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TRANSFORMING ENTREPRENEURIAL RESOURCES INTO PERFORMANCE: THE MEDIATING ROLES OF ENTREPRENEURIAL ORIENTATION AND ENTREPRENEURIAL BEHAVIOR IN SOCIAL BUSINESS CONTEXTS

TRANSFORMANDO RECURSOS EMPREENDEDORES EM DESEMPENHO: OS PAPÉIS MEDIADORES DA ORIENTAÇÃO EMPREENDEDORA E DO COMPORTAMENTO EMPREENDEDOR EM CONTEXTOS DE NEGÓCIOS SOCIAIS

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Abstract
Social businesses provide market-based mechanisms to address social challenges, particularly in developing economies where entrepreneurship is promoted as a tool for poverty alleviation. Type II social businesses operate by optimising available resources to enable marginalised individuals to run micro-scale enterprises that fulfil their socially defined needs. This study examines how internal resources at the individual level namely entrepreneurial competencies, digital technology application, attitudes, religiosity, and capital availability influence the performance of Type II

Resumo
As empresas sociais oferecem mecanismos baseados no mercado para enfrentar desafios sociais, especialmente em economias em desenvolvimento, onde o empreendedorismo é promovido como uma ferramenta para o combate à pobreza. As empresas sociais do tipo II operam otimizando os recursos disponíveis para permitir que indivíduos marginalizados administrem microempresas que atendam às suas necessidades sociais. Este estudo examina como os recursos internos no nível individual, ou seja, competências empreendedoras, aplicação de tecnologia digital, atitudes,

social businesses through organisational-level internal resources that are appropriate to micro-scale enterprises, specifically Individual Entrepreneurial Orientation (IEO) and entrepreneurial behaviours (EB). Drawing on the Resource-Based View (RBV), the study conceptualises IEO and EB as organisational mechanisms through which individual-level resources are transformed into financial and non-financial performance outcomes within the context of Type II social businesses. Data were collected through surveys from participants in one of the zakat-based entrepreneurship programmes in Malaysia and analysed using Partial Least Squares Structural Equation Modelling (PLS-SEM). The findings reveal that IEO and EB significantly enhance non-financial performance, while financial performance is only weakly influenced. Entrepreneurial competencies indirectly affect non-financial outcomes through IEO, whereas religiosity shapes non-financial performance through EB. These results highlight that marginalised entrepreneurs leverage individual-level intangible resources through simple yet effective organisational practices to achieve meaningful socio-economic outcomes, prioritising non-financial indicators such as self-esteem and self-actualisation over financial gains. This study contributes to the social entrepreneurship literature by extending the RBV to account for multi-level internal resources in marginalised micro-enterprise and poverty alleviation contexts.

Keywords: Social Business. Individual Entrepreneurial Orientation. Entrepreneurial Behaviour. Business Performance. Resource-Based View (RBV).

religiosidade e disponibilidade de capital, influenciam o desempenho das empresas sociais do tipo II por meio de recursos internos no nível organizacional adequados às microempresas, especificamente a Orientação Empreendedora Individual (IEO) e os comportamentos empreendedores (EB). Com base na Visão Baseada em Recursos (RBV), o estudo conceitua a IEO e o EB como mecanismos organizacionais através dos quais os recursos ao nível individual são transformados em resultados financeiros e não financeiros no contexto das empresas sociais do tipo II. Os dados foram coletados por meio de pesquisas com participantes de um dos programas de empreendedorismo baseados em zakat na Malásia e analisados usando o Modelo de Equações Estruturais de Mínimos Quadrados Parciais (PLS-SEM). Os resultados revelam que a IEO e o EB melhoram significativamente o desempenho não financeiro, enquanto o desempenho financeiro é apenas fracamente influenciado. As competências empreendedoras afetam indiretamente os resultados não financeiros por meio da IEO, enquanto a religiosidade molda o desempenho não financeiro por meio do EB. Esses resultados destacam que os empreendedores marginalizados aproveitam os recursos intangíveis em nível individual por meio de práticas organizacionais simples, mas eficazes, para alcançar resultados socioeconômicos significativos, priorizando indicadores não financeiros, como autoestima e auto-realização, em detrimento dos ganhos financeiros. Este estudo contribui para a literatura sobre empreendedorismo social, ampliando a RBV para levar em conta os recursos internos em vários níveis em contextos de microempresas marginalizadas e redução da pobreza.

Palavras-chave: *Negócio Social. Orientação Empreendedora Individual. Comportamento Empreendedor. Desempenho Empresarial. Visão Baseada em Recursos (RBV).*

1 INTRODUCTION

Social businesses have gained increasing recognition as mechanisms for addressing persistent social and economic challenges through market-based approaches. In developing economies, entrepreneurship is often leveraged as a strategic tool for

poverty alleviation, enabling underprivileged individuals to generate income while enhancing their overall well-being. Among various social enterprise models, Type II social businesses which refer to enterprises owned and operated by disadvantaged individuals to meet their socio-economic needs, play a crucial role in fostering inclusive economic participation and community development. Despite their growing relevance, empirical understanding of the factors driving Type II social business performance remains limited, particularly in resource-constrained contexts.

Previous studies in social entrepreneurship have predominantly focused on organisational-level capabilities, institutional environments, and hybrid logics, often overlooking individual-level resources possessed by marginalized entrepreneurs. According to the Resource-Based View (RBV), valuable, rare, inimitable, and non-substitutable internal resources form the basis for sustained performance advantages. For underprivileged entrepreneurs, these resources are often intangible, including entrepreneurial competencies, behavioural orientations, personal values, and belief systems. However, possessing resources alone is insufficient; the mechanisms through which these resources are mobilised and transformed into strategic actions are equally critical.

This study addresses this gap by examining how internal resources namely entrepreneurial competencies, digital technology adoption, attitudes, religiosity, and capital availability are transformed into performance outcomes among marginalized Type II social business owners in Malaysia. Specifically, it investigates the mediating roles of Individual Entrepreneurial Orientation (IEO) and business behaviours in linking these resources to financial and non-financial performance. Focusing on zakat-supported entrepreneurs provides empirical evidence from an underexplored context, extending the RBV to social business and inclusive entrepreneurship while offering practical insights for policymakers and program designers.

2 LITERATURE REVIEW

2.1 Poverty alleviation and social business performance

Social business has emerged as a contemporary concept that challenges the traditional profit-maximization paradigm of conventional business models (Mwemezi, 2023; Nordin et al., 2024; Gyu-Hyeo & Junyong, 2016; Friedman, 1970). Historically, business entities have primarily focused on profitability and return-on-investment indicators as key measures of performance, driven largely by the objective of maximizing shareholders' wealth (Rakhsita et al., 2023; Friedman, 1970). The establishment of the Grameen Bank in Bangladesh in 1976 marked a significant shift in business thinking by demonstrating the potential of business activities to address social problems in a sustainable manner. Through the Grameen Bank initiative, Nobel Laureate Muhammad Yunus successfully disseminated the concept of social business globally as an alternative approach to combating poverty and financial exclusion among economically disadvantaged individuals through entrepreneurship-based activities (Mwemezi, 2023). Thus, social business redefines the role of capitalism by integrating social objectives into core business operations, positioning firms as agents of social value creation rather than purely profit-driven entities (Saatci & Urper, 2013).

Unlike traditional businesses, social enterprises prioritize solving social problems through sustainable market mechanisms (Zeng & van Staden, 2024; The Grameen Creative Lab, 2025). Social businesses operate under self-financed models, aiming to be financially self-sustaining while simultaneously achieving social impact. This model provides marginalized communities with opportunities to address various socio-economic challenges through business and entrepreneurial activities (Saatci & Urper, 2013). Social businesses can be categorized into Type I and Type II models. Type I ventures are investor-owned, with profits fully reinvested for social purposes, while Type II ventures are owned and managed by disadvantaged individuals who directly benefit both financially and socially (Mwemezi, 2023). Type II social businesses are particularly relevant for poverty alleviation initiatives, as profits accrue directly to marginalized owners.

Previous studies indicate that the implementation of *asnaf* entrepreneurship programs, (designed for marginalized individuals particularly the poor who are eligible to receive zakat assistance) has been perceived as successful in delivering social benefits to participants (Meerangani et al., 2023; Joremi et al., 2023; Ibrahim et al., 2023; Zahri et al., 2023; Bahri et al., 2023; Bahri et al., 2022). *Asnaf* refers to individuals who meet the criteria for receiving zakat assistance in accordance with Islamic principles (Bahri et al., 2023). In brief, *asnaf* entrepreneurs constitute a sub-set of micro-entrepreneurs who operate businesses using financial or other forms of assistance provided by state zakat institutions. Therefore, *asnaf* businesses can be categorized as Type II social business models.

Despite studies suggesting the effectiveness of *asnaf* entrepreneurial programs, empirical research examining the performance of social businesses remains limited. Qualitative evidence indicates that the rate of entrepreneurial failure among *asnaf* entrepreneurs is substantial (Ibrahim et al., 2023). Similarly, findings by Joremi et al. (2023) and Zahri et al. (2023) reveal that many *asnaf* entrepreneurs are unable to expand their businesses and tend to exit prematurely, partly due to the repayment-free nature of capital assistance. **Taken together, these findings highlight a research gap in large-scale survey studies aimed at systematically examining performance issues within Type II social businesses, particularly among *asnaf* entrepreneurs as representatives of marginalized business populations.** Moreover, the predominance of qualitative approaches in existing studies limits generalizability and constrains a comprehensive understanding of performance dynamics in Type II social business contexts.

Business performance encompasses both financial and non-financial outcomes (Venkatraman & Ramanujam, 1986; Dess & Robinson, 1984; Kaplan & Norton, 1992). For Type II social businesses, non-financial performance measures reflecting social and higher-order personal outcomes—such as self-esteem and self-actualization—may be more salient than purely financial indicators (Abdelsalam et al., 2022; Tanjung et al., 2018). In a specific study on *asnaf* entrepreneurs' success, Bahri et al. (2023) conducted a survey using financial performance and life improvement as key dimensions of success. Despite this contribution, the study conceptualized success at the individual level, implicitly assuming that individual outcomes adequately reflect business performance.

This assumption overlooks the organizational processes through which individual resources are transformed into sustained performance, particularly within Type II social business contexts. Therefore, the present study emphasizes the social business entity as the unit of analysis rather than individual entrepreneurial success. In doing so, this study contributes to the disciplines of Organizational Behavior and Strategic Management by examining the performance behavior of Type II social businesses. Accordingly, both financial and non-financial performance indicators at the organizational level are considered.

Grounded in the Resource-Based View (RBV), this study integrates internal strategic variables tailored to the *asnaf* social business context, namely Individual Entrepreneurial Orientation (IEO) and Entreprenerial Behaviours (EB). Individual-level factors such as entrepreneurial competencies, resource availability, attitudes, religiosity, and technology application which have been identified in previous studies as determinants of entrepreneurial success (Bahri et al., 2023; Bahri et al., 2022; Joremi et al., 2023), are incorporated as the first layer of internal strategic variables. These factors indirectly influence social business performance through IEO and EB. The five individual factors are considered first-level internal resources in the Type II social business context, reflecting the reality of marginalized micro-entrepreneurship, where organizational capabilities emerge directly from individual actions, orientations, and behaviors.

2.2 Resource-Based View (RBV)

The Resource-Based View (RBV) posits that firms attain competitive advantage by leveraging internal resources and capabilities that are valuable, rare, inimitable, and non-substitutable (VRIN) (Barney, 1991; Kero & Bogale, 2023; Lubis, 2022). Within this framework, intangible resources are recognised as strategic assets that play a critical role in enhancing business performance (Ramon-Jeronimo et al., 2019). Consequently, scholars in strategic management have extensively applied RBV to explain heterogeneity in firm performance, arguing that a substantial proportion of organisational success stems from the possession and effective utilisation of distinctive internal resources and capabilities that strengthen a firm's competitive position relative to its competitors (Bahri et al., 2021; Dionysus & Arifin, 2020; Mikalef & Pateli, 2017; Omar et al., 2024).

In the context of Type II social businesses, Individual Entrepreneurial Orientation (IEO) facilitates entrepreneurs in transforming internal intangible resources at the individual level—such as entrepreneurial competencies, access to capital, attitudes, religiosity, and digital technology adoption—into sustained organisational performance. In addition, business behaviours, particularly ethical conduct and business perseverance, function as critical intangible assets that support not only financial performance but also socially oriented non-financial outcomes. Drawing on the RBV, this study adopts a multi-level perspective of internal resources by differentiating between individual-level resources (e.g., competencies, attitudes, and religiosity) and organisational-level internal resources that are appropriate for micro-scale enterprises (IEO and business behaviours). This perspective reflects the realities of marginalised micro-entrepreneurship, wherein organisational capabilities are largely embedded in, and emerge directly from, individual entrepreneurs' actions, values, and orientations.

2.3 Individual entrepreneurial orientation (IEO)

Entrepreneurial orientation (EO), originally introduced by Miller (1983), refers to a firm's strategic posture characterised by innovativeness, proactiveness, risk-taking, competitive aggressiveness, and autonomy (Martins & Perez, 2025; Clark et al., 2024; Clark et al., 2025; Deepababu & Manalel, 2016; Top & Zhi, 2023). EO is widely conceptualised as a multidimensional construct that captures organisational entrepreneurial behaviour and strategic decision-making processes (Deepababu & Manalel, 2016; Lumpkin & Dess, 1996, 2001). A substantial body of empirical research demonstrates EO's positive influence on both financial and non-financial business performance, particularly within small and medium-sized enterprises (Alam et al., 2022; Islam et al., 2024; Rezaei & Ortt, 2017; Yuefen et al., 2024).

More recently, the EO construct has been extended to the individual level, giving rise to the concept of Individual Entrepreneurial Orientation (IEO). IEO reflects an entrepreneur's tendency towards innovativeness, proactiveness, and risk-taking within a business context (Astuti et al., 2024; Clark et al., 2024; Clark et al., 2025; Koe et al., 2022). In micro and small enterprises, where organisational strategies are closely aligned with the owner's personal decisions and orientations, IEO becomes particularly salient.

A high level of IEO enables entrepreneurs to leverage scarce resources more effectively by exhibiting initiative, strategic problem-solving capabilities, and calculated risk-taking to achieve both financial and non-financial objectives. Accordingly, the three dimensions of innovativeness, proactiveness, and risk-taking remain central to the operationalisation and measurement of IEO (Alam et al., 2022).

2.4 Entrepreneurial behaviors (EB)

Entrepreneurial behaviour encompasses the actions, dispositions, and decision-making patterns exhibited by individuals throughout the entrepreneurial process (Akande et al., 2021; Bandiru, 2024; Zahari et al., 2024). In the present study, entrepreneurial behaviour (EB) is defined more narrowly to refer to day-to-day operational behaviours that reflect strategic choices related to business commitment and ethical conduct in interactions with customers. Such behaviours are expected to enhance firm reputation, strengthen stakeholder trust, and ultimately improve business performance (Ekasari et al., 2023).

From a theoretical perspective, entrepreneurial behaviour is conceptualised as a coherent set of purposive and opportunity-driven actions through which entrepreneurs attain acceptance and legitimacy within the market. For marginalised entrepreneurs, these behaviours not only contribute to financial performance but also generate meaningful non-financial outcomes, including enhanced self-esteem, self-actualisation, and social recognition within the community.

2.5 Internal resources

As explained earlier, this study categorises internal resources into two distinct groups: individual-level resources (e.g., entrepreneurial competencies, attitudes, religiosity, capital availability and digital technology adoption capabilities) and organisational-level internal resources that are appropriate for micro-scale enterprises, namely Individual Entrepreneurial Orientation (IEO) and Entrepreneurial Behaviours (EB). This categorisation is intended to reflect the unique characteristics of Type II social

business models, where organisational structures are minimal and business operations are closely intertwined with the owner's personal attributes.

Drawing on the Resource-Based View (RBV), intangible assets that are valuable, rare, imperfectly imitable, and non-substitutable are expected to exert a significant influence on firm performance. However, in the context of Type II social businesses, many intangible resources are inherently embedded in the sole proprietor and therefore reside at the individual level. As a result, certain individual-level intangible resources do not affect business performance directly but instead exert their influence indirectly through organisational-level resources, specifically IEO and EB. These individual-level resources include entrepreneurial competencies, attitudes, religiosity, and digital technology adoption capabilities.

In contrast, the organisational-level resources examined in this study, namely IEO and EB, represent the manifestation of individual attributes at the firm level and are expected to have a direct and immediate influence on Type II social business performance. By distinguishing between these two resource categories and their respective pathways to performance, this study extends the application of RBV to micro-scale social enterprises and provides a more nuanced understanding of how internal resources contribute to business performance through different mechanisms.

2.6 Conceptual model and hypotheses development

Drawing on RBV, this study posits that IEO and entrepreneurial behaviors (EB) mediate the relationship between internal resources and Type II social business performance. The following hypotheses are proposed:

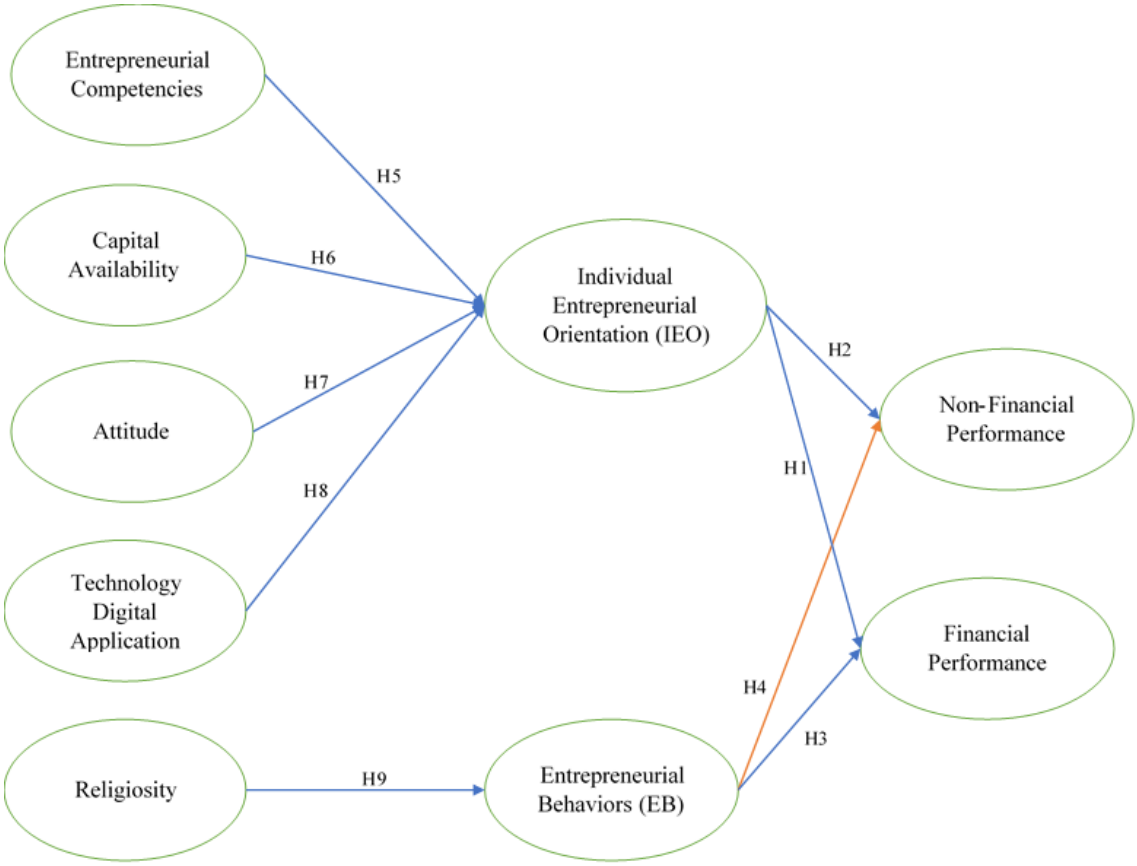
- **H1:** IEO positively influences financial performance.
- **H2:** IEO positively influences non-financial performance.
- **H3:** EB positively influence financial performance.
- **H4:** EB positively influence non-financial performance.
- **H5:** Entrepreneurial competencies positively influence IEO.
- **H6:** Capital availability positively influences IEO.
- **H7:** Attitudes positively influence IEO.
- **H8:** Digital technology adoption positively influences IEO.

- **H9:** Religiosity positively influences EB.

This framework emphasizes how marginalized entrepreneurs leverage intangible internal resources via strategic orientation (IEO) and operational behaviors (EB) to achieve socio-economic outcomes, with non-financial performance often outweighing financial gains in driving empowerment and social impact (Figure 1).

Figure 1

Conceptual Framework



Entrepreneurial Competency (EC) refers to the characteristics that enable an entrepreneur to perform their entrepreneurial role more effectively or superiorly. It is typically conceptualised as a combination of skills, knowledge, expertise, and motivation (Chinomona, 2013; Hamid et al., 2024; Jamie & Oliver, 2020).

Capital (CA) comprises critical resources necessary for any business to start and grow. Capital can take various forms depending on business needs, such as equipment, technology, working capital, and other essential inputs. In the context of this study,

entrepreneurs receive special assistance from a *zakat* agency according to their business requirements. This *zakat*-based capital aid is provided without repayment obligations or performance conditions. Therefore, capital availability refers to the functional role of this "angel-capital" in supporting business operations (Hamid et al., 2024; Hashim et al., 2019).

Religiosity (R) refers to adherence to prescribed religious practices and rituals as well as guidelines for living one's life in accordance with spiritual beliefs. Religiosity is generally conceptualised as comprising two dimensions: intrinsic and extrinsic religiosity. Intrinsic religiosity reflects devotion, spirituality, and faith in a higher power, whereas extrinsic religiosity pertains to the pursuit of personal or social benefits derived from performing religious practices (Alharbi, 2021; John et al., 2022; Kurniasih et al., 2023).

Attitudes (A) refer to an entrepreneur's consistent mental orientation or predisposition towards entrepreneurial activities, such as determination, optimism and commitment to business objectives. These attitudes shape decision-making and influence behaviour in managing the enterprise (Ajzen, 2001; Ajzen, 1991; Hashim et al., 2019; Rauch & Frese, 2007).

Digital Technology Applications (DT) refers to an individual's ability to use and adopt digital technologies in business operations (Hang & Kim, 2025; Larbi & Larbi, 2022; Roman & Rusu, 2022). Digital capability enhances operational efficiency, market access, and information flow, making it a valuable intangible resource for micro-entrepreneurs to overcome structural disadvantages (Ishak et al., 2025).

3 METHODOLOGY

3.1 Population and sampling

This study involved entrepreneurs classified as *fakir* and *miskin* (poor and needy) in the states of Negeri Sembilan and Kedah who participated in entrepreneurship programmes administered by the Negeri Sembilan Islamic Religious Council (MAINS) and the Kedah Zakat Board (LZNK). These programme participants were recipients of

business capital assistance funded through zakat and managed by the respective authorised zakat institutions, namely MAINS and LZNK.

The sampling framework of this study followed the guideline proposed by Arrindell and Van der Ende (1985) and Hair et al. (2018), which recommends a ratio of 10 respondents for each parameter. This study comprised nine main parameters linking the independent variables, mediating variables, and the dependent variable. Accordingly, the minimum required sample size was 90 respondents. In this study, the unit of analysis is the micro-enterprise operated by marginalised entrepreneurs.

3.2 Survey procedure

The questionnaire was distributed in stages through the zakat agencies MAINS and LZNK. Data collection was conducted online using Google Forms, facilitated through the cooperation of both agencies. The survey link was disseminated by MAINS and LZNK to their respective entrepreneurs via official WhatsApp group platforms administered by the agencies. The first stage of distribution involved entrepreneurs under MAINS and was conducted in two phases. The initial distribution took place in May 2025, followed by a reminder phase in August 2025. Ultimately, a total of 63 MAINS entrepreneurs (representing 39%) responded to the survey. The second stage of distribution involved entrepreneurs under LZNK and similarly consisted of two phases. The first phase was carried out in August 2025, followed by a subsequent phase in November 2025. In total, 42 LZNK entrepreneurs (representing 38%) completed the questionnaire.

According to the agency representatives who assisted in disseminating the survey, the moderate response rate and extended data collection period were likely due to constraints faced by some entrepreneurs, including limited internet access and related technical issues, which restricted their ability to respond to the questionnaire. In addition, a small number of potential respondents deliberately chose not to participate in the survey. Nevertheless, the response rate obtained in this study is considered adequate and acceptable, taking into account the specific research context involving a population facing multiple barriers and limited resources. This is supported by Edwards (2024), who noted that an acceptable survey response rate often depends on factors such as the target

audience and the choice of survey distribution channels. In the studies conducted by Wu et al. (2022) and Edwards (2024), the average response rates for online surveys were approximately 44.1% and 40%, respectively. Therefore, the 38% response rate achieved in this study is not substantially different from the average rates reported in these previous studies.

3.3 Instrument development

The questionnaire was developed to measure the study variables while considering the specific research context involving Muslim *fakir* and *miskin* entrepreneurs who received business capital assistance through zakat-funded entrepreneurship programmes administered by authorised zakat institutions. The instrument development process was conducted in several systematic phases.

The first phase involved interviews with management personnel directly engaged in the *asnaf* entrepreneurship programmes, namely representatives from MAINS and LZNK. These interviews aimed to obtain contextual understanding and factual information regarding programme operations and the characteristics of participating entrepreneurs. In addition, structured interviews were conducted with four *asnaf* entrepreneurs selected through purposive sampling to gather insights from the participants' perspectives.

The second phase involved the development of measurement items for each study variable, including individual entrepreneurial orientation, entrepreneurial competencies, attitudes, religiosity, availability of business capital, business behaviour, and business performance. The items were developed based on prior studies and inputs obtained from the interview sessions.

The third phase comprised expert validation through discussions with officers involved in *asnaf* entrepreneurship programmes under MAINS and LZNK. The fourth phase involved a pilot test to assess the validity and reliability of the instrument. Internal consistency analysis was conducted using data from 32 respondents. The Cronbach's alpha values for each construct are presented in Table 1. The results of the reliability analysis indicate that the instrument demonstrates satisfactory internal consistency and can measure the study constructs effectively.

Table 1

Pilot Test

No.	Constructs	Cronbach's Alfa
1	Individual Entreprenuerial Orientation	0.949
2	Entrepreneurial Competencies	0.930
3	Capital Availability	0.856
4	Religiosity	0.954
5	Attitudes	0.904
6	Entrepreneurial Behaviours	0.938
7	Digital Technology Application	0.858
8	Non-Financial Performance	0.913
9	Financial Performance	0.912

To validate the study constructs for further analysis, a Principal Component Analysis (PCA) was conducted. PCA was used to examine the distribution of constructs for each dimension employed in the study. The results of the PCA are presented in Table 2.

Table 2

Principal Component Analysis

No.	Variables	Number of Constructs	Contructs
1.	Individual Entreprenuerial Orientation	3	Risk Taking. Innovativess. Proactiveness.
2.	Entrepreneurial Competencies	5	Initiatives. Opportunities Seeking. Perseverance. Efficiency and creative orientation. Digital Technology application.
3.	Capital Availability	2	Supporting. Inspiring.
4.	Religiosity	2	Intrinsic. Extrinsic.
5.	Attitudes	2	Determination. Optimism
6.	Entrepreneurial Behaviours	2	Business perseverance. Business Ethics.
7.	Digital Technology Application	Unidimensional	-
8.	Non-Financial Performance	2	Self-esteem. Self-actualization
9	Financial Performance	Unidimensional	-

3.4 Data screening and cleaning

The first stage of data screening and cleaning involved processing the dataset collected from 106 respondents. To ensure data quality and the reliability of responses, the dataset was examined for inconsistencies. The results showed no missing values, and no straight-line responses were detected.

Furthermore, an outlier analysis was conducted to identify and remove extreme values that could potentially skew the results. Outlier detection was performed using both univariate (z-score) and multivariate (Mahalanobis distance) approaches in the Statistical Package for the Social Sciences (SPSS). A z-score threshold of ±4, a commonly used rule of thumb, was applied to identify univariate outliers (Sarstedt et al., 2022). Multivariate outliers were assessed using Mahalanobis distance, with critical values determined by the chi-square distribution at $p < 0.001$ (Hair et al., 2017). As a result, five responses were identified as univariate outliers and subsequently removed from the dataset. No multivariate outliers were detected. After data cleaning, the final dataset consisted of 101 responses.

To address potential endogeneity issues, the dataset was also assessed for common method bias (CMB), as the data were collected from a single source, which could inflate correlations between variables (Kock et al., 2021). Harman's Single Factor Test indicated that the variance explained by the first factor was 32.001%, below the 50% threshold, suggesting that CMB is unlikely to pose a significant issue. This implies that multiple factors influence the data, and the observed relationships between variables are likely to reflect the true underlying constructs, supporting the validity of the results. Based on these checks, the dataset was deemed suitable for further analysis, allowing hypothesis testing to proceed.

3.5 Statistical analysis

Following data screening and cleaning, Structural Equation Modeling (SEM) was employed using the Partial Least Squares (PLS) approach in SmartPLS software. SEM-PLS is particularly suitable for testing hypotheses involving relationships between

exogenous and endogenous variables (independent and dependent variables) derived from scaled questionnaire data.

The use of SEM-PLS is justified for several reasons. Firstly, it is effective for predicting key variables, making it ideal for studies that aim to explore complex relationships between constructs. Secondly, SEM-PLS is well-suited for exploratory research, especially when extending or testing theoretical frameworks in new contexts. Thirdly, it is robust in situations where distributional assumptions are not met, making it a valuable alternative to covariance-based SEM when dealing with small sample sizes, non-normal data, or formative measurement models. While SEM-PLS does not require normally distributed data, normality enhances parameter stability, convergence, and overall model accuracy.

SEM-PLS can also accommodate second-order hierarchical latent variable models (Becker, Klein, & Wetzels, 2012). Second-order constructs are typically estimated using either the repeated indicators approach or the two-stage approach. These methods enable researchers to model constructs at multiple levels, providing a more structured and hierarchical understanding of relationships between latent variables. Incorporating second-order constructs enhances model parsimony while preserving the theoretical meaning of the constructs, making SEM-PLS effective for complex measurement structures.

PLS employs a two-step analytical procedure, which includes measurement model assessment and structural model assessment. In the first step, the measurement model is evaluated by examining outer loadings, internal consistency reliability, convergent validity, and discriminant validity. Internal consistency reliability is assessed using Cronbach's alpha (CA) and composite reliability (CR) to ensure construct reliability. In the second step, the structural model is assessed by evaluating R-squared (R^2), Q-squared (Q^2), standardized path coefficients (β), and significance levels. These assessments determine the strength and direction of relationships between exogenous and endogenous variables, providing insights into the overall predictive power of the model.

4 RESULT

4.1 Respondents demography

Table 3 presents the demographic background of the study respondents. In terms of gender, 30 respondents (29.7%) are male, while 71 respondents (70.3%) are female. With regard to age, 7 respondents (6.9%) are aged 26–31 years, 16 respondents (15.8%) are aged 32–37 years, 29 respondents (28.7%) are aged 38–43 years, 19 respondents (18.8%) are aged 44–49 years, and 30 respondents (29.7%) are aged 50 years and above.

In terms of marital status 4 respondents (4.0%) are single, 76 respondents (75.2%) are married, and 21 respondents (20.8%) stated as others. With respect to level of education, 5 respondents (5.0%) have completed primary education level, 18 respondents (17.8%) hold lower secondary school certificate qualifications, 65 respondents (64.4%) hold secondary certificate of education, 9 respondents (8.9%) have Diploma or equivalent qualifications, 3 respondents (3.0%) hold a Bachelor's degree, and 1 respondent (1.0%) holds a Master's degree.

Table 3

Respodents Demographic Profiles

Information	Frequency	Percent (%)
Gender:		
Male	30	29.7
Female	71	70.3
Age:		
26-31 years old	7	6.9
32-37 years old	16	15.8
38-43 years old	29	28.7
44-49 years old	19	18.8
50 years old and above	30	29.7
Marital Status:		
Single	4	4.0
Married	76	75.2
Others	21	20.8
Level of Education:		
Primary school Certifcate	5	5.0
Lower Secondary School Certificate	18	17.8
Secondary Certificate of Education	65	64.4
Higher Secondary School Certificate (STPM)/Diploma	9	8.9
Bachelor's degree	3	3.0
Master's degree	1	1.0

4.2 Descriptive statistics analysis

This section presents the descriptive results for all study variables. Overall, the findings indicate that respondents exhibit high levels of entrepreneurial competencies, entreprenerial behaviors, religiosity, attitude, and non-financial business performance, moderate to high usage of digital technology and individual entrepreneurial orientation, and moderate financial business performance.

4.3 Entrepreneurial competencies (EC)

Table 3 summarizes the mean scores of entrepreneurial competencies. Overall, respondents demonstrated high to very high levels of EC across most constructs. The Initiative construct recorded very high means (4.31 to 4.74), with the highest score for *performing tasks to the best standard* (4.74), indicating strong self-drive and commitment. Opportunity Seeking also showed high scores (4.43 to 4.56), reflecting respondents' ability to identify and pursue business opportunities. The Perseverance construct exhibited very high mean values (4.39–4.58), highlighting strong determination and persistence in achieving business goals. Efficiency Orientation and Creativity recorded high scores (4.18–4.49), suggesting effective resource management and a positive inclination toward innovative practices. In contrast, Digital Usage showed moderate mean scores (3.56–3.94), with higher adoption of cashless payment systems but lower capability in fully managing businesses online, indicating limited digital integration beyond basic applications.

Table 4

Entrepreneurial Competencies

Construct/Items	Mean	Standard Deviation	Outer Loading
Initiative:			
When I want something, I will make a persistent effort to obtain it.	4.59	0.619	0.706
I carry out tasks that need to be done without waiting for others to ask or instruct me.	4.51	0.642	0.731
When performing a task, I always do my best.	4.74	0.462	0.761
I seek and listen to advice or opinions from knowledgeable individuals regarding the business problems I face.	4.64	0.502	0.843

I continuously strive to equip myself with knowledge and skills related to the business field I am engaged in.	4.63	0.504	0.902
I continuously work to enhance my knowledge and skills in managing the business in a more systematic and professional manner.	4.63	0.504	0.855
I ensure that when performing a task, the outcomes achieved are greater than the capital (or costs) incurred.	4.31	0.834	0.568
Opportunities Seeking:			
I believe that behind every problem, there are new business opportunities that can be created.	4.53	0.593	0.826
When I identify a good business opportunity, I will seek ways to obtain it by all possible means.	4.43	0.683	0.878
I see new opportunities to further expand this business to a higher level.	4.56	0.654	0.814
Perseverance:			
I will try to resolve the problems I face, regardless of how difficult they are.	4.39	0.748	0.909
I do not give up and continue to make efforts, even when my previous attempts have failed.	4.51	0.657	0.965
I strive to achieve my aspirations or life goals by all lawful means and without violating the law	4.58	0.667	0.941
Efficiency Orientation and Creativity:			
I plan and organize my business activities to avoid waste of resources and time.	4.49	0.673	0.796
I prepare a work schedule to ensure that tasks are completed on time.	4.36	0.701	0.807
I often have problem-solving approaches that differ from those commonly used by others	4.18	0.754	0.829
I consistently seek new ideas or methods to apply in managing this business.	4.42	0.711	0.911
I enjoy introducing improvements to my products or services, even in simple and small aspects.	4.45	0.685	0.883
Digital Usage:			
I extensively use digital applications in my business operations.	3.90	0.866	0.906
I have the skills to manage my business entirely online.	3.56	0.932	0.904
I am comfortable using cashless payment methods in business transactions	3.94	0.892	0.707

4.4 Capital availability

Table 5 presents respondents' perceptions of capital availability in their business ventures. The Supporting dimension recorded mean scores ranging from 4.04 to 4.50, with the highest score for *recognizing capital assistance as a meaningful source of income* (4.50) and the lowest for *sufficiency of capital to operate the business* (4.04). These findings indicate that respondents value practical support from capital assistance, although the adequacy of funds perceived as moderate. The Inspiring dimension exhibited very high means (4.40–4.71), with the highest score for *aspiring to pay zakat and help others* (4.71). This reflects the motivational and social-religious impact of support, enhancing respondents' confidence, entrepreneurial drive, and aspirations to contribute to society.

Table 5

Capital Availability

Construct/Items	Mean	Standard Deviation	Outer Loading
Supporting:			
The business capital assistance provided by the agency is sufficient to enable me to operate my business smoothly.	4.04	0.882	0.807
The business capital assistance provided by the agency creates opportunities for me to become financially independent through entrepreneurship.	4.36	0.657	0.858
The business capital assistance scheme is a meaningful source for me to increase my income through business activities.	4.50	0.658	0.877
The capital assistance provided by the agency meets my needs in operating this business.	4.32	0.774	0.908
The capital assistance provided by the agency takes into account the specific challenges faced by my business.	4.28	0.776	0.904
I am satisfied with the way the agency evaluates and manages applications for business capital assistance.	4.44	0.780	0.775
Inspiring:			
The business capital assistance provided by motivates me to strive to generate income through my own efforts.	4.45	0.700	0.913
The business capital assistance gives me a sense of hope and a source of support in pursuing my entrepreneurial aspirations.	4.42	0.738	0.929
I aspire to become a zakat contributor and to help others in the future.	4.71	0.535	0.717
The non-repayable nature of the business capital assistance reduces my stress and anxiety in the event that the business fails or incurs losses.	4.40	0.939	0.648

4.5 Religiosity

Table 6 presents religiosity scores, indicating very high intrinsic and extrinsic religiosity dimensions. Intrinsic religiosity scored 4.78–4.82, highest for belief that all life events are part of Allah's plan (4.82), while extrinsic religiosity ranged 4.40–4.74, highest for belief in charitable acts increasing sustenance (4.74). These results suggest strong internal faith and active application of religious practices in business and daily life according to their faith in teaching.

Table 6

Religiosity

Construct/Items	Mean	Standard Deviation	Outer Loading
Intrinsic:			
I consistently fulfil my religious obligations to seek the pleasure of Allah.	4.79	0.432	0.889
I strive to avoid actions that contradict religious teachings out of fear of Allah.	4.79	0.454	0.871
I believe that engaging in business can lead me to attain the pleasure of Allah.	4.78	0.461	0.852
Engaging in business teaches me to place my trust (*tawakkul*) in Allah.	4.80	0.425	0.954
I believe that everything that happens in my life is part of Allah's plan and will.	4.82	0.410	0.915
Extrinsic:			
I always ensure that the products I sell or the services I provide are halal and compliant with Islamic law (*Shariah*).	4.67	0.618	0.877
I perform the Dhuha prayer in order to seek increased sustenance.	4.40	0.665	0.855
I believe that giving charity (*sadaqah*) leads to greater and blessed sustenance.	4.74	0.541	0.885
When facing difficulties in life, I perform the *Hajat* prayer to seek help from Allah.	4.65	0.591	0.940
I regularly recite the Qur'an, at least half a page per day, to seek blessings in my affairs.	4.40	0.776	0.850

4.6 Attitude

Table 7 shows respondents' attitude towards determination and self-optimism. Personal Commitment scored high to very high (4.45–4.76), with highest for intention to expand business if capital is available (4.76), while Self-Optimism scored 4.54–4.67, highest for believing that life problems are temporary and solvable (4.67). Overall, respondents demonstrate strong determination to change and self-improve as well as high optimistic in managing business and life challenges.

Table 7

Attitude

Construct/Items	Mean	Standard Deviation	Outer Loading
Determination:			
I want to improve the standard of living for myself and my family as quickly as possible.	4.64	0.540	0.786
I do not want to remain a zakat assistance recipient indefinitely.	4.60	0.679	0.667
I want to expand my business further if capital is available.	4.76	0.513	0.636
I do not want to rely continuously on assistance or the sympathy of others to sustain my life.	4.64	0.593	0.835
I am able to independently manage my business operations effectively.	4.45	0.685	0.82
I feel more satisfied when I can support myself and my family through my own efforts.	4.67	0.568	0.866
Optimism:			
I am able to gradually improve my standard of living through the business I operate.	4.54	0.592	0.911
I believe that every life challenge is temporary and that there is always a way to overcome it.	4.67	0.550	0.937
I never feel hopeless when facing life's challenges.	4.61	0.616	0.897

4.7 Technology digital application

Table 8 shows moderate to high adoption of digital technology in business. Cashless payment methods received the highest score (4.41), reflecting wide acceptance for financial transactions, while managing business through communication and digital applications (3.49), translation of product information into foreign languages (3.54), and using smartphone-based tools like ChatGPT or SIRI (3.58) were lower, indicating that broader digital integration in operations remains limited.

Table 8

Technology Digital Application

Construct/Items	Mean	Standard Deviation	Outer Loading
I use digital and communication technologies available on my mobile phone (e.g., Siri, ChatGPT) in managing my business.	3.58	1.202	0.833
I use digital and communication technologies to search for various types of information related to my business.	4.06	0.957	0.823
I am proficient in using digital and communication technology applications to manage my business.	3.49	1.006	0.895

I use digital tools (such as ChatGPT and Google Translate) to translate product or business information into English or other foreign languages.	3.54	1.127	0.847
I use TikTok to promote my business, products, or services.	3.62	1.139	0.792
In addition to cash payments, I also accept cashless payments (such as QR payments and online bank transfers).	4.41	0.851	0.737

4.8 Individual entrepreneurial orientation (IEO)

Table 10 indicates moderate to high levels of IE) among respondents. Risk-taking scores ranged from 3.58 to 4.16, with the highest mean recorded for willingness to try new ventures (4.16) and the lowest for investing personal funds in uncertain expansions (3.58), indicating a pattern of controlled risk-taking behavior among marginalized entrepreneurs. Innovativeness scores were high, ranging from 4.22 to 4.46, with the highest mean observed for seeking new ways to manage the business (4.46), reflecting a strong innovation orientation. Proactiveness scores ranged from 3.92 to 4.49, with the highest mean for seeking customer feedback (4.49) and the lowest for interacting with advisory agencies (3.92). This suggests that while respondents demonstrate proactive engagement with the market, their regular interaction with relevant advisory agencies remains limited. This indicates a gap in accessing external knowledge and technical guidance that could support more effective and systematic business management.

Table 10

Individual Entrepreneurial Orientation

Construct/Items	**Mean**	**Standard Deviation**	**Outer Loading**
Risk Taking:			
I am willing to take risks to try something new in order to enhance the progress of my business.	4.16	0.809	0.877
I am willing to bear a certain level of risk as long as my products are sold out.	4.03	0.793	0.869
I am willing to take reasonable risks that are commensurate with the expected returns.	4.16	0.784	0.904
I am willing to invest the money I have to expand my business operations, even though the profit return is uncertain 50–50.	3.58	1.116	0.724
Innovativeness:			
I attempt to continuously improve my products (or services), even through minor changes, to ensure that they remain attractive to customers.	4.40	0.649	0.898
I prefer using unique approaches in my business operations.	4.22	0.716	0.885
I enjoy learning new things and attempting to apply them to my products.	4.41	0.651	0.911

I actively seek new ways to manage my business.	4.46	0.641	0.912
Proactiveness:			
I consistently seek information about opportunities that can further enhance my business performance.	4.44	0.699	0.911
I regularly obtain feedback or information regarding customer needs to ensure that my products or services align with their current preferences and expectations.	4.49	0.702	0.907
I make efforts to secure the necessary capital resources to ensure that my business plans can be implemented promptly and as planned.	4.39	0.648	0.852
I maintain regular contact with relevant advisory agencies to acquire knowledge and techniques for effective and systematic business management.	3.92	0.956	0.758

4.9 Entreprenerial behaviours

As shown in Table 11, respondents exhibit very high levels of entrepreneurial behaviors. The Perseverance dimension ranged from 4.49 to 4.64, with the highest mean observed for *meeting customer expectations* (4.64). These mean values indicate a high level of dedication and commitment in making effective use of available resources to operate the business optimally. The Ethical dimension ranged from 4.50 to 4.62, with the highest mean recorded for *avoiding harm to others and the environment* (4.62). This reflects strong adherence to ethical principles, quality assurance, and social responsibility.

Table 11

Entrepreneurial Behaviors

Construct/Items	Mean	Standard Deviation	Outer Loading
Business Perseverance:			
Despite facing life hardships, I was able to start this business through my own efforts.	4.49	0.687	0.657
I used the business capital assistance from MAINS prudently and wisely to expand my business operations.	4.60	0.634	0.626
I make every effort to produce products or deliver services that meet customers' satisfaction and expectations.	4.64	0.558	0.892
I am willing to attend to customers' orders whenever needed.	4.62	0.545	0.894
I am willing to work overtime in order to complete my business products/orders.	4.61	0.600	0.878
Business Ethics:			
I always ensure that customers receive products (services) that are of good quality, reliable, and safe.	4.61	0.616	0.964
I always ensure that customers receive products (services) that are commensurate with the price paid.	4.60	0.618	0.978

If there are customer complaints regarding the products (services), I will provide compensation (refund or replacement) to the customer.	4.50	0.687	0.907
I always ensure that my business operations do not cause harm to others or to the environment.	4.62	0.598	0.950

4.10 Business performance – Non-financial

Table 12 shows high non-financial performance. Self-Esteem ranged 3.87–4.55, highest for customer satisfaction (4.55) and loyal customer base (4.53), but lower for exploring new markets (3.87), indicating strong customer relationships but limited market expansion. Self-Actualization scored 4.30–4.43, highest for perceiving business as meaningful personal achievement (4.43), suggesting that business contributes to both economic and personal fulfillment.

Table 12

Business Performance Non-Financial

Construct/Items	Mean	Standard Deviation	Outer Loading
Self-Esteem:			
My customers are satisfied with the products or services offered.	4.55	0.519	0.765
My business has loyal customers who consistently purchase the products or services offered.	4.53	0.558	0.791
Customers rarely complain about prices, as they perceive the products or services to be reasonable and commensurate with their value.	4.46	0.656	0.689
My business now offers a wider variety of products compared to when it first started.	4.17	0.849	0.771
The number of customers of my business has increased over time.	4.18	0.805	0.863
My business has become increasingly well known and popular among the local community and surrounding areas.	4.13	0.868	0.833
My business has successfully expanded into new markets or business locations.	3.87	0.997	0.770
Self-Actualization:			
My life has become more peaceful and happier since generating income from my business.	4.30	0.671	0.888
This business represents a personal achievement that I am proud of.	4.39	0.632	0.921

This business provides me with a sense of self-fulfillment and a more meaningful life compared to my previous situation.	4.43	0.589	0.947

4.11 Business performance – Financial

Table 13 presents financial performance, showing moderate levels (3.54–3.72). Highest scores were for acquiring assets from business profits (3.72) and covering at least half of initial capital (3.71). Lowest scores were for net profit growth (3.54) and three-year sales trends (3.58), indicating that while income and asset accumulation occur, profit growth and revenue stability remain moderate, possibly due to market expansion challenges, competition, or reliance on initial capital.

Table 13

Business Performance Financial

Construct/Items	Mean	Standard Deviation	Outer Loading
My business sales revenue has increased steadily.	3.64	0.820	0.900
Based on my observation of the business sales revenue over the past three years, it has shown an upward trend from year to year.	3.58	0.930	0.916
My business net profit has continued to increase and remains stable.	3.54	0.954	0.932
The business revenue is sufficient to cover at least half (½) of the initial capital invested when the business was first established.	3.71	0.876	0.819
This business has successfully acquired additional assets purchased solely using income generated from the business (excluding assets or equipment purchased using capital assistance).	3.72	1.021	0.773

This integrated descriptive analysis provides a comprehensive overview of respondents' entrepreneurial competencies, entrepreneurial orientation, capital availability roles, religiosity, attitudes, business behaviours, and performance, serving as the foundation for subsequent PLS analysis to explore structural relationships among these variables.

4.12 PLS-SEM measurement model analysis

The measurement model was evaluated using outer loadings, Cronbach's alpha (CA), composite reliability (CR), average variance extracted (AVE), and discriminant validity.

The outer loadings of the constructs were generally above 0.70, indicating good construct validity (Hulland, 1999). All constructs demonstrated satisfactory Cronbach's alpha values, ranging from 0.790 to 0.964, exceeding the minimum threshold of 0.70 for internal consistency reliability (Henseler, Ringle, & Sinkovics, 2009). The highest values were observed in the Ethical (0.964) and Intrinsic Religiosity (0.939) constructs, reflecting excellent internal consistency, while the lowest value was recorded for Opportunities Seeking (0.790), which is still acceptable.

Composite reliability (CR) values ranged from 0.878 to 0.974, surpassing the 0.70 threshold (Bagozzi & Yi, 1988), confirming high reliability when considering the effect of outer loadings. Ethical (0.974) and Intrinsic Religiosity (0.953) had the highest CR values, while Opportunities Seeking (0.878) had the lowest, yet still satisfactory.

All constructs achieved average variance extracted (AVE) values between 0.599 and 0.903, exceeding the 0.50 threshold and demonstrating acceptable convergent validity (Bagozzi & Yi, 1988). The highest AVE was observed for Ethical (0.903), followed by Self-Actualization (0.845) and Perseverance (0.881), while the lowest were Initiative (0.599) and Commitment Individual (0.599), which remain acceptable.

Discriminant validity was assessed using the Fornell-Larcker criterion and Heterotrait-Monotrait ratio (HTMT). The Fornell-Larcker criterion confirmed that the square root of AVE for each construct was higher than its correlation with other constructs (Fornell & Larcker, 1981), indicating good discriminant validity. HTMT values for all construct pairs were below the 0.90 threshold (Henseler, Ringle, & Sarstedt, 2015), confirming no high multicollinearity and acceptable discriminant validity. Overall, the results from both the Fornell-Larcker Criterion and HTMT indicate that each construct in this study demonstrates satisfactory discriminant validity, confirming that constructs measure different phenomena and are appropriate for subsequent structural model analysis.

Table 14

Construct Reliability and Validity

Construct	**Cronbach's Alpha (CA)**	**Composite Reliability (CR)**	**Average Variance Extracted (AVE)**
Initiative	0.884	0.911	0.599
Opportunities Seeking	0.790	0.878	0.705
Perseverance	0.932	0.957	0.881
Efficiency Orientation and Creativity	0.900	0.926	0.717
Digital Application	0.796	0.880	0.712
Supporting	0.926	0.943	0.733
Inspiring	0.827	0.883	0.658
Determination	0.864	0.899	0.599
Optimism	0.902	0.939	0.837
Technology Digital Application	0.905	0.927	0.680
Intrinsic	0.939	0.953	0.804
Extrinsic	0.928	0.946	0.778
Risk Taking	0.866	0.909	0.716
Innovative	0.923	0.946	0.813
Proactive	0.880	0.918	0.738
Business Perseverance	0.850	0.896	0.638
Business Ethics	0.964	0.974	0.903
Self-Actualization	0.908	0.942	0.845
Self-Esteem	0.895	0.918	0.616
Financial	0.918	0.939	0.757

Table 15

Discriminant validity- Heterotrait-monotrait ratio (HTMT) - Matrix

Construct	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1																				
2	0.826																			
3	0.338	0.347																		
4	0.568	0.441	0.295																	
5	0.755	0.596	0.243	0.463																
6	0.621	0.646	0.201	0.395	0.408															
7	0.354	0.369	0.221	0.250	0.176	0.232														
8	0.738	0.650	0.356	0.790	0.640	0.602	0.309													
9	0.555	0.489	0.370	0.857	0.392	0.342	0.241	0.711												
10	0.407	0.332	0.110	0.287	0.296	0.467	0.254	0.452	0.278											
11	0.643	0.629	0.220	0.446	0.498	0.658	0.242	0.610	0.460	0.451										
12	0.672	0.605	0.505	0.732	0.530	0.499	0.302	0.790	0.684	0.298	0.520									
13	0.456	0.417	0.228	0.604	0.480	0.413	0.149	0.683	0.443	0.285	0.343	0.555								
14	0.571	0.545	0.496	0.685	0.479	0.373	0.246	0.716	0.748	0.430	0.483	0.829	0.435							
15	0.366	0.329	0.273	0.380	0.342	0.333	0.374	0.540	0.351	0.173	0.169	0.361	0.518	0.330						
16	0.543	0.505	0.140	0.523	0.359	0.388	0.532	0.468	0.479	0.166	0.405	0.464	0.319	0.370	0.399					
17	0.713	0.613	0.378	0.609	0.591	0.463	0.552	0.771	0.591	0.370	0.535	0.653	0.564	0.578	0.542	0.740				
18	0.643	0.662	0.299	0.279	0.455	0.428	0.384	0.513	0.301	0.208	0.462	0.668	0.306	0.522	0.254	0.395	0.558			
19	0.352	0.282	0.090	0.233	0.198	0.322	0.310	0.407	0.306	0.809	0.207	0.311	0.266	0.324	0.260	0.229	0.383	0.196		
20	0.432	0.456	0.673	0.422	0.363	0.407	0.345	0.370	0.472	0.143	0.359	0.449	0.182	0.454	0.253	0.244	0.393	0.284	0.117	

1=Business Perseverance, 2= Determination, 3=Digital Application, 4=Efficiency Orientation and Creativity, 5=Ethical, 6=Extrinsic, 7=Financial, 8=Initiative, 9=Innovative, 10=Inspiring, 11=Intrinsic, 12=Opportunities Seeking, 13=Perseverance, 14=Proactive, 15=Risk Taking, 16=Self-Actualization, 17=Self-Esteem, 18=Self-optimism, 19=Supporting, 20=Technology Digital Application

Table 16

Discriminant validity- Fornell-Larcker criterion

Construct	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	**0.799**																			
2	0.701	**0.774**																		
3	0.273	0.284	**0.844**																	
4	0.492	0.394	0.264	**0.846**																
5	0.686	0.539	0.211	0.437	**0.950**															
6	0.554	0.581	0.178	0.366	0.384	**0.882**														
7	0.302	0.334	0.187	0.231	0.167	0.215	**0.870**													
8	0.634	0.568	0.299	0.706	0.600	0.550	0.276	**0.774**												
9	0.488	0.439	0.331	0.783	0.370	0.317	0.224	0.644	**0.902**											
10	0.328	0.264	0.025	0.233	0.248	0.397	0.229	0.371	0.236	**0.811**										
11	0.567	0.564	0.196	0.414	0.474	0.618	0.228	0.562	0.430	0.357	**0.897**									
12	0.550	0.503	0.406	0.618	0.465	0.427	0.261	0.673	0.584	0.216	0.448	**0.840**								
13	0.405	0.374	0.210	0.560	0.455	0.384	0.139	0.630	0.411	0.235	0.322	0.477	**0.938**							
14	0.490	0.481	0.430	0.607	0.444	0.341	0.222	0.642	0.675	0.346	0.445	0.689	0.396	**0.859**						
15	0.325	0.295	0.230	0.340	0.317	0.302	0.334	0.473	0.316	0.139	0.158	0.310	0.478	0.299	**0.846**					
16	0.469	0.459	0.122	0.473	0.336	0.356	0.485	0.418	0.437	0.147	0.376	0.393	0.294	0.330	0.360	**0.919**				
17	0.611	0.546	0.329	0.552	0.547	0.420	0.499	0.684	0.538	0.306	0.490	0.551	0.517	0.514	0.490	0.670	**0.785**			
18	0.556	0.590	0.257	0.254	0.424	0.390	0.350	0.460	0.275	0.156	0.425	0.565	0.280	0.467	0.234	0.358	0.501	**0.915**		

19	0.295	0.244	0.020	0.210	0.184	0.298	0.276	0.372	0.281	0.776	0.191	0.266	0.249	0.291	0.229	0.193	0.342	0.177	**0.856**	
20	0.398	0.418	0.563	0.395	0.356	0.382	0.318	0.347	0.442	0.096	0.343	0.390	0.174	0.408	0.226	0.228	0.364	0.272	0.105	**0.825**

1=Business Perseverance, 2= Determination, 3=Digital Application, 4=Efficiency Orientation and Creativity, 5=Ethical, 6=Extrinsic, 7=Financial, 8=Initiative, 9=Innovative, 10=Inspiring, 11=Intrinsic, 12=Opportunities Seeking, 13=Perseverance, 14=Proactive, 15=Risk Taking, 16=Self-Actualization, 17=Self-Esteem, 18=Self-optimism, 19=Supporting, 20=Technology Digital Application

4.13 First-order and second-order constructs analysis

The results of the first-order and second-order analysis indicate that all dimensions significantly contribute to their respective higher-order constructs at a 0.001 significance level ($p < 0.001$), demonstrating the robustness of each dimension in shaping the overall construct.

For the Entrepreneurial Competencies construct, the Initiative dimension exhibited the highest contribution ($\beta = 0.917$), highlighting the critical role of proactive behavior in entrepreneurial success. This was followed by Efficiency Orientation and Creativity ($\beta = 0.867$), suggesting that planning and innovative problem-solving are also central to entrepreneurial competencies. In contrast, Digital Usage, while still significant, showed a comparatively lower contribution ($\beta = 0.433$), indicating that the use of digital tools is less dominant but remains a relevant aspect. Other dimensions, including Opportunities Seeking ($\beta = 0.799$) and Perseverance ($\beta = 0.753$), also contributed substantially, underscoring the importance of opportunity recognition and persistence in entrepreneurial activities.

For the Capital Availability construct, both Supporting ($\beta = 0.968$) and Inspiring ($\beta = 0.909$) dimensions demonstrated strong contributions, suggesting that both the provision of tangible resources and motivational factors are essential in shaping perceptions of capital availability. Similarly, within the Attitude construct, Determination showed the highest influence ($\beta = 0.933$), with Optimism ($\beta = 0.840$) also significantly contributing, reflecting that a strong personal drive and confidence are pivotal in forming a positive entrepreneurial attitude.

In the Religiosity construct, both Intrinsic ($\beta = 0.894$) and Extrinsic ($\beta = 0.905$) dimensions contributed almost equally, indicating that internal faith and external religious practices are equally important in shaping the respondents' overall religiosity. The Individual Entrepreneurial Orientation construct was most strongly influenced by Innovative ($\beta = 0.886$) and Proactive ($\beta = 0.862$) dimensions, while Risk Taking showed a moderate but significant contribution ($\beta = 0.598$), reflecting that innovation and proactiveness dominate entrepreneurial orientation, with risk-taking being controlled and deliberate.

For Entrepreneurial Behavior, the Business Ethics (β = 0.925) and Business Perseverance (β = 0.905) exhibited very strong contributions, emphasizing that ethical conduct and dedication are foundational to business practices. Within Non-Financial Business Performance, Self-Esteem (β = 0.960) contributed the most, followed by Self-Actualization (β = 0.851), suggesting that personal satisfaction and a sense of achievement are critical components of non-financial business success.

Overall, these results confirm that all first-order dimensions significantly influence their respective second-order constructs. The varying magnitudes of beta values highlight the relative importance of specific dimensions, demonstrating that while all aspects are relevant, certain factors such as initiative, commitment, ethical behavior, and personal satisfaction play a particularly prominent role in shaping entrepreneurial competencies, attitudes, and performance outcomes.

Table 17

First Order and Second Order

First Order and Second Order	Beta	Standard Deviation	T Statistics	P values
Entrepreneurial Competencies → Initiative	0.917	0.018	52.377	0.000
Entrepreneurial Competencies → Opportunities Seeking	0.799	0.058	13.755	0.000
Entrepreneurial Competencies → Perseverance	0.753	0.055	13.755	0.000
Entrepreneurial Competencies → Efficiency Orientation and Creativity	0.867	0.032	26.698	0.000
Entrepreneurial Competencies → Digital Usage	0.433	0.095	4.553	0.000
Capital Availability → Inspiring	0.909	0.025	36.499	0.000
Capital Availability → Supporting	0.968	0.011	84.487	0.000
Attitude → Determination	0.933	0.017	54.045	0.000
Attitude → Optimism	0.840	0.044	18.979	0.000
Religiosity → Intrinsic	0.894	0.027	32.671	0.000
Religiosity → Extrinsic	0.905	0.031	28.954	0.000
Individual Entrepreneurial Orientation → Risk Taking	0.598	0.104	5.753	0.000
Individual Entrepreneurial Orientation → Innovative	0.886	0.020	44.468	0.000
Individual Entrepreneurial Orientation → Proactive	0.862	0.029	29.754	0.000
Entrepreneurial Behavior → Business Perseverance	0.905	0.026	34.338	0.000
Entrepreneurial Behavior → Business Ethics	0.925	0.019	48.161	0.000
Non-Financial → Self-Actualization	0.851	0.030	28.812	0.000
Non-Financial → Self-Esteem	0.960	0.008	125.093	0.000

4.14 Structural model

The structural model results reveal the explanatory power and predictive relevance of the model (Table 18). R-square (R^2) values indicate that 70.7% of the variance in

Individual Entrepreneurial Orientation (IEO) is explained by the predictor variables (adjusted R^2 = 0.695). Business Behaviour shows moderate explanatory power (R^2 = 0.351), Non-Financial Business Performance demonstrates moderate-to-high predictability (R^2 = 0.503), while Financial Business Performance shows low explanatory power (R^2 = 0.107), suggesting other external factors play a dominant role.

Q^2 values are positive across all constructs (0.083–0.663), confirming the model's predictive relevance for endogenous constructs (Sarstedt et al., 2014).

Table 18

R-square and Q-square

Constructs	R-square	R-square adjusted	Q-square
Individual Entrepreneurial Orientation	0.707	0.695	0.663
Entrepreneurial Behavior	0.351	0.344	0.336
Non-Financial	0.503	0.493	0.433
Financial	0.107	0.089	0.083

Based on the path analysis results presented in Table 19 and Figure 2, entrepreneurial competencies (EC) have a positive and significant relationship with individual entrepreneurial orientation (IEO) (β = 0.719, t = 9.751, $p < 0.001$). This indicates that an increase in EC is associated with an increase in IEO. Meanwhile, the relationships between capital availability (β = 0.079, p = 0.167), attitude (β = 0.047, p = 0.535), and digital technology application (β = 0.125, p = 0.096) with IEO were found to be insignificant. This suggests that these factors do not have a significant effect on IEO in this model.

For Entrepreneurial Behavior, religiosity was the only variable that demonstrated a positive and statistically significant effect (β = 0.592, t = 7.028, $p < 0.001$), indicating that higher levels of religiosity are associated with better Entrepreneurial Behavior, particularly in terms of entrepreneurs' commitment and ethical values in conducting business activities.

With regard to business performance, the relationships between IEO and financial performance (β = 0.118, p = 0.310) as well as between business behaviour and financial performance (β = 0.118, p = 0.310) were found to be insignificant, suggesting that neither IEO nor business behaviour has a significant impact on financial performance.

In contrast, both IEO ($\beta = 0.426$, $p < 0.001$) and business behaviour ($\beta = 0.371$, $p < 0.001$) exhibited positive and statistically significant effects on non-financial performance, indicating that higher entrepreneurial orientation and positive business behaviour contribute to improved non-financial business outcomes.

These findings suggest that entrepreneurial competencies significantly enhance individual entrepreneurial orientation, while religiosity strongly influences business behaviour. Entrepreneurial orientation and good business behaviour positively affect non-financial performance, but neither has a significant impact on financial performance within this model.

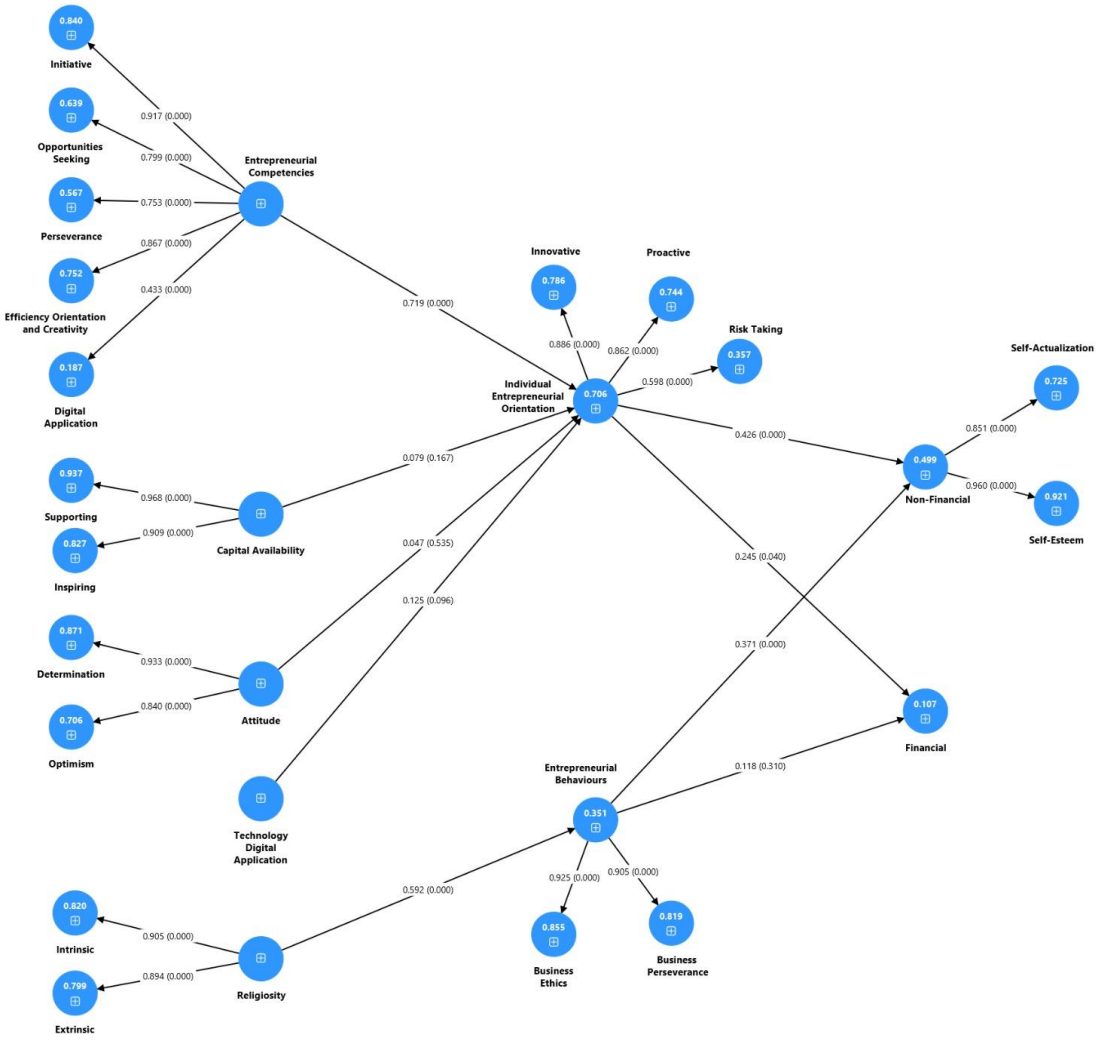
Table 19

Path Analysis

Relationship	Beta	Standard Deviation	T Statistics	P values
Entrepreneurial Competencies → Individual Entrepreneurial Orientation (positive & significant)	0.719	0.074	9.751	0.000
Capital Availability → Individual Entrepreneurial Orientation	0.079	0.057	1.384	0.167
Attitude → Individual Entrepreneurial Orientation	0.047	0.076	0.620	0.535
Technology Digital Application → Individual Entrepreneurial Orientation	0.125	0.075	1.669	0.096
Religiosity → Entrepreneurial Behavior (positive & significant)	0.592	0.084	7.028	0.000
Individual Entrepreneurial Orientation → Financial Performance	0.118	0.117	1.016	0.310
Entrepreneurial Behavior → Financial	0.118	0.117	1.016	0.310
Individual Entrepreneurial Orientation → Non-Financial Performance (positive & significant)	0.426	0.104	4.088	0.000
Entrepreneurial Behavior → Non-Financial Performance (positive & significant)	0.371	0.104	3.576	0.000

Figure 2

Path Analysis



5 DISCUSSION

Marginalized entrepreneurs represent a distinct category that has emerged in line with global development agendas aiming to alleviate poverty through alternative resource mobilization. In this study, the marginalized group consists of individuals from extremely low-income backgrounds within the Muslim community who receive productive grants via zakat-based entrepreneurship programs. These grants provide business capital without repayment obligations, coupled with continuous monitoring and guidance to ensure the

sustainability of their ventures. Consequently, these initiatives are classified as Type II social businesses, where the primary goal is to meet social and personal development objectives rather than immediate financial gains.

Social businesses operate similarly to conventional businesses in terms of market competition, business processes, and organizational management. However, their primary distinguishing feature lies in the social mission, where profits are used to generate social benefits. Within this context, Individual Entrepreneurial Orientation (IEO) and entrepreneurial behaviours (EB) serve as the strategic mechanisms through which internal resources influence business outcomes. The study shows that entrepreneurial competencies strongly enhance IEO, while religiosity significantly shapes business behaviours, particularly in terms of ethical conduct and commitment.

The results reveal that both IEO and business behaviours positively influence non-financial performance, including self-esteem and self-actualization, while their impact on financial performance is limited. This pattern aligns with the characteristics of Type II social businesses, where the pursuit of social motives and personal growth takes precedence over monetary outcomes. For marginalized entrepreneurs, non-financial benefits provide self-dignity, pride, and social recognition that are otherwise difficult to achieve within a context that privileges material wealth. Meanwhile, financial needs are often supplemented by external mechanisms such as welfare support, government programs, and zakat-based grants, reducing the immediate dependency on business revenue.

From a theoretical perspective, these findings reinforce the RBV argument, highlighting that intangible resources such as competencies, ethical orientation, religiosity, and attitudes serve as valuable strategic assets for marginalized entrepreneurs. IEO and entrepreneurial behaviours translate these resources into meaningful socio-economic outcomes, demonstrating that individual-level capabilities are critical for Type II social business performance.

Practically, the study suggests that entrepreneurship education and training should focus on developing entrepreneurial competencies, ethical practices, and proactive behaviours tailored to marginalized entrepreneurs. Program administrators should also design interventions that strengthen intangible internal resources, cultivate self-efficacy,

and reinforce social and ethical values, thereby enhancing both personal and community development outcomes.

6 CONCLUSION

This study investigated how internal resources namely entrepreneurial competencies, digital technology adoption, attitudes, religiosity, and capital aids availability, affect the performance of Type II social businesses operated by marginalized entrepreneurs in Malaysia. Findings highlight the mediating roles of Individual Entrepreneurial Orientation (IEO) and entrepreneurial behaviors (EB), particularly in enhancing non-financial performance such as self-esteem and self-actualization. Financial performance, in contrast, is weakly influenced, likely due to the availability of alternative support mechanisms, including zakat grants and welfare programs.

The study contributes to social entrepreneurship literature by extending the Resource-Based View (RBV) to marginalized entrepreneurs, demonstrating that intangible internal resources can generate meaningful socio-economic outcomes even in resource-constrained contexts. It further emphasizes that non-financial performance indicators are central to Type II social businesses, reflecting the entrepreneurs' social motives, personal growth, and community impact derived from their business. From a practical standpoint, the findings suggest that entrepreneurship programs should prioritize the development of entrepreneurial competencies, ethical conduct, and proactive business behaviours, while policymakers should design interventions that strengthen intangible internal resources. By doing so, marginalized entrepreneurs can effectively convert limited resources into sustained social and personal value, contributing to inclusive economic development and poverty alleviation.

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Authors' Contribution

All authors contributed equally to the development of this article.

Data availability

All datasets relevant to this study's findings are fully available within the article.

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