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Islamic Work Ethics as a Strategic Resource: Integrating Dynamic Capabilities and Marketing Adaptability to Enhance Muslim Family-Owned Micro-Business Performance

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ABSTRACT

Despite growing interest in Islamic Work Ethics (IWE), limited empirical evidence explains how ethical values enhance organizational capabilities and business performance among Muslim family-owned micro enterprises. This study develops and tests an integrated framework linking Islamic Work Ethics, Innovation Capability, Workforce Agility, and Marketing Mix Adaptability to Muslim Family-owned Micro-Business Performance. Unlike previous studies, Islamic Work Ethics is conceptualized as a multidimensional strategic intangible resource embedded within Indonesia's socio-cultural context and integrated with Dynamic Capability Theory to explain how ethical values are transformed into organizational capabilities. Survey data were collected from 76 Muslim family-owned micro enterprises affiliated with the OK OCE entrepreneurial community in Indonesia and analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The findings indicate that Islamic Work Ethics positively influences Innovation Capability and Workforce Agility, while Workforce Agility significantly enhances both Innovation Capability and Marketing Mix Adaptability. Innovation Capability, Workforce Agility, and Marketing Mix Adaptability positively affect business performance, whereas the direct effect of Islamic Work Ethics on Marketing Mix Adaptability is insignificant. The study contributes by proposing a multidimensional Islamic Work Ethics measurement framework and demonstrating that culturally embedded ethical values strengthen dynamic capabilities, thereby promoting the sustainability and competitiveness of Muslim family-owned micro enterprises.

Keywords: Islamic Work Ethics, Innovation Capability, Workforce Agility, Marketing Mix Adaptability, Muslim Family-Owned Micro-Business Performance
JEL Classifications: D23, L26, M10, Z12

1. INTRODUCTION

Micro and family-owned enterprises constitute the backbone of Indonesia's economy, with Muslim family-owned micro enterprises playing a particularly important role in generating employment, supporting household livelihoods, and promoting inclusive economic development. Despite their substantial economic contribution, many of these businesses continue to face persistent challenges, including limited innovation capability, low workforce adaptability, and inadequate marketing responsiveness. Previous studies suggest that Islamic Work Ethics (IWE)—a moral framework derived from the Qur'an and Sunnah—can enhance employee motivation, organizational commitment, and business sustainability. However, empirical evidence linking IWE to organizational capabilities, particularly innovation, workforce agility, and marketing adaptability, remains limited within the context of Muslim family-owned micro enterprises.

The empirical setting of this study is the OK OCE entrepreneurial community, one of Indonesia's largest community-based entrepreneurship development programs. OK OCE provides business mentoring, entrepreneurship training, networking opportunities, and market access for micro and small enterprises while emphasizing family-based entrepreneurship and community empowerment. This context offers an appropriate setting for examining how Islamic ethical values shape organizational capabilities and business performance among Muslim family-owned micro enterprises operating in an emerging economy.

Against this backdrop, this study develops and empirically tests an integrated research model that conceptualizes Islamic Work Ethics as an intangible organizational resource driving Innovation Capability (IC), Workforce Agility (WA), and Marketing Mix Adaptability (MM), which subsequently enhance Muslim Family-owned Micro-Business Performance (MBP). Grounded in the Resource-Based View (RBV) and Dynamic Capability Theory, the study argues that Islamic Work Ethics constitutes a valuable intangible resource that strengthens dynamic organizational capabilities and contributes to sustained competitive advantage.

Although Islamic Work Ethics has traditionally been examined as an ethical or religious construct, this study argues that it should also be viewed as a strategic organizational resource embedded within Indonesia's socio-cultural context. Consistent with Hofstede's (2011) cultural dimensions, Indonesia's strong collectivist orientation and relatively high long-term orientation provide a cultural context in which family cooperation, mutual support, ethical responsibility, and long-term business continuity are highly valued. These cultural characteristics are broadly compatible with the principles of Islamic Work Ethics, helping explain how ethical values may facilitate the development of organizational capabilities among Muslim family-owned micro enterprises.

Accordingly, this study makes three main contributions to the literature. First, it extends the Islamic Work Ethics literature by conceptualizing IWE not only as an ethical or religious construct but also as a strategic organizational resource that supports the development of dynamic capabilities. Second, it integrates the Resource-Based View, Dynamic Capability Theory, and cultural perspectives to explain the performance of Muslim family-owned micro enterprises. Third, it provides empirical evidence from Indonesia's OK OCE entrepreneurial community, offering new insights into the role of Islamic values in strengthening innovation capability, workforce agility, marketing adaptability, and business performance within emerging economies.

2. LITERATURE REVIEW, HYPOTHESIS DEVELOPMENT AND RESEARCH MODEL

2.1. Resource-Based View and Dynamic Capabilities

According to Wernerfelt (1984), firms can achieve sustained competitive advantage through resources that are valuable, rare, inimitable, and non-substitutable. Within this perspective, intangible organizational resources such as ethical values and organizational culture play a critical role in strengthening long-term competitiveness. In the context of Muslim family-owned micro enterprises, Islamic Work Ethics (IWE) can be viewed as a strategic intangible resource that enhances organizational capabilities and supports business sustainability.

The growing complexity of contemporary business environments, characterized by market uncertainty, digital transformation, and changing consumer behavior, has encouraged scholars to examine the strategic role of ethical values, organizational adaptability, innovation capability, and marketing flexibility in improving micro-business performance. In rapidly changing environments, firms require dynamic capabilities, defined as the ability to integrate, build, and reconfigure internal and external competencies to respond effectively to environmental changes (Teece et al., 1997). In this regard, workforce agility and innovation capability represent important dynamic capabilities that enable micro-businesses to adapt, innovate, and remain competitive.

2.2. Islamic Work Ethics

Islamic Work Ethics (IWE) has emerged as an important construct within Islamic management and organizational studies. Rooted in the teachings of the Qur'an and Sunnah, IWE emphasizes values such as sincerity, honesty, responsibility, discipline, hard work, justice, cooperation, and social welfare. Ali (1988) and Zahrah et al. (2016) describe IWE as a moral framework that guides Muslims toward productive and ethical work behavior that benefits both individuals and society.

According to Ali (2005), Islamic Work Ethics is built upon four fundamental pillars: Effort, competition, transparency, and morally responsible conduct. These principles contribute to the creation of a business environment that supports fair economic transactions, promotes social welfare, and strengthens trade and economic development. In this regard, IWE is not only viewed as a personal ethical orientation, but also as a socio-economic framework capable of fostering sustainable economic prosperity.

Unlike conventional business perspectives that primarily evaluate organizational success in terms of economic performance, Islamic entrepreneurship complements economic objectives with ethical responsibility, social justice, and spiritual accountability. Business activities are therefore regarded not merely as economic transactions but also as acts of worship and social contribution. Islamic Work Ethics provides the ethical foundation through which entrepreneurial activities generate both economic value and social welfare, making it particularly relevant for family-owned micro enterprises operating within Muslim communities.

Within the literature, Islamic Work Ethics has been recognized as an important variable due to its broad positive implications for organizations and society. Ali (2015) argues that rediscovering traditional Islamic perspectives on work and business—principles that have existed since the seventh century—remains socially and economically relevant in the modern era because such values may contribute to social stability and long-term societal welfare. Similarly, Yousef (2000) found that Islamic Work Ethics positively influences organizational commitment, suggesting that individuals who strongly adhere to Islamic ethical values tend to demonstrate stronger commitment toward their organizations.

Previous empirical studies have also shown that Islamic ethical values positively influence employee attitudes, organizational commitment, innovation behavior, and business performance. Despite these findings, empirical research on Islamic Work Ethics has largely focused on employees, large organizations, or general

SMEs. Much less attention has been given to Muslim family-owned micro enterprises, particularly regarding how Islamic Work Ethics contributes to the development of dynamic organizational capabilities such as innovation capability, workforce agility, and marketing mix adaptability.

To address this gap, the present study develops a new Islamic Work Ethics measurement scale specifically tailored to the characteristics of Muslim family-owned micro businesses. The proposed IWE construct is conceptualized into five dimensions: (1) The spiritual dimension, emphasizing sincerity and obedience to God; (2) the social dimension, focusing on cooperation and positive social interaction within the community; (3) the psychological dimension, related to independence and self-development; (4) the economic dimension, emphasizing the allocation of a portion of income for charitable giving (sadaqah); and (5) the environmental dimension, reflecting responsibility toward environmental sustainability. This multidimensional conceptualization extends the existing IWE literature by incorporating broader socio-economic and sustainability-oriented perspectives relevant to contemporary Muslim micro-enterprise contexts.

2.3. Innovation Capability

Innovation Capability (IC) has been widely recognized as a critical determinant of organizational competitiveness and long-term sustainability. Innovation capability refers to an organization's ability to transform ideas, knowledge, and resources into new products, processes, or business systems that generate value for stakeholders. Organizations possessing strong innovation capability are generally more adaptive, competitive, and resilient in dynamic market environments. Nevertheless, limited research has explored how Islamic ethical values contribute to innovation capability within the context of micro-enterprise development.

Lawson and Samson (2001) define innovation capability as an organization's ability to continuously transform knowledge and ideas into new products, processes, and systems that benefit the firm and its stakeholders. They further argue that innovation should not be viewed merely as the responsibility of a particular department, but rather as an organization-wide effort integrating organizational learning, technology, and business strategy. Firms with strong innovation capability are therefore better positioned to develop products, services, and business models more rapidly, efficiently, and effectively. Their study also confirms a positive relationship between innovation capability, innovation performance, and overall firm performance.

Since the 2010s, the application of innovation capability research has expanded significantly across various contexts, including SMEs, family businesses, service industries, and emerging markets. Innovation capability has increasingly been linked to firm performance, sustainability, and digital transformation. For instance, Saunila and Ukko (2012) developed a conceptual framework emphasizing the relationship between innovation capability and organizational performance. They argue that earlier studies lacked a comprehensive framework capable of explaining the causal relationship between innovation capability and business performance. According to their framework, innovation capability consists of three primary elements: innovation potential, innovation processes, and the results of innovation activities. Innovation potential includes factors such as leadership and decision-making, organizational structure and communication, external collaboration, organizational culture, work climate, creativity, and individual competencies.

More recent studies continue to reinforce the strategic importance of innovation capability. For example, Al Koliby et al. (2024) examined the relationship between entrepreneurial culture, innovation capability, and organizational performance among small and medium-sized enterprises in Malaysia using Structural Equation Modeling (SEM). Their findings demonstrate that entrepreneurial culture significantly influences innovation capability, which subsequently enhances organizational performance. This evidence positions innovation capability as a crucial mediating mechanism linking organizational culture and business performance. Organizations with stronger entrepreneurial cultures tend to develop superior innovation capabilities, enabling them to strengthen competitiveness and improve long-term organizational performance.

In the context of micro-businesses, innovation capability becomes particularly important because firms often operate under limited-resource conditions while facing rapidly changing market demands. The ability to continuously innovate therefore represents a critical strategic capability that supports business sustainability, adaptability, and long-term competitiveness.

2.4. Workforce Agility

The concept of agility originated from the strategic management and manufacturing literature of the 1980s and 1990s. The idea initially emerged through agile manufacturing research pioneered by the Iacocca Institute (Nagel and Dove, 1991) and was later expanded by Goldman et al. (1995) through the concept of agile competitors and virtual organizations. These scholars argued that firms could no longer rely solely on efficiency and quality, but also needed organizational agility to respond rapidly to changing customer demands, technological developments, and competitive market dynamics.

The agile organization paradigm emphasizes flexibility, innovation, responsiveness, and proactive adaptation to environmental change. In this context, virtual organizations are viewed as flexible collaborations among firms supported by information technology to create superior customer value. Consequently, agility became increasingly recognized as a critical factor for long-term organizational competitiveness and sustainability.

Within the field of human resource management, early discussions related to agility emerged through the concept of workforce flexibility introduced by Atkinson (1984) in The Flexible Firm Model. Atkinson identified three forms of workforce flexibility: functional flexibility, numerical flexibility, and financial flexibility. These ideas were further developed by Dyer and Shafer (1998), who emphasized that agile organizations require employees capable of demonstrating initiative, collaboration, innovation, continuous learning, and rapid resource reconfiguration.

The concept of workforce agility began to emerge formally in the early 2000s. Van Oyen et al. (2001) highlighted workforce agility through cross-training systems that enabled employees to perform multiple functions according to organizational needs. Subsequently, Breu et al. (2002), through a study involving 515 organizations in the United Kingdom, identified five core capabilities supporting workforce agility: intelligence, competencies, collaboration, organizational culture, and information systems.

The theoretical foundation of workforce agility was further strengthened by Sherehiy et al. (2007), who defined workforce agility as the ability of employees to adapt, act proactively, and remain resilient in dynamic environments. More recently, Petermann and Zacher (2021) expanded this concept by proposing ten behavioral dimensions of workforce agility, including (1) accepting changes, (2) decision making, (3) creating transparency, (4) collaboration, (5) reflection, (6) user centricity, (7) iteration, (8) testing, (9) self-organization, and (10) learning, thereby providing a more comprehensive framework for understanding agility in contemporary organizations.

2.5. Marketing Mix Adaptability

The study further incorporates the concept of Marketing Mix Adaptability (MM), which refers to a firm's capability to adjust marketing strategies in response to evolving market conditions and consumer preferences. The concept originates from the classical marketing mix framework introduced by Borden (1964), who identified twelve elements of the marketing mix, including product planning, pricing, branding, distribution, advertising, promotion, packaging, display, service, and market research. The framework was later simplified and popularized by McCarthy (1960) through the well-known 4P model consisting of product, price, place, and promotion. Despite numerous refinements over time, the 4P framework remains one of the most influential and widely adopted concepts in marketing literature.

According to Philip Kotler et al. (2018), the marketing mix represents a set of controllable marketing tools that firms use to engage customers, satisfy market needs, and build long-term customer relationships. In this regard, the marketing mix serves as a practical instrument for implementing organizational marketing strategies effectively.

Contemporary marketing literature, however, emphasizes the growing importance of adaptive, customer-oriented, and digitally responsive marketing strategies. Firms are increasingly required to modify their products, pricing mechanisms, promotional approaches, and distribution channels in response to rapidly changing market dynamics and consumer behavior. Consequently, marketing adaptability has become an essential organizational capability for sustaining competitiveness, particularly among micro and small enterprises operating in highly dynamic environments.

Within the Islamic business perspective, marketing practices are additionally expected to uphold ethical values such as honesty, fairness, transparency, and social responsibility. Integrating Islamic Work Ethics (IWE) into marketing mix practices therefore enables Muslim entrepreneurs to implement ethical marketing strategies aligned with religious principles while simultaneously enhancing customer trust and business sustainability. Accordingly, adaptive marketing capability becomes increasingly important for Muslim family-owned micro enterprises seeking to maintain competitiveness in rapidly evolving markets.

2.6. Family Business

Research on family business has evolved significantly over the past several decades. Early studies primarily focused on succession and business continuity issues in small family-owned firms (Christensen, 1953). The field gained greater academic recognition through the work of Donnelley (1964), who highlighted the unique characteristics of family-controlled businesses, and later through the establishment of Family Business Review in 1988, which marked family business as a distinct area of scholarly inquiry.

Since the 1990s, scholars have increasingly emphasized the distinctive goals and performance dimensions of family firms. Unlike non-family businesses, family firms often pursue both financial and non-financial objectives, including family continuity, economic security, social contribution, and intergenerational sustainability (Sharma et al., 1996). This perspective has broadened the understanding of business performance beyond purely economic outcomes.

Subsequent research further expanded the field through the introduction of the Socioemotional Wealth (SEW) perspective, which emphasizes the importance of family identity, emotional attachment, family control, and long-term orientation in shaping strategic decisions (Gómez-Mejía et al., 2007). More recent studies have demonstrated that family businesses often exhibit greater resilience during periods of crisis due to strong family commitment, organizational flexibility, trust, and a long-term strategic orientation (Calabrò et al., 2021).

Contemporary family business research increasingly examines issues related to innovation, entrepreneurship, sustainability, and family SMEs in emerging economies. This multidimensional perspective recognizes that family businesses are influenced not only by financial considerations but also by social, cultural, and relational factors that shape organizational behavior and performance.

Among the various definitions proposed in the literature, family business is commonly understood as an enterprise in which ownership, management, and strategic decision-making are significantly influenced by family members, with the intention of maintaining business continuity across generations (Chua et al., 1999; Poza, 2010; Davis, 2018). This definition is particularly relevant to the present study, which focuses on Muslim family-owned micro-enterprises where family involvement remains central to business operations, decision-making, and long-term sustainability.

2.7. Family Business Performance

The concept of family business performance has evolved from a predominantly financial perspective toward a multidimensional construct encompassing both financial and non-financial outcomes. Early studies focused primarily on profitability, growth, and operational efficiency, while later research recognized the importance of family-related objectives such as intergenerational continuity, family harmony, and socioemotional well-being. For example, Sharma (2006) proposed the Four Quadrants of Family Business Performance, highlighting that family firms may simultaneously pursue financial success and family-related goals.

Subsequent developments were strongly influenced by the Socioemotional Wealth (SEW) perspective introduced by Gómez-Mejía et al. (2007). This perspective argues that family firms often make strategic decisions not only to maximize economic returns but also to preserve family identity, control, emotional attachment, reputation, and long-term continuity. As a result, family business performance is increasingly measured using both objective financial indicators (e.g., profitability, sales growth, and return on investment) and non-financial indicators related to family satisfaction, social relationships, and generational sustainability.

Recent studies have extended this multidimensional perspective to family SMEs and family businesses operating in emerging economies. Scholars emphasize that performance should be evaluated within its specific socio-cultural context because business objectives often reflect the values and priorities of business-owning families. Consequently, financial outcomes alone may not adequately capture the overall success of family enterprises.

Despite growing interest in family business performance, empirical research on Muslim family-owned micro enterprises remains limited. Existing studies have predominantly examined financial outcomes or entrepreneurial orientation, with relatively little attention given to the integration of financial, family-related, and Islamic value-based performance dimensions. For instance, Hasbullah et al. (2022) found that Islamic Work Ethics indirectly improve financial performance through Entrepreneurial Orientation among Muslim micro-enterprises in Indonesia. Similarly, Alimusa et al. (2022) reported that business strategy, entrepreneurial orientation, and Islamic business practices significantly influence the performance of Muslim-owned SMEs.

Despite these contributions, the literature has yet to develop a comprehensive performance framework that integrates financial, family-related, and Islamic value-based dimensions. From an Islamic perspective, business success is not solely measured by economic achievement but also by spiritual fulfillment, social contribution, ethical conduct, and the pursuit of barakah (divine blessings). Therefore, this study conceptualizes Muslim Family-Owned Micro-Business Performance (MBP) as a multidimensional construct comprising financial performance, family-related outcomes, and Islamic value-based outcomes. This broader perspective extends the family business literature by incorporating religious and socio-cultural dimensions that are particularly relevant to Muslim family-owned micro-enterprises.

Beyond financial and family-related objectives, business performance is also shaped by the broader cultural environment in which firms operate. This perspective is particularly relevant for Muslim family-owned micro enterprises, where religious values and cultural norms strongly influence entrepreneurial behaviour and organizational decision making. From the perspective of the economics of culture, cultural values represent productive resources that influence entrepreneurial behaviour, innovation, and organizational performance (Guiso et al., 2006). Rather than acting merely as informal institutions, religious and cultural values shape individual preferences, trust, cooperation, and long-term decision making. In the context of Muslim family-owned micro enterprises in Indonesia, Islamic Work Ethics therefore represents not only a religious belief system but also a form of cultural capital that shapes entrepreneurial behaviour, strengthens organizational capabilities, and contributes to sustainable business performance.

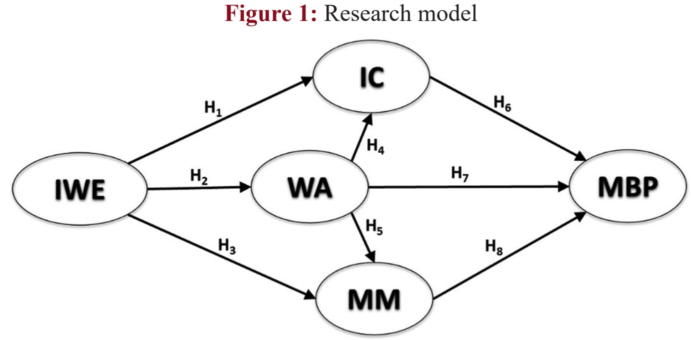
Taken together, the Resource-Based View, Dynamic Capability Theory, family business literature, Islamic entrepreneurship, and the economics of culture provide complementary theoretical foundations for explaining how Islamic Work Ethics contributes to organizational capabilities and business performance. Building on these perspectives, the present study develops the structural model illustrated in Figure 1 and proposes the following hypotheses.

- H_1: Islamic work ethics positively influence innovation capability.
- H_2: Islamic work ethics positively influence workforce agility.
- H_3: Islamic work ethics positively influence marketing mix adaptability.
- H_4: Workforce agility positively influences innovation capability.
- H_5: Workforce agility positively influences marketing mix adaptability.
- H_6: Innovation capability positively affects Muslim family micro-business performance.
- H_7: Workforce agility positively affects Muslim family micro-business performance.
- H_8: Marketing mix adaptability positively affects Muslim family micro-business performance.

2.8. Research Model

The model posits that Islamic Work Ethics positively influences Innovation Capability, Workforce Agility, and Marketing Mix Adaptability (Figure 1). These organizational capabilities are expected to function as strategic mechanisms through which ethical values are translated into superior business outcomes. Innovation Capability reflects the firm's ability to continuously develop new products, processes, and business solutions, while

Figure 1: Research model



Workforce Agility captures the ability to adapt proactively to changing business conditions. Marketing Mix Adaptability represents the firm's capability to adjust product, pricing, distribution, and promotional strategies in response to evolving market demands.

The framework proposes that these three mediating constructs collectively contribute to enhancing Muslim Family Micro-Business Performance (MBP). By integrating Islamic ethical principles with organizational capability perspectives, the proposed model offers a comprehensive explanation of how ethical values can foster competitiveness, adaptability, and sustainable performance among Muslim family-owned micro enterprises. This framework also extends existing literature by introducing a context-specific model that links Islamic Work Ethics, dynamic organizational capabilities, and micro-business performance within an emerging economy setting.

3. RESEARCH METHODOLOGY

3.1. Sample and Data Collection

This study employed a purposive sampling technique because the exact population of Muslim family-owned micro enterprises within the OK OCE entrepreneurial community could not be accurately identified. Although the OK OCE database recorded approximately 4,788 registered micro-enterprises, only 2,508 operated in the food and beverage sector, and the database did not contain complete information regarding business ownership, religious affiliation, business capital, or annual sales required to classify enterprises under Indonesian Government Regulation No. 7 of 2021. Consequently, the target population was identified through a preliminary screening process conducted in collaboration with OK OCE administrators.

The study focused exclusively on Muslim family-owned micro enterprises engaged in food and beverage production. This sector was selected because it represents the largest business category within the OK OCE community and is characterized by substantial family involvement in production and business management. Moreover, food and beverage businesses closely reflect Islamic business principles, particularly regarding halal products, ethical production practices, and consumer trust, making them an appropriate context for examining the implementation of Islamic Work Ethics.

The minimum sample size was determined using Cochran's sampling formula. Assuming a 90% confidence level, a population proportion of 0.50, and a margin of error of 10%, the minimum required sample size was estimated at 66 observations. This requirement also satisfies the recommended minimum sample size for Partial Least Squares Structural Equation Modeling (PLS-SEM), which is particularly suitable for prediction-oriented research involving relatively small samples.

Data were collected between November 2025 and April 2026 using a structured online questionnaire distributed through the official OK OCE network, entrepreneur coordinators, and social media communication channels. Despite several extensions of the data collection period, the response rate remained relatively modest, reflecting the practical challenges commonly encountered when surveying micro-enterprise owners. A total of 100 questionnaires were returned. After screening for completeness, respondent eligibility, duplicate submissions, and data quality, 76 valid questionnaires were retained for the final analysis using SmartPLS 4. The final sample exceeded the minimum sample size requirement and was therefore considered adequate for the PLS-SEM analysis.

To strengthen the contextual relevance of the study, two Focus Group Discussions (FGDs) were conducted with OK OCE representatives and selected entrepreneurs. The first FGD was undertaken during the research design stage to validate the conceptual model and ensure that the proposed constructs and measurement indicators reflected the practical realities of Muslim family-owned micro enterprises. The second FGD was conducted after the quantitative analysis to facilitate the interpretation of the empirical findings and provide contextual explanations for the observed relationships among the study variables.

3.2. Research Instrument

Following the sampling and data collection procedures, the proposed research model was operationalized using a structured questionnaire administered through Google Forms. All constructs were measured using a five-point Likert scale ranging from 1 ("strongly disagree") to 5 ("strongly agree").

The questionnaire measured five latent constructs: Islamic Work Ethics (IWE), Innovation Capability (IC), Workforce Agility (WA), Marketing Mix Adaptability (MMA), and Muslim Family-Owned Micro-Business Performance (MBP). Measurement items for Innovation Capability, Workforce Agility, Marketing Mix Adaptability, and Business Performance were adapted from well-established studies to ensure conceptual validity and comparability with previous research. In contrast, the Islamic Work Ethics construct was specifically developed for this study to better capture the unique characteristics of Muslim family-owned micro enterprises in Indonesia.

The newly developed IWE scale comprises five dimensions: Spiritual, social, psychological, economic, and environmental values. The measurement items were formulated based on the Qur'an, Hadith, and the Islamic Work Ethics literature, and were subsequently refined through an extensive literature review and expert discussions. The preliminary instrument was further evaluated during the first Focus Group Discussion (FGD) involving OK OCE representatives and experienced entrepreneurs to ensure content validity, contextual relevance, and clarity of the questionnaire items.

The finalized questionnaire was subsequently administered to the selected respondents. Reliability and validity of the measurement model were assessed using Cronbach's Alpha, Composite Reliability (CR), Average Variance Extracted (AVE), discriminant validity based on the Heterotrait–Monotrait Ratio (HTMT), and multicollinearity diagnostics using Variance Inflation Factor (VIF), following the recommended procedures for PLS-SEM analysis.

3.3. Data Analysis

Data analysis consisted of descriptive and inferential statistical procedures. Descriptive statistics were used to summarize respondent profile and characteristics. Inferential analysis was conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 4.1.1.8.

PLS-SEM was selected because of its suitability for predictive research, its ability to handle complex models with multiple latent constructs, and its robustness when applied to relatively small sample sizes. Furthermore, PLS-SEM is appropriate for theory development and exploratory research contexts where theoretical relationships are still evolving.

The analysis followed the two-stage PLS-SEM procedure. First, the measurement model was assessed through tests of internal consistency reliability, convergent validity, and discriminant validity using indicators such as Cronbach's Alpha, Composite Reliability, Average Variance Extracted (AVE), outer loadings and the Heterotrait–Monotrait Ratio (HTMT). Second, the structural model was evaluated through path coefficient analysis and the coefficient of determination (R^2) to examine the explanatory and predictive power of the proposed framework.

4. RESULTS AND DISCUSSION

4.1. Respondent Profile

The respondents were drawn from Muslim family-owned micro enterprises affiliated with the OK OCE entrepreneurial community in Indonesia. Overall, the profile portrays businesses that are predominantly home-based, owner-managed, family-oriented, and concentrated in the food and beverage sector. These characteristics provide an important contextual foundation for interpreting the structural relationships examined in this study.

The sample consists predominantly of female entrepreneurs (89.5%), while male respondents account for only 10.5%. This finding reflects the increasingly important role of women in sustaining household income through entrepreneurship, particularly in home-based micro enterprises. In many Indonesian Muslim families, women simultaneously perform multiple responsibilities as business owners, production workers, financial managers, and household caregivers. Consequently, business decisions are closely intertwined with family welfare, making female entrepreneurship an important feature of Muslim family-owned micro businesses.

Regarding business ownership, 94.7% of respondents simultaneously serve as both owners and managers, whereas only a small proportion are passive owners (3.9%) or family members involved in management (1.3%). This confirms a defining characteristic of micro-enterprises in which ownership, managerial authority, and operational control are highly centralized in one individual. As a result, organizational capabilities—including innovation, workforce agility, and marketing adaptability—are strongly influenced by the owner's personal values, competencies, and entrepreneurial commitment.

The respondents are predominantly within the mature productive age group. Entrepreneurs aged 50-59 years represent the largest segment (44.7%), followed by those aged 40-49 years (30.3%). This demographic profile indicates that most businesses are managed by individuals possessing considerable entrepreneurial and life experience, which may contribute to business stability, prudent decision-making, and long-term commitment. However, the predominance of older entrepreneurs may also present challenges in adopting digital technologies and rapidly changing marketing practices, thereby increasing the importance of continuous entrepreneurial training and mentoring.

The educational profile indicates relatively favorable human capital. Approximately 38.2% of respondents completed senior high school, 34.2% hold bachelor's degrees, 14.5% possess diploma qualifications, and 7.9% have postgraduate education. This educational background suggests that many entrepreneurs possess sufficient formal education to adopt innovation, digital marketing practices, and modern business management. Nevertheless, educational attainment alone does not necessarily guarantee business adaptability, highlighting the importance of experiential learning and community-based business assistance.

Most businesses have progressed beyond the start-up stage. Approximately 39.5% have operated for 3-4 years, while 26.3% have remained in business for 5-6 years. This suggests that a substantial proportion have successfully passed the critical early years of business development and entered a relatively stable growth phase. However, the relatively small proportion of enterprises operating for more than 10 years also indicates that long-term business sustainability remains a continuing challenge for many micro enterprises.

The respondents demonstrate active participation in the OK OCE entrepreneurial community. Although one-quarter of respondents have been members for <1 year, many have participated for 2 years or longer. This finding highlights the potential contribution of entrepreneurship communities in strengthening business knowledge, networking opportunities, mentoring, innovation capability, and market development. Such communities may also facilitate knowledge sharing and collective learning among entrepreneurs facing similar business challenges.

The business profile further confirms that the respondents operate predominantly as micro enterprises. Most businesses rely on relatively modest start-up capital, limited annual sales turnover, and a small workforce. Production activities are generally conducted from home, utilizing simple production processes and family labor. These characteristics are consistent with the definition of family-owned micro enterprises, where business continuity largely depends on household resources rather than formal organizational structures.

Analysis of workforce characteristics indicates gradual business development. The number of businesses employing family members increased over time, particularly those involving two or more family workers. Likewise, employment of non-family workers also expanded as businesses matured. The increasing involvement of both family and external employees suggests growing operational complexity and indicates a gradual transition from purely family-based operations toward more professional business management.

An examination of business sectors reveals a strong concentration in food and beverage production. Most respondents produce processed snacks, traditional foods, bakery products, beverages, catering services, and other household food products. Snack foods—including crackers, chips, fried peanuts, cheese sticks, and similar products—represent the largest product category, followed by bakery products such as cookies and cakes. These businesses primarily serve business-to-consumer (B2C) markets characterized by rapidly changing consumer preferences, intense local competition, and relatively short product life cycles.

The predominance of processed food products also reflects the practical considerations faced by micro entrepreneurs. Compared with other business sectors, food processing generally requires raw materials that are inexpensive, widely available, and relatively easy to process using household-scale production facilities. These characteristics enable entrepreneurs to initiate businesses with limited financial resources while maintaining operational flexibility. At the same time, the highly competitive nature of food markets requires continuous product improvement, packaging innovation, promotional activities, and responsiveness to customer preferences.

Overall, the respondent profile portrays Muslim family-owned micro enterprises as predominantly female-led, owner-managed, family-based businesses operating within Indonesia's food and beverage sector. The businesses generally possess moderate entrepreneurial experience, relatively favorable educational backgrounds, active community engagement, and gradually expanding workforces. These contextual characteristics help explain why Islamic Work Ethics, Innovation Capability, Workforce Agility, and Marketing Mix Adaptability emerge as important organizational capabilities influencing business performance. In highly competitive home-based food businesses, where family members simultaneously perform multiple operational roles, ethical values, adaptability, innovation, and flexible marketing practices become essential resources for achieving sustainable competitive performance.

4.2. Measurement Model Analysis

Table 1 presents the reliability and validity assessment of the Islamic Work Ethics (IWE) and Innovation Capability (IC) constructs using SmartPLS within the Partial Least Squares–Structural Equation Modeling (PLS-SEM) framework. The evaluation includes indicator loadings, Cronbach's Alpha (CA), Composite Reliability (CR), and Average Variance Extracted (AVE), which are commonly used to assess the adequacy of the measurement model in reflective construct analysis.

The results indicate that the Islamic Work Ethics construct demonstrates acceptable levels of internal consistency reliability. The construct achieved a Cronbach's Alpha value of 0.801 and a Composite Reliability value of 0.862, both exceeding the recommended threshold of 0.70 suggested in PLS-SEM literature. These findings indicate that the indicators used to measure Islamic Work Ethics are sufficiently consistent in representing the latent construct.

Table 1: Reliability and validity of IWE and IC constructs

Construct	Item	Loading	CA	CR (a)	AVE
IWE	IWE.01	0.440	0.801	0.862	0.490
	IWE.02	0.233			
	IWE.03	0.854			
	IWE.04	0.832			
	IWE.07	0.748			
	IWE.10	0.775			
	IWE.14	0.774			
IC	IC.02	0.879	0.896	0.901	0.660
	IC.04	0.745			
	IC.12	0.767			
	IC.22	0.798			
	IC.23	0.800			
	IC.25	0.875			

However, the indicator loadings for the IWE construct reveal some variation among items. Indicators IWE.03, IWE.04, IWE.07, IWE.10, and IWE.14 show strong loading values ranging from 0.748 to 0.854, indicating that these indicators contribute substantially to explaining the Islamic Work Ethics construct. In particular, IWE.03 demonstrates the highest loading value (0.854), suggesting that this indicator is the strongest representation of the construct within the model.

In contrast, indicators IWE.01 and IWE.02 exhibit relatively low loading values of 0.440 and 0.233 respectively (but they have P = 0.000 and 0.043 respectively). These values fall below the commonly recommended threshold of 0.70 and suggest that the indicators may have weaker explanatory power in representing the latent construct. Nevertheless, the retention of these indicators may still be theoretically justified since they capture important conceptual dimensions of Islamic Work Ethics that are considered relevant within the context of Muslim family-owned micro enterprises. The AVE value for the IWE construct is 0.490, which is slightly below the recommended threshold of 0.50. Although marginally lower than the ideal criterion, the AVE value remains close to the acceptable limit and may still be considered adequate given the satisfactory Composite Reliability value. This indicates that the construct retains acceptable convergent validity overall. The reliable and valid indicators of IWE are presented in Table 2 as follows:

Meanwhile, the Innovation Capability construct demonstrates stronger psychometric properties compared to the IWE construct (Table 1). The construct achieved a Cronbach's Alpha value of 0.896 and a Composite Reliability value of 0.901, indicating excellent internal consistency reliability. These values suggest that the indicators consistently measure the same underlying construct and provide strong reliability evidence.

The loading values for the IC construct range from 0.745 to 0.879, all of which exceed the minimum recommended threshold. Indicator IC.02 demonstrates the highest loading value (0.879), indicating that it is the most dominant indicator in explaining

Table 2: Reliable and valid IWE indicators

Code	Indicators
IWE1	We begin our work activities by seeking Allah's blessing through prayer or recitation of Bismillah
IWE2	We avoid business practices that are prohibited under Islamic principles, even when they may increase financial gain
IWE3	We prepare and organize work tasks before commencing our daily business activities
IWE4	We maintain harmonious and constructive relationships with the local community surrounding our business
IWE7	Our business activities contribute to our personal self-reliance and independence
IWE10	We regularly allocate a portion of our business income for charitable giving (*sadaqah*) to support those in need
IWE14	We prioritize the use of environmentally sustainable raw materials in our production activities

Note: The complete version of the research instrument is presented in Appendix 1.

Innovation Capability. Similarly, indicators IC.22, IC.23, and IC.25 also exhibit strong loading values above 0.79, suggesting that these indicators effectively capture the dimensions of innovation capability within Muslim family-owned micro enterprises.

Furthermore, the AVE value for the Innovation Capability construct reaches 0.660, substantially exceeding the recommended threshold of 0.50. This finding confirms strong convergent validity and indicates that the construct explains a considerable proportion of variance in its indicators. Overall, the Innovation Capability construct demonstrates robust reliability and validity performance within the measurement model.

In general, the findings indicate that both constructs satisfy the minimum reliability and validity requirements for PLS-SEM analysis. Although the Islamic Work Ethics construct shows slightly weaker convergent validity due to several low-loading indicators, the construct remains theoretically meaningful and statistically acceptable for further structural model analysis. The Innovation Capability construct, meanwhile, demonstrates particularly strong psychometric quality, reinforcing its suitability as a key explanatory variable in the proposed research model.

Similarly, the Workforce Agility construct exhibits strong internal consistency reliability and convergent validity (Table 3). The construct achieved a Cronbach's Alpha value of 0.905 and a Composite Reliability value of 0.906, both exceeding the recommended threshold of 0.70. These findings indicate that the indicators consistently measure the same underlying latent construct and possess excellent reliability performance. Furthermore, the AVE value of 0.637 exceeds the minimum recommended threshold of 0.50, confirming satisfactory convergent validity. This finding suggests that the construct explains a substantial proportion of variance in its indicators.

The indicator loading analysis further confirms the robustness of the Workforce Agility construct. All indicators achieved loading values above 0.75, ranging from 0.758 to 0.871. Indicator WA.26 demonstrated the highest loading value (0.871), indicating that this indicator serves as the strongest representation of workforce agility within Muslim family-owned micro enterprises. Similarly, indicators WA.14 (0.805), WA.05 (0.795), WA.09 (0.786), and WA.18 (0.786) also exhibited strong loading values, suggesting that agility-related competencies such as flexibility, adaptability, responsiveness, and proactive behavior are highly relevant dimensions in explaining workforce agility among micro-business actors.

Table 3: Reliability and validity of WA and MM constructs

Construct	Item	Loading	CA	CR (a)	AVE
WA	WA.03	0.780	0.905	0.906	0.637
	WA.05	0.795			
	WA.09	0.786			
	WA.14	0.805			
	WA.18	0.786			
	WA.22	0.758			
	WA.26	0.871			
MM	MM.03	0.854	0.906	0.912	0.683
	MM.07	0.724			
	MM.08	0.895			
	MM.10	0.852			
	MM.11	0.778			
	MM.12	0.843			

The Marketing Mix Adaptability construct also demonstrates excellent measurement quality (Table 3). The construct achieved a Cronbach's Alpha value of 0.906 and a Composite Reliability value of 0.912, indicating very strong internal consistency reliability. Moreover, the AVE value of 0.683 substantially exceeds the recommended threshold, confirming strong convergent validity and suggesting that the construct adequately captures the variance of its indicators. These findings indicate that the indicators collectively provide a stable and accurate representation of adaptive marketing capability among Muslim family-owned micro enterprises.

The outer loading results reveal that most indicators within the Marketing Mix Adaptability construct exhibit strong loading values. Indicator MM.08 achieved the highest loading value (0.895), followed by MM.03 (0.854), MM.10 (0.852), and MM.12 (0.843). These findings suggest that the ability to adapt marketing strategies—including product offerings, pricing mechanisms, promotional activities, and distribution approaches—constitutes a critical component of business sustainability in dynamic market environments. Meanwhile, MM.07 recorded the lowest loading value (0.724), although it still exceeds the acceptable threshold of 0.70 and therefore remains statistically adequate for inclusion in the measurement model.

Similarly, the Muslim Family-Owned Micro-Business Performance construct demonstrates satisfactory reliability and validity performance. The construct achieved a Cronbach's Alpha value of 0.881 and a Composite Reliability value of 0.886, confirming strong internal consistency reliability among the performance indicators. In addition, the AVE value of 0.629 indicates adequate convergent validity and suggests that the construct explains a considerable proportion of variance in the observed indicators (Table 4).

The indicator loading values for the MBP construct range from 0.691 to 0.855. Indicator MBP.09 demonstrates the highest loading value (0.855), followed by MBP.05 (0.835), MBP.06 (0.806), and MBP.07 (0.802). These findings indicate that the selected indicators strongly represent the multidimensional nature of micro-business performance within Muslim family-owned enterprises. Although MBP.01 exhibits the lowest loading value (0.691), the value remains close to the recommended threshold and may still be considered acceptable due to its theoretical relevance in capturing specific dimensions of business performance.

Importantly, the findings suggest that business performance within Muslim family-owned micro enterprises extends beyond purely financial outcomes. The indicators reflect broader dimensions of organizational sustainability, including family welfare, social contribution, operational continuity, and collective well-being. This multidimensional perspective enriches the understanding of micro-business performance within the context of family-based and Islamic-oriented entrepreneurship.

Overall, the reliability and validity assessment confirms that the Workforce Agility, Marketing Mix Adaptability, and Muslim Family-Owned Micro-Business Performance constructs demonstrate satisfactory psychometric quality. All constructs achieved acceptable levels of reliability, convergent validity, and indicator consistency, indicating that the measurement model is statistically robust and appropriate for further structural model evaluation within the PLS-SEM framework.

Table 4: Reliability and validity of MBP construct

Construct	Item	Loading	CA	CR (a)	AVE
MBP	MBP.01	0.691	0.881	0.886	0.629
	MBP.05	0.835			
	MBP.06	0.806			
	MBP.07	0.802			
	MBP.09	0.855			
	MBP.10	0.758			

Table 5: Value and significance of path coefficient

No.	Path	Standardized coefficient	t-statistic (t>1.645)	P-value	Decision
H_1	IWE-->IC	0.383	3.553	0.000	Supported
H_2	IWE-->WA	0.771	20.480	0.000	Supported
H_3	IWE-->MM	−0.097	0.812	0.208	Not supported
H_4	WA-->IC	0.501	4.890	0.000	Supported
H_5	WA-->MM	0.857	8.368	0.000	Supported
H_6	IC-->MBP	0.306	2.562	0.005	Supported
H_7	WA-->MBP	0.261	1.885	0.030	Supported
H_8	MM-->MBP	0.399	3.225	0.001	Supported

4.3. Structural Model Analysis

The structural model assessment was conducted using SmartPLS to evaluate the hypothesized relationships among Islamic Work Ethics (IWE), Innovation Capability (IC), Workforce Agility (WA), Marketing Mix Adaptability (MM), and Muslim Family-Owned Micro-Business Performance (MBP). The significance of the structural relationships was assessed through standardized path coefficients, t-statistics, and P-values obtained from the bootstrapping procedure. The results demonstrate that seven out of eight proposed hypotheses were statistically supported, indicating that the proposed research framework possesses substantial explanatory power in understanding the determinants of Muslim family-owned micro-business performance.

The analysis reveals that Islamic Work Ethics has a positive and significant effect on Innovation Capability ($\beta = 0.383$; $t = 3.553$; $P < 0.000$). This finding supports Hypothesis 1 and indicates that ethical values grounded in Islamic principles contribute positively to the development of innovation capability within Muslim family-owned micro enterprises. Ethical values such as responsibility, discipline, honesty, trustworthiness, social and environment orientation appear to encourage organizational learning, openness to new ideas, and adaptive business behavior. The finding suggests that Islamic ethical values function not only as moral guidance but also as strategic organizational resources that strengthen innovation-related capabilities (Table 5).

Furthermore, Islamic Work Ethics demonstrates a very strong positive influence on Workforce Agility ($\beta = 0.771$; $t = 20.480$; $P < 0.000$), thereby supporting Hypothesis 2. Among all direct relationships in the model, this path exhibits one of the strongest coefficients and the highest t-statistic. This result indicates that Islamic ethical principles substantially contribute to the development of an agile workforce characterized by flexibility, adaptability, responsiveness, and readiness to face business uncertainty. In the context of Muslim family-owned micro enterprises, ethical values appear to strengthen employees' commitment and adaptability, which are essential for organizational sustainability in dynamic business environments.

This finding may reflect the collectivist characteristics of Indonesian Muslim family businesses, where family members frequently perform multiple organizational roles. Islamic ethical values encourage responsibility, mutual assistance, and continuous learning, enabling employees to respond more effectively to changing business conditions. Workforce agility therefore emerges not merely as an operational capability but also as an outcome of ethical and cultural values embedded within family-based enterprises.

However, the direct relationship between Islamic Work Ethics and Marketing Mix Adaptability was found to be statistically insignificant ($\beta = -0.097$; $t = 0.812$; $P = 0.208$), leading to the rejection of Hypothesis 3. This finding suggests that Islamic ethical values alone may not directly enhance marketing adaptability within Muslim family-owned micro businesses. Instead, the influence of ethical values on marketing adaptability may occur indirectly through mediating organizational capabilities such as workforce agility and innovation capability. The negative but insignificant coefficient further indicates that ethical orientation does not automatically translate into adaptive marketing strategies without the support of organizational flexibility and innovation processes.

The results also indicate that Workforce Agility positively and significantly affects Innovation Capability (β = 0.501; t = 4.890; P < 0.000), thereby supporting Hypothesis 4. This finding demonstrates that agile workforces contribute significantly to enhancing organizational innovation capability. Employees who are adaptable, flexible, and responsive to environmental changes are more capable of generating creative ideas, implementing process improvements, and responding effectively to market dynamics. In micro-enterprise contexts, workforce agility therefore acts as a critical organizational capability that supports sustainable innovation and competitiveness.

Similarly, Workforce Agility exhibits a very strong positive effect on Marketing Mix Adaptability (β = 0.857; t = 8.368; P < 0.000), supporting Hypothesis 5. This relationship represents the strongest standardized path coefficient within the structural model, indicating that workforce agility is the primary driver of adaptive marketing capability among Muslim family-owned micro enterprises. Agile employees enable businesses to respond quickly to changing customer preferences by adjusting product offerings, pricing, promotional activities, and distribution channels, thereby enhancing market responsiveness and business resilience. This finding is consistent with the characteristics of the sampled home-based food micro-enterprises, where family members simultaneously perform multiple operational functions—including production, packaging, promotion, and sales—allowing workforce flexibility to be translated directly into more adaptive marketing practices.

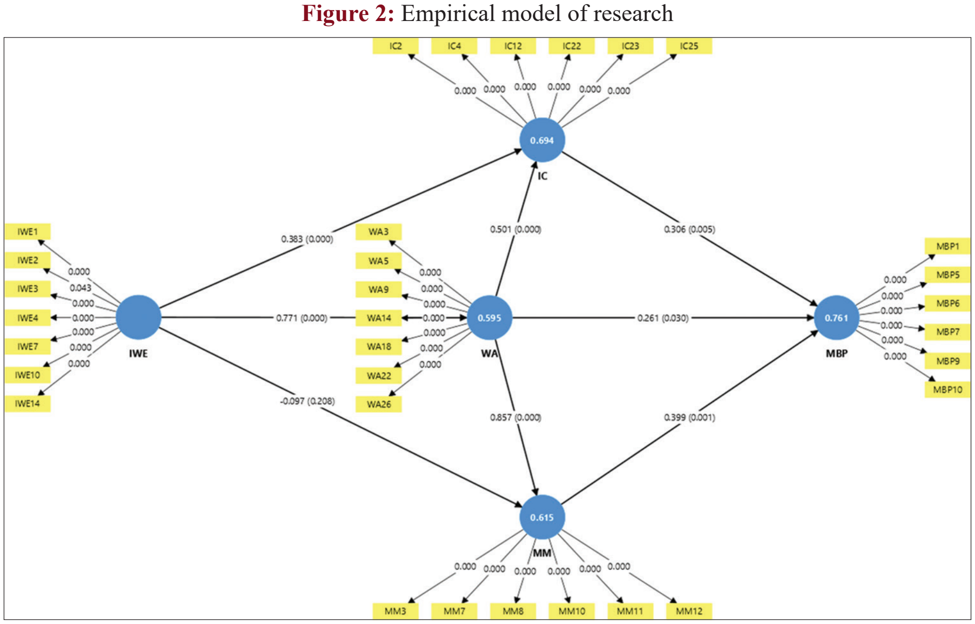
The structural model further demonstrates that Innovation Capability positively and significantly influences Muslim Family-Owned Micro-Business Performance (β = 0.306; t = 2.562; P = 0.005), thereby supporting Hypothesis 6. This finding confirms that businesses with stronger innovation capability tend to achieve higher levels of organizational performance. Innovation capability allows micro enterprises to improve products, services, operational processes, and customer value creation, ultimately contributing to better business sustainability and competitiveness. The result also suggests that innovation is a key strategic mechanism for improving the long-term performance of Muslim family-owned micro enterprises.

In addition, Workforce Agility significantly affects Muslim Family-Owned Micro-Business Performance (β = 0.261; t = 1.885; P = 0.030), supporting Hypothesis 7. Although the coefficient is relatively lower compared to several other relationships in the model, the finding indicates that workforce adaptability still plays an important role in improving organizational performance. Agile workforces enable businesses to respond more effectively to operational challenges, customer demands, and environmental uncertainty, thereby contributing positively to business sustainability and overall performance outcomes.

Finally, marketing mix adaptability positively and significantly influences Muslim Family-Owned Micro-Business Performance (β = 0.399; t = 3.225; P = 0.001), supporting Hypothesis 8. This finding indicates that the ability to adapt marketing strategies represents one of the most important determinants of business performance within Muslim family-owned micro enterprises. Businesses capable of adjusting their marketing mix elements—including products, pricing, promotion, and distribution strategies—are more likely to maintain competitiveness and respond effectively to changing market conditions. The result reinforces the importance of adaptive marketing strategies in achieving sustainable business growth in increasingly dynamic and digitalized markets.

Overall, the structural model findings confirm that Islamic Work Ethics, Workforce Agility, Innovation Capability, and Marketing Mix Adaptability collectively play significant roles in improving Muslim family-owned micro-business performance. The findings also highlight that workforce agility functions as a central strategic capability that connects ethical values, innovation processes, and marketing adaptability in enhancing organizational sustainability and competitiveness. The empirical model of research is shown in the Figure 2.

Figure 2: Empirical model of research



5. CONCLUSION

5.1. Cultural Context and Interpretation of Findings

To provide a broader interpretation of the empirical findings, the characteristics of the respondents can be understood through Hofstede's (2011) cultural dimensions, particularly collectivism, femininity, and long-term orientation. The predominance of female entrepreneurs (89.5%), the strong involvement of family members in business operations, and the high proportion of owner-managed enterprises reflect Indonesia's collectivist culture, in which family relationships, mutual support, and social cohesion play central roles in economic activities. Within such a cultural context, business decisions are influenced not only by economic considerations but also by family welfare, social obligations, and community relationships. These characteristics are consistent with the present findings, where Muslim family-owned micro enterprises rely heavily on family participation, entrepreneurial communities such as OK OCE, and ethical values embodied in Islamic Work Ethics.

The findings also resonate with Hofstede's dimensions of femininity and long-term orientation. The dominance of female entrepreneurs highlights the importance of cooperation, relationship building, care for others, and social responsibility—attributes commonly associated with feminine-oriented societies. Furthermore, the relatively mature age of the entrepreneurs and the considerable duration of business operations suggest a long-term orientation emphasizing business continuity, family economic security, and intergenerational welfare rather than short-term profit maximization. These cultural characteristics help explain why Islamic Work Ethics, Innovation Capability, Workforce Agility, and Marketing Mix Adaptability emerge as critical drivers of sustainable business performance among Muslim family-owned micro enterprises in Indonesia.

This study demonstrates that Islamic Work Ethics functions as a strategic organizational resource that strengthens organizational capabilities and ultimately enhances the performance of Muslim family-owned micro enterprises within Indonesia's OK OCE entrepreneurial community. Specifically, the findings indicate that Islamic Work Ethics significantly strengthens Innovation Capability and Workforce Agility, while Workforce Agility further enhances Innovation Capability and Marketing Mix Adaptability. In turn, Innovation Capability, Workforce Agility, and Marketing Mix Adaptability positively influence business performance. Workforce Agility emerged as the strongest predictor of Marketing Mix Adaptability, underscoring the critical role of adaptive human resources in strengthening organizational responsiveness. Meanwhile, the insignificant direct effect of Islamic Work Ethics on Marketing Mix Adaptability indicates that ethical values contribute to marketing adaptability indirectly through the development of organizational capabilities.

Beyond confirming the proposed hypotheses, this study advances the literature by demonstrating that Islamic Work Ethics should be viewed not merely as a moral or religious principle but also as a strategic intangible resource. Consistent with the Resource-Based View and Dynamic Capability Theory, ethical values become valuable organizational assets when transformed into capabilities that foster innovation, workforce adaptability, and market responsiveness, ultimately leading to sustainable competitive advantage. In addition, the study provides a multidimensional measurement framework for Islamic Work Ethics that captures spiritual, psychological, social, economic, and environmental dimensions, thereby extending existing operationalizations of the construct.

The study also contributes to the emerging economics of culture literature by illustrating how organizational capabilities are shaped through the interaction between religious values and the broader socio-cultural environment. Within Indonesia's collectivist and relatively long-term-oriented cultural setting, Islamic Work Ethics reinforces cooperation, mutual trust, family commitment, and long-term business orientation. These culturally embedded values strengthen organizational resilience and provide an important foundation for sustainable entrepreneurship among Muslim family-owned micro enterprises operating in emerging economies.

Although the empirical evidence is drawn from Indonesia's OK OCE entrepreneurial community, the proposed framework may also be applicable to other collectivist Muslim-majority economies, including Malaysia, Brunei, Pakistan, and several Middle Eastern countries where family-owned SMEs constitute a significant share of the entrepreneurial sector. Similar cultural characteristics—such as strong family orientation, collective decision-making, and the integration of religious values into business practices—suggest that the proposed framework may offer broader insights into how Islamic Work Ethics strengthens organizational capabilities and sustainable business performance beyond the Indonesian context.

Overall, this study demonstrates that sustainable business performance is achieved through the interaction of religious ethical values, organizational capabilities, and cultural context. By integrating Islamic Work Ethics, the Resource-Based View, Dynamic Capability Theory, and the economics of culture into a unified conceptual framework, the study extends the literature on Islamic entrepreneurship and family business while demonstrating that culturally embedded ethical values constitute strategic intangible resources capable of generating dynamic organizational capabilities and sustainable competitive advantage.

5.2. Practical Implications

The findings provide several important managerial and policy implications for strengthening the competitiveness of Muslim family-owned micro enterprises. For business owners and entrepreneurial communities such as OK OCE, business development programs should extend beyond financial assistance by strengthening Islamic ethical values alongside innovation capability, workforce agility, digital competencies, and adaptive marketing practices. Practical training, business mentoring, digital marketing assistance, and continuous capability development are essential for improving organizational resilience and market responsiveness.

From a policy perspective, governments and SME development institutions should adopt a more integrated and sustainable approach to micro-enterprise development. In addition to expanding access to Islamic financing, policy initiatives should promote entrepreneurship education, digital transformation, innovation support, market access, and community-based business development. Integrating Islamic Work Ethics into entrepreneurship development programs may further strengthen ethical business behaviour, social responsibility, environmental stewardship, and long-term business sustainability. Such a holistic policy framework is expected to enhance the resilience, competitiveness, and sustainable growth of Muslim family-owned micro enterprises.

5.3. Limitations and Future Research

This study has several limitations that should be considered when interpreting its findings and identifying directions for future research.

First, the study relied on a self-reported questionnaire as the primary data collection instrument. Consequently, the findings are based on respondents' perceptions and subjective evaluations, which may be affected by response bias and social desirability bias. Although respondents were assured of anonymity and confidentiality, their responses may not fully reflect actual business practices or organizational conditions.

Second, although the final sample satisfied the minimum requirements recommended by Cochran's sampling formula and Hair et al. (2022) for Partial Least Squares Structural Equation Modeling (PLS-SEM), the number of valid respondents remained relatively small compared with the overall population of OK OCE members. To improve participation, the data collection period was extended several times and multiple follow-up efforts were undertaken through the OK OCE entrepreneurial network. Nevertheless, the number of participating Muslim family-owned micro enterprises remained below 10% of the target population. This reflects the practical challenges of conducting survey-based research among micro-enterprise owners, who often face operational constraints, limited time, and varying levels of engagement in entrepreneurial community activities. Therefore, the findings should be interpreted with caution when generalizing to the broader population of OK OCE members or other micro-enterprise communities. Future studies are encouraged to employ larger and more diverse samples across different regions and entrepreneurial ecosystems to enhance external validity.

Third, several measurement indicators were excluded during the assessment of the measurement model because they did not satisfy the recommended outer loading thresholds. Although the remaining constructs demonstrated satisfactory reliability and validity, the elimination of several indicators suggests that some dimensions of the latent constructs may not yet be fully represented within the context of Muslim family-owned micro enterprises. Future research should further refine and validate the measurement scales, particularly the newly developed Islamic Work Ethics construct, across different industrial sectors and cultural settings.

Finally, the respondent profile was relatively homogeneous, with the sample being predominantly female entrepreneurs and individuals within the mature productive age group. Such demographic characteristics may influence entrepreneurial perceptions, decision-making processes, and business behaviour, thereby limiting the generalizability of the findings. Future studies should include more heterogeneous samples in terms of gender, age, business sector, business size, and geographical location to provide a more comprehensive understanding of the determinants of Muslim family-owned micro-business performance.

Despite these limitations, the study provides important theoretical and empirical contributions by demonstrating how Islamic Work Ethics, organizational capabilities, and adaptive marketing collectively influence the performance of Muslim family-owned micro enterprises. The proposed framework offers a useful foundation for future research examining the interaction between religious values, organizational capabilities, and business sustainability across different institutional, cultural, and economic contexts.

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APPENDIX

Appendix 1: Research instrument

Part 1: Islamic work ethics (IWE)		
Dimensions	**Code**	**Measurement item**
Spiritual	IWE1	We begin our work by seeking Allah's blessings through prayer (e.g., reciting Bismillah).
	IWE2	We refrain from engaging in business practices prohibited by Islamic teachings, even when such practices may generate financial gain.
	IWE3	We establish clear work priorities before commencing our daily business activities.
Social	IWE4	We maintain positive social relationships with the surrounding community in conducting our business activities.
	IWE5	We strive to strengthen social solidarity through our work.
	IWE6	We continuously seek opportunities to demonstrate care and concern for others through our work.
Psychological	IWE7	Our work enables us to achieve greater self-reliance in our personal lives.
	IWE8	We feel a sense of satisfaction when we create innovative and meaningful work outcomes.
	IWE9	We perform our work to the best of our abilities.
Economic	IWE10	Through our work, we allocate a portion of our income for charitable giving (*sadaqah*) to those in need.
	IWE11	Our work contributes to the economic well-being of our family.
	IWE12	Our work indirectly contributes to the economic prosperity of the surrounding community.
Environmental	IWE13	We maintain the cleanliness of the environment surrounding our business operations.
	IWE14	We actively utilize environmentally friendly raw materials in our production activities.
	IWE15	We take measures to prevent environmental pollution arising from our business activities.

Source: Scale development by researcher

Part 2: Innovation capability (IC)		
Dimensions	Code	Measurement item
Participatory leadership culture	IC1	We encourage all team members to propose new ideas for improving the business.
	IC2	We provide constructive feedback on each team member's work.
	IC3	We follow up on the ideas contributed by team members.
	IC4	We actively participate in developing new product ideas.
	IC5	We share effective work practices so that everyone can learn from one another.
	IC6	We appreciate the contributions made by every team member.
Ideation and organizing structures	IC7	We have clear procedures for developing new ideas.
	IC8	We provide timely feedback on every idea that is proposed.
	IC9	We recognize and appreciate team members who contribute valuable ideas.
	IC10	We assign responsible individuals to guide the implementation of new work methods.
	IC11	Each person's workload is assigned according to his or her capabilities.
	IC12	Responsibilities are allocated according to each person's competencies.
Work climate and wellbeing	IC13	Teamwork among members of our business operates effectively.
	IC14	Everyone feels comfortable expressing different opinions in our workplace.
	IC15	Team members are encouraged to perform a variety of tasks within the business.
	IC16	Every team member has opportunities to grow together with the business.
	IC17	Everyone is treated fairly without discrimination.
Know-how development	IC18	Everyone is given opportunities to learn new knowledge and skills.
	IC19	Developing employees' capabilities is strongly supported in our business.
	IC20	We view learning new things as an investment in the future of our business rather than as an expense.
Regeneration	IC21	We continuously seek new ways to improve business performance.
	IC22	We are willing to experiment with new work methods to improve our business.
	IC23	We regard mistakes made while trying new approaches as valuable learning opportunities.
External knowledge	IC24	We believe that customer feedback is essential for improving our business.
	IC25	We learn from the practices of other businesses to improve our own operations.
	IC26	We collaborate with customers in developing new products.
Individual activity	IC27	Everyone in our business is willing to participate in business development activities.
	IC28	We adapt easily to new ways of working.
	IC29	When necessary, we improve existing work practices that are no longer effective.

Source: Adapted from Saunila (2014)

Part 3: Workforce agility (WA)		
Dimensions	**Code**	**Measurement item**
Embracing change	WA1	We adapt quickly to different situations in the workplace.
	WA2	We are capable of performing multiple roles within the business (e.g., producing and marketing products).
	WA3	We adjust easily to changes whenever necessary.

(Contd...)

Appendix 1: ***(Continued)***

Part 3: Workforce agility (WA)		
Dimensions	**Code**	**Measurement item**
Decision-making	WA4	We make important business decisions without unnecessary delay.
	WA5	We make decisions that anticipate future business challenges.
	WA6	We willingly take responsibility for the decisions we make at work.
Creating transparency	WA7	We actively share relevant information with other team members.
	WA8	Whenever we have questions, we seek clarification directly from the appropriate person.
	WA9	We seek new information from colleagues beyond our immediate work environment.
Collaboration	WA10	We regularly express appreciation for the contributions of others.
	WA11	We respond appropriately to the feelings and concerns of others.
	WA12	We enjoy collaborating with other people.
Reflection	WA13	We continuously explore alternative ways of performing our work.
	WA14	We actively seek ways to strengthen teamwork.
	WA15	We continuously look for opportunities to improve our work procedures.
Customer-centric orientation	WA16	Customer feedback is one of the most important sources for improving our products.
	WA17	Customers are an essential part of our business.
	WA18	We consider customer needs when making business decisions.
Iterative improvement	WA19	We continuously evaluate our products to improve their quality.
	WA20	We develop products incrementally to ensure we remain on the right track.
	WA21	Product development and evaluation are carried out iteratively over short cycles.
Experimentation and testing	WA22	We test every product before introducing it to the market.
	WA23	We do not release products to the market without prior testing.
	WA24	We ensure that every product undergoes testing before commercialization.
Self-organization	WA25	We continuously monitor the results of our work.
	WA26	We actively seek better ways to perform our work.
	WA27	We strive to introduce new ways of carrying out our work.
Continuous learning	WA28	We value opportunities to learn new things.
	WA29	We continuously improve our skills.
	WA30	We continuously expand our knowledge to support business development.

Source: Adapted from Petermann and Zacher (2022)

Part 4: Marketing mix adaptability (MMA)		
Dimensions	**Code**	**Measurement item**
Product	MM1	Our products maintain consistent quality over time.
	MM2	Our product variety effectively meets customer needs.
	MM3	Our product design matches the preferences of our target customers.
Price	MM4	Our product prices are competitive compared with similar businesses.
	MM5	Customers perceive that our product prices are appropriate for the quality they receive.
	MM6	We implement attractive pricing promotions and discount strategies to appeal to customers.
Distribution	MM7	Our business location is easily accessible to customers.
	MM8	We utilize distribution channels that effectively reach our target customers.
	MM9	Our products are consistently available at our points of sale.
Promotion	MM10	We actively promote our products through various media, including digital and social media platforms.
	MM11	Our promotional materials effectively stimulate customers' purchase intentions.
	MM12	Our promotional programs (e.g., discounts and special offers) are effective in attracting new customers.

Source: Adapted from Suhartini et al. (2023)

Part 5: Muslim family-owned micro-business performance (MBP)		
Dimensions	**Code**	**Measurement item**
Financial	MBP1	Overall, we are satisfied with our business performance over the past year.
	MBP2	We believe our overall business performance still has room for improvement.
	MBP3	Our business has generated higher net profits than we expected.
	MBP4	Our business sales have increased from year to year.
Non-financial	MBP5	Our family maintains harmonious relationships through the business.
	MBP6	Family members are satisfied with their involvement in the business.
	MBP7	This business strengthens unity and togetherness within our family.
	MBP8	This business brings barakah (divine blessings) to our family.
	MBP9	Our business makes a positive contribution to the surrounding community.
	MBP10	Our family is proud to own this business.

Source: Adapted from Slater et al. (2010), Menon et al. (1999), and Berrone et al. (2012)