people and investors (Owusu et al., 2023; Rahman, 2020). In the context of small business owners financial risk tolerance can be useful by reducing perceived uncertainties in financial decisions (Herlina et al., 2024). Trust in this context is the willingness of the entrepreneur to accept some level of risk exposure or vulnerability (Owusu et al., 2023). Overall, trust in financial advisers and institutions is positively related to the risk tolerance of small business owners, as secure and reliable relationships make riskier investments appear more feasible (Rahman, 2023; Hirawati et al., 2021; Delis & Mylonidis, 2015). According to Prospect Theory, confidence or trust is a modifying factor that influences the possibility of a loss, thereby strengthening the risk tolerance of business owners through the focus on gains when expectations of economic stability are high (Owusu et al., 2023). The Family Financial Socialization Theory describes how early financial socialization, embedded within trusted family networks, leads to risk tolerance by encouraging confidence in financial decisions. Put differently, taken together, these theories explain how trust reduces the perceived risks; therefore, it elevates the financial risk tolerance of small business owners and fosters growth-oriented financial behaviours.

Financial threat and financial risk tolerance

Empirical studies that investigated the level of financial threat and financial risk tolerance in small business owners found that perceived financial threats-that is, economic instability, market volatility, and personal financial insecurity-tend to reduce risk tolerance (Rosario, 2023; Owusu et al., 2023). In general, financial threat is associated with increased loss aversion (Ishtiag et al., 2019; Fiksenbaum et al., 2017). For example, research has demonstrated that when owners of small businesses perceive high levels of financial threat, they tend to establish more conservative financial behaviours that have the potential to lower their losses (Rosario, 2023). Other studies by Owusu et al. (2023) also point out that financial threats-meaning uncertainty with regard to cash flow or growing debts-brings out cautious investment behaviours since a business owner at this point seeks stability instead of growth. This conservative attitude is again in line with the predictions of Prospect Theory, which postulates that when there is a prospect of a loss, individuals are generally more risk-averse (Viseu et al., 2021). Besides, financial threat tolerance among small business owners is influenced by the psychological resilience and financial literacy of the business owners; hence, it is proven that either the strong financial management skills or higher levels of resilience among the business owners increased the desire to take on financial risks irrespective of perceived threats from the said finance (Bunyamin & Wahab, 2021). These findings subsequently suggest that financial threat perceptions play a critical role in driving small business owners to foster financial risk tolerance, usually adopting risk-averse strategies that can help them maintain business continuity and personal financial well-being.

Optimism and financial risk tolerance

Research has shown that optimism is an important determinant of financial risk tolerance for small business owners and generally increases financial risk tolerance (Owusu et al., 2023; Stromback et al., 2017). Optimism is a disposition to expect the best possible outcome or to expect success, and it can increase financial risk tolerance by lessening perceptions of risk and by boosting belief in the attainment of a desirable outcome (Angelini & Cavapozzi, 2017). Optimistic small business owners believe in their ability to overcome financial difficulties and tend to be more proactive and growth-oriented in their decisions, even when the economic climate might remain uncertain (Fajana et l., 2023; Jiang et al., 2021). This is attributed to Prospect Theory, as Owusu et al. (2023) explain, which states that optimism shifts focus away from potential losses toward gains, hence reducing the fear of negative results and fostering the generation of risk-taking behaviours. Besides, according to the Family Financial Socialization Theory, optimism-which can be developed through positive reinforcement in social and family circles-allows business proprietors to take on financial risk bravely, with support upon which to rely (Rahman, 2020). All in all, optimism influences financial risk tolerance by enabling resilience and a focus on long-term growth, thus encouraging small business owners to pursue strategic risks essential for business expansion and financial success.

Deliberative thinking and financial risk tolerance

The concept of financial risk tolerance among entrepreneurs in small businesses was stirred by deliberative thinking described as careful consideration and reflective judgment about financial alternatives, which encourages caution as well as informed decisions (Owusu et al., 2023). Those small business owners who employ deliberative thinking tend to weigh all their possible risks and benefits, which generally end up being a lower degree of risk tolerance in light of stability and the informed judgment they make, rather than impulsive choices that are high-risk (Moche et al., 2022). Research shows that deliberative thinkers tend to give higher value to potential losses rather than gains, which are in line with Prospect Theory by saying that a person would normally avoid loss and show risk avoidance when more cognizant of the potential negative outcome (Owusu et al., 2023; Moxley et al., 2012). Deliberative thinking can also facilitate risk acceptance when the business owner believes that he has a controllable and understandable risk and, hence, takes calculated risks but not impulsive ones (Mata, 2016). Furthermore, Family Financial Socialization Theory highlights how early financial training and support systems may help sustain deliberative thinking and, consequently, influence the development of more conservative financial practices over time (Owusu et al., 2023). Generally, deliberative thinking leads to a considered approach in financial risk tolerance whereby small business owners make sure to take strategic risks based on cautious consideration for business development while discarding any potential financial risks.

Family financial socialization and financial risk tolerance

Family financial socialization is the process through which financial attitudes, knowledge, and behaviours are passed along in family contexts, and such plays an important role in moulding financial risk tolerance among small business owners (Rahman, 2020). Most individuals, through early exposure to the financial decisions of family members, tend to adopt an attitude and risk preference that drives their financial behaviour in later life (Owusu et al., 2023). Studies have shown that family financial socialization can result in either higher or lower financial risk tolerance, depending on how risk is approached and the way financial decisions are made within the family (Ullah & Yusheng, 2020; Gudmunson & Danes, 2011). For instance, business owners from families that encouraged financial independence and considered risk taking were found to be more likely to have high risk tolerance because they have been exposed to possible benefits of prudent risk behaviours (Lanz et al., 2020). This is affirmed by Family Financial Socialization Theory, which purports that positive reinforcement from the family builds confidence and a sense of resilience among business owners, thus being more open to taking financial risks (Owusu et al., 2023). In contrast, those growing up in risk-averse family environments are most likely to be conservative regarding their finances, consistent with Prospect Theory, since the possibility of loss informs conservative decisions about one's finances (Owusu et al., 2023; Lanz et al., 2020; Rahman et al., 2020; Zhao & Zhang, 2020). Hence, family financial socialization contributes to the development of financial risk tolerance by inculcating basic financial attitudes that guide business owners in their ability and/or desire to navigate uncertain financial landscapes.

Financial Risk tolerance and financial behaviour

Financial risk tolerance has a great effect on the financial behaviour of small business owners in terms of investing, debt management, and expansion of the business (Herlina et al., 2024; Hirawati et al., 2021). Business owners with higher financial risk tolerance tend to be more growth-oriented and would expand into new markets, newer technologies, or increased leverage, thereby scaling their operations (Xing, 2024; Nguyen et al., 2022). Such a tendency toward undertaking calculated risks can provide competitive advantages and thereby possibilities for long-term profitability (Owusu et al., 2023; Purwidianti et al., 2021). On the other hand, entrepreneurs with relatively low levels of risk tolerance tend to be more financially conservative in that they will often strive for stability, keep debt at minimal levels, and focus on safe investments, especially when times are economically not very sure (Masdupi et al., 2024). Such cautious actions illustrate Prospect Theory, in which individuals' aversion to loss influences their financial decisions under conditions of outcome uncertainty (Hemrajani et al., 2024). Further, Family Financial Socialization Theory posits that the risk tolerance of owners, rooted in early experiences with money and family dynamics, influences financial behaviour by predisposing people to utilize either a risk-taking or a more conservative strategy (Xing et al., 2024; Owusu et al., 2023). In these combined dynamics, financial risk tolerance directly affects the financial behaviours of small business owners, which are manifested in the resilience and growth trajectories of the business.

Family financial socialization and financial behaviour

Family financial socialization has the strongest impact on the financial behaviour of a person, including small business owners, because it forms one's attitude, knowledge, and methods of monetary treatment since childhood (Lanz et al., 2020; Gudmunson & Danes, 2011). People internalize financial practices and risk preferences through family interaction, as well as decision-making strategies observed in parents or guardians (Owusu et al., 2023). Research has documented that individual from families characterized by open discussion of financial matters and socialization into responsible handling of money have developed positive financial practices, including budgeting, saving, and wise investing, among other practices (Zhao & Zhang, 2020). Either conservative or growth-oriented financial behaviours can result from family financial socialization based upon the family's approach to risk and reward associated with financial matters (Lanz et al., 2020). This is further supported by Family Financial Socialization Theory, which postulates that early family influence instils persistent financial attitudes; families that support financial independence and enlightened risk-taking encourage entrepreneurial and investment-oriented behaviours, while families leaning toward risk aversion socialize their members to approach finances conservatively, seeking stability and frugality (Owusu et al., 2023; Ullah & Yusheng, 2020). Thus, family financial socialization represents the foundation through which financial behaviours are set that, in turn, shape personal and business financial decisions over time.

Research Methods

The quantitative research design adopted for this study into determinants of financial risk tolerance among Ghanaian small business owners has been important for the systematic measurement of the variables that border on risk tolerance, financial behaviour, and influencing factors. The quantitative approach, therefore, enabled the employment of statistical methods to assess the relationships between these variables for objective data collection and analyses that ensure generalizable results. Such structured questionnaires ensured consistency in data gathered from a large sample to allow the drawing of reliable conclusions based on numerical evidence. This, in particular, was suitable in the study's goal of measuring the influence of various determinants on financial risk tolerance and also how risk tolerance in turn affects financial behaviour. Quantitative research design allowed the coverage to be wider because it made reference to diversified locations, which is very important to the present study in view of its focus on small business owners drawn from various industries in Ghana. The statistical methods of data analysis helped in reaching a holistic understanding of trends and patterns that might not have been noticed by qualitative approaches.

The target Population of the study are small business owners whose financial decisions have immediate implications for the success or failure of their businesses and are pertinent to the general economy. The study sampled respondents through stratified sampling technique using questionnaire as the main instrument. The study adopted the quantitative approach to determine the appropriate sample size that will allow for generalisation of the findings. This number was derived using Cochran's formula at a 95% confidence level with a margin of error of 5% is a minimum of 384 small business owners. For this survey, a total questionnaire completed amount to 512, hence very robust for analysis.

Instrumentation

The main instrument for data collection is the questionnaire. The questionnaire was divided into various sections to allow for the measurement of all the variables and construct used for the study. The first section of the questionnaire focused on respondent demographic data that can influence their financial risk tolerance like their age, gender, income levels and education. The rest of the sections measured the construct on a 5-point Likert scale consistent with previous studies on the subject matter. Financial risk tolerance was measured using 6 statements adapted from previous studies that sued and validated these scales (Owusu et al., 2023; Pinjisakikool, 2018). Financial behaviour was also measured suing validated scales from previous studies such as Owusu et al. (2023) and Fiksenbaum et al. (2017). The study also adopted validated scales from Khawar and Sarwar (2021) and used by Owusu et al. (2023) in a similar study to measure financial socialization. On the independent variables that were used as determinants of financial risk tolerance were also adapted from already valeted scales. The questions were adapted from previous studies such as Owusu et al. (2023) and Stromback et al. (2017) and were modified to suit the unique situation of small business owners in Ghana. The questions were measured on a 5-point Likert scale where 1 represent strongly disagree and 5 represent strongly agree.

Data Analysis

Data analysis for this study was conducted using Partial Least Squares Structural Equation Modelling (PLS-SEM) through the Smart PLS software, which was well-suited for analysing complex relationships between latent variables and their indicators. PLS-SEM was advantageous for the predictive research model, particularly as the study examined the influence of multiple determinants on financial risk tolerance and financial behaviour. This method enabled the researcher to evaluate both the measurement model, assessing the reliability and validity of the constructs, and the structural model, examining the hypothesized relationships among the latent variables. Using Smart PLS, the analysis accounted for the reflective and formative indicators of each construct, allowing for an in-depth understanding of the paths and strengths between variables. The software also provided bootstrapping techniques to test the significance of path coefficients, making it possible to derive robust conclusions about the influence of financial risk tolerance on financial behaviour among small business owners in Ghana.

Results and Discussion

Respondents' demographics

Table 2: Respondent's profile

Variables		Frequency	Percentage
	Male	264	51.56%
Gender	Female	248	48.44%
	20-29	244	48%
	30-39	72	14.06%
	40-49	56	10.94%
	50-60	72	14.06%
Age	Above 60	64	12.50%
	Secondary Education	36	7.03%
	Diploma	60	11.72%
	First Degree	256	50.00%
Education	Post Graduate	164	32.03%
	Below 2,500	200	39.06%
	2,501-5,000	144	28.13%
	5,001-7,500	122	23.83%
	7,501-9,999	62	12.11%
Monthly Income	Above 10,000	18	3.52%

The demographic data also shows that the sample was composed of 51.56% males and 48.44% females, fairly representative of small-scale business owners, with a near equal distribution of male to female respondents. The most of the respondents were within the 20-29 years brackets, at 48%, while other brackets like 30-39, 40-49, and 50-60 take approximately 10-14%, with the above 60-year-old bracket representing 12.5%. On educational background, 50% had a First Degree, 32.03% a Post Graduate degree, while 11.72% had a Diploma and 7.03% were educated up to Secondary Education. In the distribution of monthly income, the largest proportion was below 2,500 with 39.06%, followed by 28.13% earning between 2,501-5,000, 23.83% earning between 5,001-7,500, 12.11% earning between 7,501-9,999, and only 3.52% earning above 10,000. This table shows the dispersion in gender, age, education, and income of the owners of small businesses responding to the questionnaire.

Indicator Reliability

The study assessed indicator reliability using outing loadings from the PLS-SEM analysis. According to Henseler et al. (2009), the threshold value for each item should be 0.7 to confirm whether the indicators loaded well on their construct. The results of the indicator reliability analysis are presented in Table 3 below.

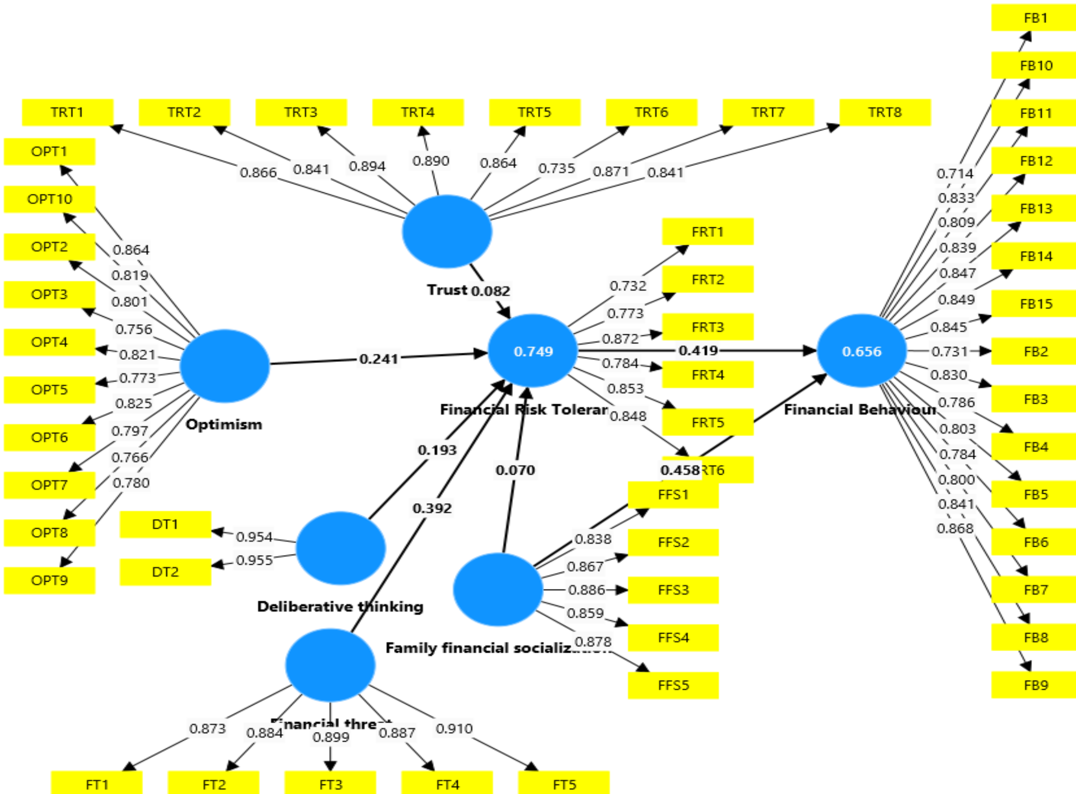
Table 3: Indicator Loadings

Code	Item	Loadings
Financial Risk Tolerance		
FRT1	I am open to borrowing funds for an investment if I believe it will be profitable	0.732
FRT2	I recognize that taking on more financial risks may be necessary to improve my financial situation.	0.773
FRT3	I am willing to face potential financial losses for an opportunity to earn significant returns	0.872
FRT4	Unlike others who prefer secure, stable jobs, I am open to riskier ventures, such as starting a business or participating in high-risk activities.	0.784
FRT5	I am prepared to accept higher risks (including the potential for initial losses) in pursuit of greater long-term returns	0.853
FRT6	I feel more comfortable taking on risk (including the chance of losses) when my current investments are performing positively.	0.848
Financial Behaviour		
FB1	I compare prices when buying products and services to ensure I'm getting the best deal.	0.714
FB2	I pay my utility bills, such as electricity, water, and phone, on time	0.731
FB3	I keep a record of my monthly expenses, either in written or electronic form	0.830
FB4	I consistently stick to my budget or spending plan	0.786
FB5	I fully pay off any overdraft balances at the end of each month.	0.803
FB6	I often exceed the maximum withdrawal limit on one or more of my ATM cards	0.784
FB7	I make only the minimum required payments on my loans.	0.800
FB8	I have started or regularly contribute to an emergency savings fund	0.841
FB9	I save a portion of each income	0.868
FB10	I set aside money for long-term goals, like buying a car, furthering my education, or starting a business.	0.833
FB11	I contribute to a retirement account regularly.	0.809

FB12	I invest in financial products like bonds, stocks, Treasury bills, or mutual funds.	0.839
FB13	I maintain or purchase a health insurance policy that provides adequate coverage	0.847
FB14	I maintain or purchase property insurance, such as comprehensive auto or homeowners' insurance	0.849
FB15	I maintain or purchase life insurance to provide financial security for my dependents	0.845
Trust		
TRT1	I believe that most people are generally honest	0.866
TRT2	I feel that most people can be trusted	0.841
TRT3	I think that most people have good intentions and are kind at heart	0.894
TRT4	I find that most people are trusting of others	0.89
TRT5	I believe that people tend to reciprocate trust when they feel trusted by others	0.864
TRT6	I consider myself to be a trusting person	0.735
TRT7	I feel confident in my ability to trust others when making financial investments.	0.871
TRT8	I trust financial institutions, mutual fund managers, and financial advisers to act in my best interest.	0.841
Financial Threat		
FT1	I often worry about the possibility of financial losses impacting my lifestyle.	0.873
FT2	I feel stressed about making investment decisions due to the risk of losing money	0.884
FT3	The thought of taking financial risks makes me feel anxious or threatened	0.899
FT4	I am concerned that unexpected financial setbacks could have severe consequences for me.	0.887
FT5	I avoid financial decisions that carry any risk because I fear potential negative outcomes	0.910
Optimism		
OPT1	I believe that taking financial risks today will likely result in positive outcomes for me in the future.	0.864
OPT2	I feel confident that my financial investments will perform well over time	0.801
OPT3	When considering new investment opportunities, I generally focus on the potential gains rather than the risks	0.756
OPT4	I am optimistic about my ability to recover from any financial losses.	0.801
OPT5	I believe that the financial markets will improve, and this encourages me to take more investment risks.	0.773

OPT6	I am hopeful that my financial decisions will lead to greater financial security in the long run	0.825
OPT7	I trust that the economy will continue to grow, which makes me more willing to invest in riskier	0.797
OPT8	I believe that challenges in the financial markets are temporary and can be overcome	0.766
OPT9	I feel positive about my future financial situation, which motivates me to invest more boldly	0.780
OPT10	I am confident that my financial strategies will succeed, even if they involve taking risks	0.819
Deliberative Thinking		
DT1	Before making a financial investment, I carefully consider all potential risks and benefits to ensure I'm making an informed decision	0.954
DT2	I tend to take my time to analyse financial opportunities thoroughly, rather than making quick, impulsive decisions	0.955
Family Financial Socialization		
FFS1	My family involved me in conversations about our household finances	0.838
FFS2	My family emphasized the importance of saving money	0.867
FFS3	My family discussed with me how to build and maintain a good credit score	0.886
FFS4	My family taught me how to make wise purchasing decisions	0.859
FFS5	My family instilled in me the belief that my actions play a key role in achieving success in life	0.878

The results of the indicator reliability test as shown in Table 3 above shows that all the indicators loaded well on their construct as all of them without any exception had a value of 0.7 and above. The path analysis showing the relationships among the various construct as well as the indicator loadings are shown in the figure below.


TRT1
TRT2
TRT3
TRT4
TRT5
TRT6
TRT7
TRT8
0.866
0.841
0.894
0.890
0.864
0.735
0.871
0.841
Trust
0.082
OPT1
OPT10
OPT2
OPT3
OPT4
OPT5
OPT6
OPT7
OPT8
OPT9
0.864
0.819
0.801
0.756
0.821
0.773
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Optimism
0.241
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Financial Risk Tolerar
FRT1
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Financial Behaviour
FB1
FB10
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FB12
FB13
FB14
FB15
FB2
FB3
FB4
FB5
FB6
FB7
FB8
FB9
0.714
0.833
0.809
0.839
0.847
0.849
0.845
0.731
0.830
0.786
0.803
0.784
0.800
0.841
0.868
0.458
0.193
0.070
0.392
DT1
DT2
0.954
0.955
Deliberative thinking
FFS1
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Family financial socializ
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Reliability and validity

The ensuing metrics were Cronbach's alpha, composite reliability, and Average Variance Extracted (AVE). Internal consistency was measured by Cronbach's alpha to ascertain that the items of each construct were properly measuring the same underlying concept. Composite reliability for each construct was calculated and confirmed to be above the threshold of 0.7 for strong reliability. For the convergent validity, the AVE was assessed. The values higher than 0.5 only pointed that the variance from their indicators is relatively adequate for the constructs. Take all these measures together, and they create quite a strong assessment of the reliability and validity of the measurement model in this study. The result of the above test is presented in Table 4 below

Table 4: Internal and construct validity

	CA	CRA	CRC	AVE
Deliberative Thinking	0.902	0.902	0.953	0.911
Family Financial Socialization	0.916	0.917	0.937	0.749
Financial Behaviour	0.963	0.963	0.967	0.661
Financial Risk Tolerance	0.895	0.899	0.92	0.659
Financial Threat	0.935	0.935	0.95	0.793
Optimism	0.938	0.938	0.947	0.641
Trust	0.945	0.947	0.955	0.725

Validity and reliability tests result in Table 4 satisfied all the criteria, hence giving a sufficient measurement model. Cronbach's alpha for each construct was above 0.7, hence confirming that internal consistency is enough. Values of composite reliability were also above 0.7, hence meaning the constructs are well measured. AVE was also above the threshold of 0.5 for all the constructs, hence assuring adequate convergent validity. Results revealed that the constructs were reliable and valid, hence could be used to confirm the measurement model for further analysis.

Discriminant validity

Discriminant validity was checked using the HTMT and the Fornell-Larcker criterion. The values of HTMT were below the threshold value of 0.9, which guaranteed adequate discriminant validity between the constructs. The evidence of the HTMT test is shown in Table 5 below. Another approach is the Fornell-Larcker criterion, which compares the square root of the AVE for each construct with its correlations with other constructs. The results supported the fact that each construct shared more variance with its respective indicators than it did with other constructs, hence indicating that the requirement for discriminant validity was sufficiently met. The outcome of the Fornell-Larcker criterion is shown in Table 6.

Table 5: Heterotrait-monotrait ratio (HTMT) – Matrix

	DT	FFS	FB	FRT	FT	OP	TRT
Deliberative Thinking							
Family Financial Socialization	0.787						
Financial Behaviour	0.758	0.799					
Financial Risk Tolerance	0.811	0.781	0.795				
Financial Threat	0.693	0.736	0.756	0.868			
Optimism	0.875	0.811	0.857	0.877	0.809		
Trust	0.576	0.661	0.72	0.697	0.655	0.758	

Table 6: Fornell-Larcker criterion

	DT	FFS	FB	FRT	FT	OP	TRT
Deliberative Thinking	0.955						
Family Financial Socialization	0.716	0.866					
Financial Behaviour	0.71	0.754	0.813				
Financial Risk Tolerance	0.731	0.707	0.742	0.812			
Financial Threat	0.637	0.682	0.72	0.795	0.891		
Optimism	0.806	0.753	0.816	0.804	0.757	0.801	
Trust	0.534	0.617	0.688	0.642	0.615	0.714	0.852

Structural path Analysis

The study pursued the structural path analysis in order to check the hypothesized relationships among the determinants of financial risk tolerance and financial behaviour of small business owners. Path coefficients were computed in order to ascertain the strength and direction of such relationships, and bootstrapping procedures were used in testing the statistical significance of each path. These showed that some of the paths were significant, meaning a certain determinant significantly influences financial risk tolerance, which in turn influences financial behaviour. All overall fit indices for the model show good fit, supporting the fact that the hypothesized relationships within the structural model are robust. It provides insight into how specific factors influence financial behaviour through the lens provided by financial risk tolerance.

Table 7: Test of hypothesis

Hypothesis	Relationship	Coefficient	T- Value	P- Value	Decision	F^2
H1	DT -> FRT	0.193	2.589	0.010	Supported	0.147
H2	FFS -> FRT	0.07	1.063	0.288	Not supported	0.07
H3	FT -> FRT	0.392	5.874	0.000	Supported	0.245
H4	OPT -> FRT	0.241	2.398	0.017	Supported	0.145
H5	TRT> FRT	0.082	1.598	0.110	Not supported	0.254
H6	FFS-> FB	0.487	7.586	0.000	Supported	0.304
H7	FRT> FB	0.419	6.342	0.000	Supported	0.112

The results of the structural path analysis reveal the significance and effect sizes of the relationships among the variables in the study. Hypothesis H1 (DT -> FRT) was supported, with a coefficient of 0.193, a T-value of 2.589, and a P-value of 0.010, indicating a significant positive effect of DT on FRT with a medium effect size (F2 = 0.147). H2 (FFS -> FRT) was not supported, as the P-value was 0.288, showing no significant relationship. H3 (FT -> FRT) demonstrated a strong and significant positive effect on FRT with a coefficient of 0.392, a T-value of 5.874, and a P-value of 0.000, with a large effect size (F2 = 0.245). H4 (OPT -> FRT) was also supported, indicating a significant effect on FRT (coefficient = 0.241, T-value = 2.398, P-value = 0.017, F2 = 0.145).
Hypothesis H5 (TRT -> FRT) was not supported, with a P-value of 0.110, indicating an insignificant effect. However, H6 (FFS -> FB) showed a strong positive and significant relationship with FB (coefficient = 0.487, T-value = 7.586, P-value = 0.000, F2 = 0.304), indicating a large effect size. Finally, H7 (FRT -> FB) was supported, with a significant positive effect of FRT on FB (coefficient = 0.419, T-value = 6.342, P-value = 0.000), and a moderate effect size (F2 = 0.112). These results suggest that FT, DT, OPT, and FFS are significant predictors of FRT or FB, while FFS does not significantly influence FRT and TRT does not have a significant effect on FRT.

Discussion of findings

In the context of small business owners, the bootstrapping analysis in Smart PLS reveals that deliberative thinking significantly influences financial risk tolerance. Small business owners who engage in deliberative thinking tend to thoroughly assess various financial and investment options, recognizing that taking on calculated risks can lead to higher returns. This approach contrasts with heuristic decision-making, such as the "take the first" heuristic (Moxley et al., 2012), where individuals might choose the first satisfactory option rather than carefully evaluating all alternatives. Deliberative thinkers, however, prioritize a comprehensive evaluation process, leading them to consider risks as manageable opportunities rather than avoidable threats. This aligns with Prospect Theory, which suggests that systematic analysis can reduce emotional bias and framing effects, resulting in decisions grounded in objective assessments of potential gains or losses. These findings, consistent with H1 and supported by Moxley et al. (2012) and Derfler-Rozin et al. (2016), mirror the results of Owusu et al. (2023) and demonstrate that deliberative thinking is a critical predictor of financial risk tolerance for small business owners in Ghana.

In the context of small business owners, the study's findings reveal that family financial socialization does not significantly influence financial risk tolerance. This suggests that guidance from family members on financial habits, such as smart shopping, saving, and credit management, might instil a more conservative approach to risk among these entrepreneurs. Small business owners who are accustomed to family values emphasizing financial prudence may prioritize stability and avoid uncertain financial decisions, even when they recognize growth opportunities that involve risk. This aligns with H2 and corroborates the findings of Owusu et al. (2023), who also observed that family financial socialization does not significantly predict financial risk tolerance. These results indicate that, for small business owners in Ghana, family-based financial guidance may cultivate a cautious financial approach, favouring consistent financial practices over risk-taking.

The result of the bootstrapping analysis in Smart PLS 4 shows a significant positive association between financial threat and financial risk tolerance of small business owners in Ghana. For small business owners, the insights from Prospect Theory and Family Financial Socialization Theory help explain why financial threats might elevate risk tolerance. According to Prospect Theory, when small business owners perceive a financial threat, they may engage in riskier financial behaviours to avoid or mitigate potential losses (Adamus & Grezo, 2021). In challenging economic situations, such as a downturn in sales or increased competition, these business owners might take on new ventures, invest in uncertain markets, or seek alternative financing options to regain stability. Meanwhile, Family Financial Socialization Theory suggests that family influences shape one's financial coping strategies in response to financial threats. Small business owners from families that emphasize resilience may view risk-taking as a viable response to financial adversity, thus increasing their willingness to accept financial risks in difficult times. This blend of theoretical perspectives supports H3, aligning with findings by Owusu et al. (2023), who reported that financial threats significantly predict risk tolerance among Ghanaian security personnel. For small business owners, this risk-oriented response can be seen as a culturally and psychologically rooted strategy for navigating the uncertainties inherent in entrepreneurship.

In the context of small business owners, the significant positive coefficient between optimism and financial risk tolerance, as shown in Table 6, suggests that optimistic entrepreneurs are more inclined to take financial risks in their business activities. According to Prospect Theory, optimists focus on potential gains and tend to downplay associated risks, making them more willing to embrace financially risky decisions (Owusu et al., 2023). This tendency can lead small business owners to pursue growth opportunities that others might shy away from, such as investing in new ventures, expanding operations, or entering volatile markets. Additionally, the Family Financial Socialization Theory implies that family influences may instil an optimistic outlook toward financial risks, reinforcing this risk-tolerant behaviour in business contexts. This psychological and familial interaction could explain why small business owners with optimistic attitudes view financial risks as opportunities for business expansion. Interestingly, this finding contrasts with Owusu et al. (2023), who found no significant link between optimism and financial risk tolerance among security service personnel in Ghana, highlighting the unique financial attitudes that small business owners may exhibit.

The result in Table 6 also showed that the level of trust in small business owners does not predict financial risk tolerance. This suggests that individuals who have not built trust in the financial system as well as in financial advisers are less willing to take on less financial risk in expectation of lower returns. Additionally, individuals who do not trust others, especially their financial advisers, do not believe in the knowledge and competence of these advisers and thus are prepared to decline their suggestions as a whole, irrespective of the associated risks that underpin rational decision-making. Thus, individuals who do not trust their financial advisers are likely to disagree with their recommendation to take on more risk. This result in H5 disagrees with the findings of Owusu et al. (2023) and Rahman (2020) that's say trust is a high predictor of financial risk tolerance.

The results in Table 6 also show that there is a strong positive relationship between FFS and the financial behaviour of small business owners in Ghana. Owners who had financial training from family members tend to reveal stronger financial decision-making, budgeting, and saving habits. This confirms the works of Owusu et al. (2023) and Zhao and Zhang (2020), who suggest that family socialization impacts the financial attitudes and the adoption of responsible behaviour by members of the family. In what Owusu et al. (2023) referred to as the family financial socialization theory, family members in a country with a collectivist culture like Ghana play an important role to ensure that good financial habits are replicated at business management levels. It therefore follows that a family environment of financial literacy contributes to business success and financial stability.

A significant positive relationship between financial risk tolerance and financial behaviour among small business owners in Ghana indicates that those more willing to take financial risks tend to engage in proactive and profitable business activities. Higher risk tolerance enables these entrepreneurs to explore new markets, diversify portfolios, and reinvest in their businesses, fostering financial growth and sustainability. This finding aligns with Prospect Theory, which suggests that individuals' risk tolerance impacts their decision-making. For Ghanaian small business owners, higher risk tolerance leads to behaviours that capitalize on opportunities within a dynamic market environment. Previous studies support this link, showing that risk-tolerant business owners are better positioned to pursue growth strategies and make decisions that promote long-term success (Owusu et al., 2023; Fisher & Yao, 2017; Pinjisakikool, 2018). In the competitive Ghanaian market, this calculated risk-taking is crucial for achieving financial stability and business success.

Conclusion

In conclusion, this study identified deliberative thinking, optimism, and financial threat as significant determinants of financial risk tolerance among small business owners in Ghana. Those who engage in thoughtful evaluation, maintain a positive outlook, and recognize financial threats are more inclined to take calculated risks. This indicates that promoting these qualities could enhance their willingness to explore investment opportunities and innovative ventures with potential financial rewards. Notably, family financial socialization did not significantly influence risk tolerance, implying that while family guidance may foster prudent financial habits, it does not directly encourage the risk-taking behaviour essential for business growth. However, family financial socialization positively impacted financial behaviour, suggesting that family support shapes sound financial decision-making without necessarily promoting risk tolerance.

These findings have important implications for small business owners, their investment decisions, and the broader Ghanaian economy. Financial risk tolerance plays a critical role in driving proactive financial behaviour, vital for small business growth and sustainability. Risk-tolerant owners are more likely to seize opportunities and invest in new ventures, contributing to job creation and economic development in Ghana. Encouraging deliberative thinking and optimism while providing financial education to enhance risk tolerance could lead to a more dynamic small business sector.

The study offers both theoretical and practical implications. Theoretically, it supports the relevance of Prospect Theory and Family Financial Socialization Theory, emphasizing that risk tolerance is shaped by cognitive traits, perceived threats, and family influences. Practically, it suggests that programs aimed at fostering small business growth should focus on enhancing financial risk tolerance through training in deliberative thinking and optimism, thereby supporting informed financial decision-making and the overall resilience of the sector.

Author contributions

Author 1: Conceived the research idea and wrote the introduction, and the research objectives. **Author 2** reviewed the literature and developed the hypotheses. **Author 3**. Designed and piloted the data collection instrument. **Author 4**: Analysed the data and interpreted the results. The data collection and proofreading of the manuscript were jointly undertaken by **author 5**.

Ethical Consideration

The authors ensured that the rights of the respondents were protected through anonymity, voluntary consent to participation, the information collected was solely used for the purposes of this study, and protected for third parties.

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