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THE EFFECTS OF ISLAMIC MICROFINANCING, HUMAN CAPITAL AND ICT USAGE ON WOMEN MICRO-ENTREPRENEURS' PERFORMANCE IN MALAYSIA

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ABSTRACT

This study examines the influences of Islamic microfinancing, human capital development, and information and communication technology (ICT) usage on the performance of Malaysian women micro-entrepreneurs funded by an Islamic microfinance institution (IMFI). It considers Amanah Ikhtiar Malaysia (AIM) as the study setting and adopts a quantitative approach involving 120 women micro-entrepreneurs. The questionnaire was distributed to women micro-entrepreneurs in Selangor state employing a convenience sampling method. The model was analysed utilising the partial least squares structural equation model (PLS-SEM). The findings indicate that Islamic microfinancing, human capital, and ICT usage positively influence the performance of women micro-entrepreneurs. The empirical findings enhance the literature by extending the resource-based view (RBV), a soft theory in the organisational theory literature, by incorporating Islamic microfinancing in the context. It is hoped the study will assist IMFIs and governments in strengthening infrastructures, developing comprehensive business strategies, and educating women micro-entrepreneurs about the possibilities of the digital economy for long-term business sustainability and development.

Keywords: Islamic microfinancing, Human capital, ICT usage, Women micro-entrepreneurs' performance.
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I. INTRODUCTION

1.1. Background

Both developed and developing nations place high value on the success of micro-entrepreneurs for economic development (ICSB Annual Global Micro Small and Medium Sized Enterprises Report, 2020). As a result, more attention has been paid to entrepreneurship in recent times, especially enterprises owned and operated by women (Alene, 2020; Ismail, Nasir, & Rahman, 2021). Indeed, according to the Women's Entrepreneurship Report 2021/2022, women's entrepreneurship is a critical factor in promoting inclusive economic growth in developing economies (GEM Report, 2021).

In Malaysia, Statistics on Women's Empowerment in Selected Domains, published by the Department of Statistics Malaysia (2018), revealed that the ranking of Malaysia's labor force participation rate had increased substantially to 70th position compared to 104th in the previous year out of 144 countries. This reflects a tremendous breakthrough in gender equality, encouraging much more women's engagement in economic activities. Furthermore, as part of the government's efforts to advance gender equality and economic opportunity, it has earmarked RM2.3 billion to be invested in initiatives that encourage women's business ownership. This initiative implies that the Malaysian government does not deny the vital role women play and their direct active involvement in the development of the economy (Department of Statistics Malaysia, 2018).

In 2019, Malaysian government under Ministry of Entrepreneur Development and Cooperatives (MEDAC) launched the National Entrepreneurship Policy 2030 (NEP 2030), in which strengthening the entrepreneurial capabilities and performances of micro, small and medium enterprises (MEDAC, 2020). It also promotes entrepreneurship as a career of choice particularly among women, youth, and the bottom 40 per cent of the Malaysian household income (B40), especially among Malaysian of indigenous Malay origin (BUMIPUTERA) (MEDAC, 2020). As a result, the trends and patterns of Malaysia's initiatives are geared towards entrepreneurship development.

Realising women to be one of the target groups in government policy, it is imperative to determine the challenges they face, as well as the key factors involved in entrepreneurship. Women micro-entrepreneurs are confronted with several obstacles that limit their ability to succeed, particularly in running their business (Civelek, Kljucnikov, Kristofik, & Rozsa, 2019; Mohamad Sabli & Sebli Joney, 2020; Muda & Tuan Lonik, 2020; Mustapha & Subramaniam, 2016). Traditionally, women are frequently burdened with family affairs, parenting, and other family responsibilities, and find it difficult to strike a balance between their professional and domestic obligations (Ismail et al., 2021; Ong, Habidin, Salleh, & Fuzi, 2020). However, Nugroho and O'Hara (2015) argue that women entrepreneurs often outperform their male counterparts in terms of business performance and profitability. Despite that, Khan and Quaddus (2018) highlight that women are the most vulnerable group that are in a disadvantaged position or marginalised , thus contributing for 70% of global poverty.

One of the most significant challenges that women micro-entrepreneurs encounters are financial constraints, precisely the inability to obtain capital from formal financial institutions (Nordin, Abdul Khalid, & Kamalia, 2019; Thambiah,

Muthaiyah, & Jun, 2016; Wangari, 2017). Considering this constraint, the aspirations and roles of microfinance institutions (MFIs) have been defined as providing financial assistance to underprivileged and low-income communities, as well as to those who lack access to formal financial aid, in order for them to establish small businesses and achieve economic independence (Mohd Zin & Ibrahim, 2020). Women's economic empowerment is indeed a top priority for microfinance institutions, on which they place strong emphasis.

From the Islamic perspective, the role of microfinance in general has fulfilled part of the main maqasid al-shari'a (fundamental aims of Islamic law) (Alkhan & Hassan, 2021). These aims include the reduction or alleviation of poverty, the socio-economic enhancement of society, and more equitable wealth distribution (Alkhan & Hassan, 2021). However, as argued by previous researchers such as Ayub (2007) and Alkhan (2016), riba (interest or usury) is a fine dividing line that could differentiate Islamic from conventional microfinance. As such, implementation and engagement in practices that include the element of riba is one of the most significant prohibitions in Islamic finance.

One of the largest Islamic microfinances institutions (IMFI) in Malaysia is Amanah Ikhtiar Malaysia (AIM). It targets low income groups and offers a variety of financing products conforming to shari'a principles (AIM, 2022). At AIM, women micro-entrepreneurs who obtain Islamic microfinancing as a tangible resource will be assisted in obtaining financial services based on shari'a concepts without being burdened with liabilities such as interest or usury (Hassan, Kayed, & Oseni, 2013; Nordin et al., 2019). As such, the concept and practices of AIM have fulfilled maqasid al-shari'a.

Realising the remarkable role played by IMFI as a financial source for women micro-entrepreneurs, many researchers are interested in examining the impact or influences of the programme, mostly on the economic performance of its clients personally and financially (Md Saad & Duasa, 2011; Samer et al., 2015; Zainol, Al Mamun, Ahmad, & Simpong, 2018). These studies conclude that the so-called Islamic microfinance programme positively affects the economy of borrowers (reducing poverty) and their business performance (increasing revenues and profits). Nonetheless, few studies have assessed the influence of Islamic microfinancing on the development and performance of women micro-entrepreneurs' businesses. Indeed, the analysis method of previous research has focused more on the effects pre- and post-participation in programmes (Al-Mamun, Abdul Wahab, & Malarvizhi, 2011; N. Md Saad & Duasa, 2011; Samer et al., 2015).

In the organisational theory literature, numerous studies have incorporated the resource-based view (RBV) theory in an effort to justify the extent to which the accumulation of productive resources affects a firm's development (Barney, 1991; Nordin et al., 2019). Various factors, including demographics (Alene, 2020); government support (Mohd Zin & Ibrahim, 2020); and political factors (Danga, Chongela, & Kaudunde, 2019), are increasingly critical in determining the development and performance of women micro-entrepreneurs.

However, very few researchers are interested in researching the effects of Islamic microfinancing, human capital, and ICT usage as tangible and intangible resources on women micro-entrepreneurs' performance. According to El Shoubaki,

Laguir and Besten (2020), microfinance and entrepreneurial training on human capital have been identified as two variables that are most likely to influence women micro-entrepreneurs' performance. In contrast, Ong et al. (2020) assert that if women entrepreneurs have integrated IT into their business procedures and practices, this will accelerate their business growth.

Despite this, there has been very little research integrating the cumulative influence of these factors into a single model in the context of Islamic microfinance. From this perspective, the empirical findings of this researchwill enhance the existing literature by extending resource-based view (RBV) soft theory by incorporating Islamic microfinancing into its context.

1.2. Objective

The study investigates the influences of Islamic microfinancing, human capital, and ICT usage on women micro-entrepreneurs' performance in Amanah Ikhtiar Malaysia (AIM), one of the largest Malaysian Islamic microfinance institutions (IMFI). It provides various theoretical, methodological, and managerial contributions that lead to deeper comprehension of the determinants of women micro-entrepreneurs' success in the context of IMFI.

II. LITERATURE REVIEW

2.1. Amanah Ikhtiar Malaysia (AIM)

AIM has been registered as a non-governmental organisation (NGO) that receives funding from the government in the form of interest-free loans, grants, and soft loans granted under the numerous Malaysia Plans (AIM, 2022; Mason, Azmi, & Madden, 2018). AIM is the leading Islamic MFI in Malaysia, and is widely regarded as one of the most prominent Islamic MFIs in the world as a result of its global renown (Che Mohd Salleh, Kassim, & Kassim, 2019).

AIM replicates Grameen bank's model of group-based lending, but makes some modifications to the features of microfinance services to conform to Islamic concepts and the Malaysian setting (Muda & Tuan Lonik, 2020). As of October 2021, AIM had 136 branches in Malaysia serving 349,410 clients (AIM, 2022). According to the statistics, AIM has assisted and served almost 84 per cent of Malaysia's overall poor and persistentlylow-income households. AIM has grown significantly, with financial disbursement totaling RM2.6 billion, an increase from RM500,000 in 1990 (AIM, 2022).

It offers three products: microfinancing schemes, client charity and welfare funds, and compulsory savings. Moreover, it offers two categories of microfinancing schemes: (i) economic financing (I-Mesra, I-Srikandi and I-Muda) and (ii) social financing (I-Sejahtera, I-Bestari, I-Wibawa and I-Penyayang) (AIM, 2022).

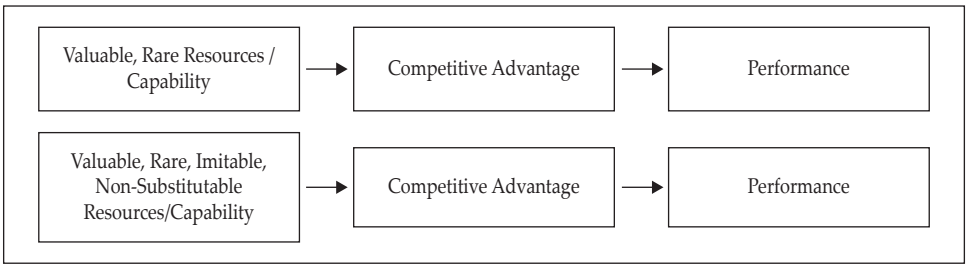
AIM employs the shari'a concepts of tawaruq (murabahah commodity), ujrah (service fees), wakalah (clients as agents of repayment collections), wa'd (unilateral promise) and ibra' (rebate) in its financing contracts and schemes (AIM, 2022). Its administration fees are set at 10 per cent annually for each type of financing (AIM, 2013; Kadri, 2011). However, for social scheme financing this was reduced to 8 per cent from 1st January 2022 (AIM, 2021). This 2 per cent reduction in management

charges will be in effect for two years, until the end of 2023 (AIM, 2021), and is intended to take into account the persistent health crisis caused by COVID-19 in the country.

2.2. Background Theory – the Resource-Based View

The resource-based view (RBV) is an underlying theory steering the conceptual framework of the study. The RBV implemented is centred on the ideas of Penrose (1959), which focused on resources that were significant to a firm's growth. She highlighted the collection of productive resources that clearly influence a firm's growth, contingent on the manner in which these resources are managed.

According to Wernerfelt (1984), RBV was developed to serve as a tool for analysing an organisation's resources. Barney (1991) formalised a conceptual framework from a resource-based viewpoint, arguing that certain firms may perform effectively as a result of heterogeneous resources, which incorporate the concept of resource creation. Figure 1 illustrates Barney's (1991) RBV conceptual framework, as presented in an article by Newbert (2007). The selection of resources and competences coinciding with the characteristics of VRIN (valuable, rare, inimitable, and non-substitutable) is critical and serves as a prominent foundation for obtaining and maintaining competitive advantage (Barney, 1991). Therefore, considering the VRIN attributes in RBV makes it possible to explain and anticipate the reasons why firms achieve sustainable competitive advantage, resulting in superior performance, vice versa (Grant, 1996).



Source: Adopted from Newbert (2007)

Figure 1.
Conceptual RBV Framework

There are two types of significant information resources in RBV: tangible and intangible ones (Galbreath & Galvin, 2008). Tangible resources comprise all the physical, financial, and locational resources (Amit & Schoemaker, 1993; Galbreath & Galvin, 2008; Mohamad Radzi, Mohd Nor, & Mohezar Ali, 2017; Penrose, 1959; Pitt & Khandker, 1996; Yee Ong et al., 2020), while intangible ones include human capital, technology, culture, education, training, knowledge, skills, and social capital (Amit & Schoemaker, 1993; Chiesa, Manzini, & Pizzurno, 2008; Galbreath & Galvin, 2008; Mohamad Radzi et al., 2017; Penrose, 1959; Pitt & Khandker, 1996; Surroca, Tribo, & Waddock, 2010; Yee Ong et al., 2020).

Nevertheless, RBV has been subject to some criticisms (Connor, 2002; Foss, 1996a, 1996b). One of these regards its status as a core theory (Foss, 1996a, 1996b). As a result, several methodological researchers, such as Hair, Ringle and Sarstedt (2011) and Ramayah, Cheah, Chuah, Ting and Memon (2018) have classified RBV as a soft theory (grand theory). They indicate that RBV essentially specifies resources without specifying the context-specific variables that should also be included. Connor (2002) suggests other room for RBV improvement, arguing that its application is too climited, in that it only considers large firms that have significant market power, disregarding smaller oness. He argues that the persistent competitive advantage of smaller and more agile enterprises is impossible to achieve if they still rely on static resources; therefore, they fall beyond RBV boundaries. Furthermore, Armstrong and Shimizu (2007) and Newbert (2007) criticise the RBV for its lack of empirical evidence as a soft theory.

However, with regard to the future direction of RBV, Kraaijenbrink, Spender and Groen (2010) indicate that its core principle is able to withstand and respond to criticism relatively well, particularly by describing the RBV's variables, boundaries, and application more explicitly. They believe that RBV has no difficulties in being applied to small enterprises and start-ups, as long as they seekfor prolonged competitive advantage, and they recommend that further empirical study is conducted to understand the effects of resources on the sustained competitive advantage of firms.

Based on the RBV theory, the resources considered in this study are Islamic microfinancing, human capital and ICT usage. There is a substantial body of literature that has employed RBV as a fundamental theory to characterise Islamic microfinancing as a component of tangible resources for a firm's development (Absah, Muchtar, & Qamariah, 2018; Ismail, 2014; Md Saad, Ali, & Mohammed Guza, 2018; Muda & Tuan Lonik, 2020; Nordin et al., 2019).

However, this study is unique in that it examines tangible resources under RBV theory from the perspective of Islamic microfinancing that fulfils maqasid al-shari'a. It supports the study of Alkhan and Hassan (2021), who assert that Islamic microfinance leads to the fulfilment of a number of critical aspects of maqasid al-shari'a regarding the Islamic economy and mal (wealth). These include poverty alleviation, economic development, social development, wealth distribution and circulation, the intellectual development of society, and theprovision of finance products that comply with shari'a rules. For women micro-entrepreneurs who have received financial resources via Islamic microfinance, compliance with shari'a has been a priority.

Human capital and ICT usage are both classified as intangible resources under RBV and are also crucial for designing and executing strategies or developing innovations that contribute to a firm's growth (Atmadja, Su, & Sharma, 2016). Among the intangible resources in human capital are knowledge and skills, education, training, and work experience, all of which contribute to women micro-entrepreneurs' long-term competitive advantages (Ahmad Nadzri, 2016).

In terms of technological resources, women micro-entrepreneurs may gain an advantage over their competitors, increasing their likelihood of succeeding and being profitable (Anwar, Djawad, & Ridwansyah, 2019). In today's digital era, people are becoming more literate in information technology. It has been

acknowledged that even those living in rural regions or less developed areas in many developing counties around the globe now have free Internet access or at affordable prices and own smartphones, allowing them to access vital information and conduct global e-commerce hassle-free (Ahmad, Abu Bakar, Faziharudean, & Mohamad Zaki, 2015; Gholami & Hign, 2010).

According to previous research, as will be elaborated in the following subsection, RBV adequately explains the relationship between Islamic microfinancing, human capital, and ICT usage as resources and firm performance. Additionally, the theory is consistent with the objectives of the study. As a result, RBV was utilised to develop the conceptual framework.

2.2. Previous Studies and Hypothesis Development

2.2.1. Women Micro-entrepreneurs' Performance

Women entrepreneurs account for around one-third of all growth-oriented entrepreneurs operating globally today. According to the Women's Entrepreneurship Report 2021/2022, women's entrepreneurship is a critical factor in promoting inclusive economic growth in developing economies (GEM Report, 2021). In low- and middle-income countries, 17% of women are entrepreneurs, and 35 per cent aspire to be one. This indicates that more than half of women in developing countries see entrepreneurship as a pathway to a better future, compared to only 25 per cent in high-income countries.

Similarly, Malaysian women entrepreneurs are a powerful instrument for economic development, as they commit to and contribute notably to the economy (Niethammer, 2013). They often engage in commercial operations such as food stalls, or mobile groceries moved by vehicles, amongst many others. The proportion of Malaysian women entrepreneurs has increased and has seen a considerable upward surge over the past three decades. This scenario is reinforced by the country's endeavours towards industrialisation, which in turn leads to an increasing interest in privatisation, in addition to self-employment and business-oriented employment (Ismail, 2018). As such, in legislative and scholarly discussions, notably in Malaysia, the performance of women micro-entrepreneurs has come to the forefront owing to its significant importance (Ahmad Nadzri, 2018; Nordin et al., 2019).

Performance can be defined and accurately characterised as a multi-faceted phenomenon that is challenging to manage without accurately integrating objective and subjective measures (Dharmaratne, 2012). Numerous studies on the performance of women micro-entrepreneurs have used business growth as a performance indicator (Atmadja et al., 2016; Hammawa & Hashim, 2016; Hussain, Mahmood, & Scott, 2018; Nordin et al., 2019). Lerner, Brush and Hisrich (1997) investigated women entrepreneurs based on a variety of parameters, including profit, revenue, stuff count, and personal income.

In addition, Wiklund and Shepherd (2005) and Nordin et al. (2019) encompassed dimensions such as micro-entrepreneurs' perceptions pertaining to i) customer demand shift (customers showing increased interest in the offered products/services); (ii) sales/turnover shift (as a result of customer demand); and (iii) the required organisational changes to maintain the increased demands (e.g.,

more employees hired, working hours increased and increased work productivity expected from employees). Besides these dimensions, Ahmad Nadzri (2018) conducted a study among microfinance clients that included personal property value and business owners' satisfaction to measure the performance of women micro-entrepreneurs. These metrics were conditional on data accessibility and the researcher's interpretation.

2.2.2. Islamic Microfinancing

Islamic microfinance is a subset of Islamic finance. It strictly adheres to shari'ah principles, which forbid riba (interest-based) transactions. Failure to meet this condition will mean the transaction does not comply with Islamic finance (Alkhan & Hassan, 2021). In other words, Islamic microfinance takes into account and prioritises the community's welfare, by emphasising the financial inclusion of its impoverished segment and contributing towards women's empowerment (Hassan, Alshater, Hasan, & Bhuiyan, 2021).

Islamic microfinance is distinguished from formal conventional banking by several variables: the degree of formality and collateral; shari'a concepts; and target groups (Ismail, 2018). It operates on a less formal basis, providing financial services based on shari'a concepts (Hassan et al., 2013). As a result, institutions place a high level of trust in their clients, without the requirement for rigorous and stringent collateral (Atmadja et al., 2016). Additionally, Islamic microfinance is available to the poorest individuals for them to establish or expand existing micro-enterprises.

Md Saad and Duasa (2011) employed econometric models and assessed the economic performance of IMFI, notably from the perspective of AIM's clients. They discovered that the amount of money borrowed from AIM significantly impacted AIM clients' economic performance by using "before-after" method. The study was conducted in 2011 and found that the mean yearly income increased from RM5,362.27 to RM23,841.45 as well as mean per capita yearly income increased from RM1,945.35 to RM4,734.44. This demonstrates a significant association between economic performance of clients participating in the microfinance program to the amount of money borrowed from AIM.

This was verified by Al-Mamun et al. (2011) and Ismail (2014), who found that participants in microfinance programmes generated higher income. Ismail (2014) measured microfinance provision in terms of the amount granted, the repayment rate, and the monitoring system. The research demonstrated that, in comparison to conventional banks, financial access via microfinance programmes had a significant influence on clients' business development. This was as a result of the fact that the majority of conventional banks imposed strict loan application criteria and charged higher interest rates. Therefore, based on the relevant literature, the following hypothesis was developed:

H1: Islamic microfinancing has a positive effect on women micro-entrepreneurs' performance.

2.2.3. Human Capital

Human capital pertains to individuals' knowledge and abilities that enable them to develop and advance their organisation and organisational behaviour (Coleman, 2007). Such knowledge and abilities may be protected in a variety of ways. Formal education and training are two methods or mechanisms for developing human resources. Ahmad Nadzri (2016) evaluated human capital by analysing the effects of education, training, and work experience on workers' awareness of the possibility of establishing and operating a business. Additionally, his research demonstrated that training will improve entrepreneurial abilities and company performance, resulting in long-term competitive advantages.

Furthermore, Atmadja et al. (2016) explain that human capital denotes formal education, assertiveness, human skills, and other aptitudes gained via skill development programmes, on-the-job training, and corporate proficiencies. From a corporate viewpoint, these formal and informal skill development resources are critical for capitalising on opportunities and potential (Adom & Asare-Yeboa, 2016; Sallah & Caesar, 2020).

This notion is also related to RBV theory, proposing that accessible intangible resources would be beneficial for a firm's competitive edge and performance. These resources are claimed to provide distinctiveness, resulting in a strategic advantage and increased market success. RBV emphasises the importance of resources with distinctive qualities that enable companies to attain competitive advantage and achieve performance goals. According to Barney (1991), these distinctive and significant qualities include being: 1) valuable, 2) exceptional, 3) challenging to imitate, 4) non-substitutable, and 5) imperfectly mobile.

Therefore, intangible resources such as knowledge gained via training and prior work experience enhance entrepreneurs' efficacy when collecting information; provide expertise for developing their company; and assist in building confidence for opportunity discovery (Al Mamun, Saufi, & Ismail, 2016; Sallah & Caesar, 2020). Moreover, they enable entrepreneurs to adapt to changing circumstances and develop the capacity to profit from unique combinations and innovations (Gine & Karlan, 2014). Therefore, intangible resources such as human capital have frequently been emphasised as being critical to an organisation's long-term performance and economic efficiency (Absah et al., 2018; Ayob, Daud, & Ismail, 2016; El Shoubaki et al., 2020; A. Md Saad et al., 2018; Mubarik & Devadason, 2020; Muchtar, Qamariah, & Fadli, 2018; Rafiki, Al Khalifa, & Buchari, 2014). Mubarik and Devadason (2020) argue that human capital has a positive relationship with women-owned business performance. In general, previous studies appear to confirm a positive association between human capital and entrepreneurial activity. Therefore, it is hypothesised that:

H2: Human capital has a positive effect on women micro-entrepreneurs' performance.

2.2.4. ICT Usage

Technology creates new possibilities in today's globalising world by propelling the new global economy forward via innovation and entrepreneurial initiatives founded on novel concepts, perspectives, and business strategies (Ong et al., 2020).

As intangible resource under the RBV theory, information and communication technology (ICT) is a critical component of business strategy, promoting competitive advantage and providing distinctiveness that adds value to the business (Amit & Schoemaker, 1993; Penrose, 1959).

Similar trends have appeared in Malaysia, which is experiencing an increase in the utilisation and reliance on the internet and mobile technologies. In the Internet Users Survey, 2020 reported by Malaysian Communications and Multimedia Commission (MCMC), Malaysians' internet usage rate was increased to88.7 percent as compared to 77.6 percent in 2016. This demonstrates an upsurge in internet usage in the country. As a result, this may provide another avenue for women entrepreneurs to connect with customers.

According to Ong et al. (2016), women micro-entrepreneurs in the modern era should embrace ICT to overcome business constraints. As also argued by Mohamad Radzi et al. (2017), ICT usage has enabled a notable reduction in or elimination of transaction costs associated with information sharing, particularly the time required to acquire market information (for instance, pricing) and to conduct transactions. Moreover, Islam et al. (2018) state that ICT usage could reduce expenses, increase revenue, and reduce uncertainty and risk, all of which are regarded as indicators of business success. In comparison to the landline platform, the mobile phone has been acknowledged as the primary mode of communication for businesses in the modern era. The rapid proliferation of such phones has resulted in substantially increased communication access and usage (Verkijika, 2018). Ong (2019) researched the significance of ICT usage for women entrepreneurs in Malaysia and Indonesia and concluded that it has increased profitability.

According to previous research, utilising technology as a resource improves business performance (Budiarto & Pramudiati, 2018; Kim, Abdullah, Bich, & Boey, 2020; Omar, Othman, Salleh, & Abdullah, 2018; Tanti et al., 2021). However, Adnan (2019) discovered a mixed effect of ICT usage on boosting women micro-entrepreneurs' productivity. Therefore, this study emphasises the use of ICT and mobile device technologies to manage the businesses of women micro-entrepreneurs, enabling them to survive in the industry and ensuring that increased profits become a reality. As such, it is hypothesised that:

H3. ICT usage has a positive effect on women micro-entrepreneurs' performance.

III. METHODOLOGY

3.1. Data

This study analyzes primary data on the population of one of the Malaysia's Islamic microfinance institutions, namely Amanah Ikhtiar Malaysia (AIM). It was chosen as the study population after taking into account the fact that it is one of the prominent and established Islamic microfinance institutions in Malaysia, so could clearly provide sufficient data, and because of its concern over women micro-enterpreneurships. Such data ensure relevant and reliable study findings (Che Mohd Salleh et al., 2019). As of October 2021, AIM had served 349,410 clients nationwide, up from 61,800 in 2000 (AIM, 2022).

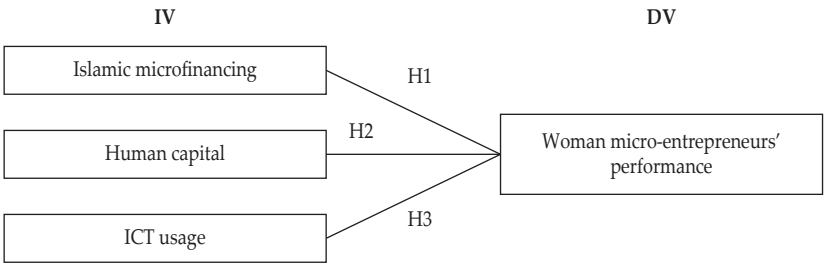
There are numerous ways of calculating sample size including those described by Sekaran (2005), Roscoe (1975), who recommended a sample size of between 20 and 500, and Hair et al. (2010) for conducting power analysis.. However, this study implemented the calculation proposed by Hair et al. (2010) via power analysis (G*Power) version 3.1, as it is compatible with the PLS-SEM technique employed. With a confidence level of 0.95, an effect size of 0.15, and three predictors, the minimum sample size required for the study was 78 respondents. It was determined to gather a total of 130 data sets from women micro-entrepreneurs who consented to participate in this study in order to prevent possible constraints associated with a limited sample size.

The convenience sampling method was employed to distribute the questionnaires across Selangor state after consulting with AIM officials and evaluating areas known to have a low prevalence of COVID-19. This was due to the fact that data were collected in August 2020, when the pandemic was still wreaking havoc in Malaysia. Following preliminary analysis, ten returned questionnaires were excluded from consideration as they were either incomplete or wrongly completed. As a consequence, the researchers determined that the final sample size for data analysis should be 120 respondents.

3.2. Model Development

The study has identified Islamic microfinancing as one of the factors influencing women micro-entrepreneurs' performance. Classified as a tangible resource, Islamic microfinancing obtained via AIM is distinct from conventional microfinance in that it complies with maqasid al-shari'a and does not violate shari'a principles. Therefore, it would be beneficial to observe the performance of women micro-entrepreneurs who have acquired Islamic microfinancing, as well as to add to the current research on RBV theory from an Islamic perspective.

Furthermore, human capital and ICT usage as intangible resources were examined in the analysis of the performance of women micro-entrepreneurs. These two factors were included to assist government and microfinance institutions in developing a more effective action plan for the development of Malaysia's women micro-entrepreneurs embracing of innovative business strategies. The proposed framework is shown in Figure 2.



Source: Authors

Figure 2.
Proposed Research Framework

3.3. Variable Measurement

The related literature was reviewed in order to extract the constructs and indicators to be incorporated in this study. The variables were evaluated by means of a seven-point Likert scales (from 1 = strongly disagree to 7 = strongly agree). The performance of women micro-entrepreneurs was evaluated using seven items adapted from Ahmad Nazri (2018) and Nordin et al (2019). Islamic microfinancing consisted of six items adopted from Ismail (2014) and Nordin et al. (2019), while five human capital items were adopted from Ahmad Nadzri (2016) and Ayob et al. (2016). In addition, five items from Ong (2019) to assess ICT usage were adopted for the study. A total of 23 items or questions were modified to reflect the women micro-entrepreneurs' perspective, as presented in Table 1.

Table 1.
Variable Measurement

Variable		Items	Sources
Islamic microfinancing	1	The amount of financing is sufficient	Ismail (2014) and Nordin et al. (2019)
	2	Methods of repayment are easy	
	3	Easy approval for financing	
	4	A reasonable timetable for repayment	
	5	The financing monitoring system is effective	
	6	Regulations and conditions imposed to obtain the financing is reasonable	
Human capital	1	Education is vital for the success of my business	Ahmad Nadzri (2016); Ayob et al. (2016)
	2	The ability to leverage previous experience as a source of knowledge is crucial to the success of my business	
	3	Learning while running a company is advantageous to the operations of my business	
	4	I am undergoing entrepreneurial development training from this microfinance institution to improve my business knowledge and skills	
	5	I have an idea to add to the current products that are more in demand from customers	
ICT usage	Are you using this service through the internet and mobile devices?		Ong (2019)
	1	Marketing through social media network platforms (e.g. Facebook, Instagram, YouTube)	
	2	Maintaining consumer relationships with the use of mobile social networking applications (e.g. Facebook, Instagram, blogs, YouTube)	
	3	Online banking	
	4	Purchasing/selling products (AIM Bazar app, Shopee app, Lazada app)	
	5	Communicate with suppliers/customers/employees through mobile social network	

Table 1.
Variable Measurement (Continued)

Variable		Items	Sources
Women micro-entrepreneurs' performance	1	Sales for 2019 have grown compared to 2018	Ahmad Nadzri (2018) and Nordin et al. (2019)
	2	Net profit for 2019 has grown compared to 2018	
	3	The personal property value for 2019 has increased compared to 2018	
	4	Satisfied and pleased with the business ownership	
	5	Working in this field provides satisfaction	
	6	The percentage of customers has risen dramatically in recent years	
	7	It is necessary to recruit more personnel	

Source: Authors

3.4. Method

The study employed a quantitative method and a cross-sectional survey, which involved only one point in time being observed throughout the study period (Sedgwick, 2014). For the preliminary analysis (descriptive analysis), the data were analysed using IBM SPSS. In contrast, to analyse the research model, partial least squares-structural equation modeling (PLS-SEM) analysis was performed, employing SmartPLS 3.2 software (Hair et al., 2011).

Numerous factors influenced the selection of t PLS-SEM. First, the research analysis was not primarily concerned with testing or confirming theory, but rather on predicting and forecasting key target constructs. The study constructs were developed from the RBV. According to Hair et al. (2011) and Ramayah et al. (2018), RBV is a soft theory (grand theory) that lacks solid constructs, so is recommended for use in the PLS-SEM technique. Second, the study did not meet the distributional assumptions of data due to their non-normal distribution. Finally, considering the study's small sample size of 120 respondents, PLS-SEM results were a good approximation of covariance-based SEM (CB-SEM).

Anderson and Gerbing (1988) recommend two steps for testing a study's constructed model. The first is to evaluate the measurement model for its validity and reliability (Hair et al., 2019; Ramayah et al., 2018). Following that, the structural model tests the study hypotheses using the bootstrapping method (5000 re-samples) (Hair et al., 2014).

The predictive sample was then analysed. For in-sample prediction, Stone-Geisser's Q^2 can be used to assess the predictive relevance of a research model (Ramayah et al., 2018). Predictive validity was assessed via the blindfolding procedure; this technique omits data for a given block of indicators and then predicts the omitted part based on the calculated parameters. Consequently, Q^2 indicates how well the data collected can empirically be reconstructed using a model and the PLS parameters (Fornell & Cha, 1993). According to Hair et al. (2011), if the Q^2 values are greater than zero, the exogenous constructs have predictive relevance for the endogenous construct.

However, as Stone-Geisser's Q^2 only measures in-sample prediction, this study extended it to PLSpredict to consider out-of-sample prediction, as proposed by Shmueli et al. (2016). This also addresses the criticism that blindfolding Q^2 is not

a true measure of out-of-sample prediction as it does not omit entire observations but only data points. Hence, Q^2 values can only be partly considered to be a measure of out-of-sample prediction because the sample structure remains largely intact in its computation (Sarstedt, Ringle, & Hair, 2017). Therefore, this study analysed PLS-predict, a holdout sample-based method that provides case-level predictions on an item or a construct level by combining it with a 5-fold procedure to guarantee predictive relevance (Shmueli et al., 2019).

IV. RESULTS AND ANALYSIS

4.1. Results

4.1.1. Demographic Characteristics

Table 2 summarises the demographic characteristics of the respondents. The business profiles of the women micro-entrepreneurs were considered, including the time in business, number of employees, and involvement in microfinance programmes. The greatest number of the respondents (36.1 per cent) were between the ages of 41 and 50, with the lowest number aged 61 and above (3.8 per cent). They were mainly married (86 per cent), with 5.8 per cent single and 8.2 per cent widowed. In addition, 73.1 per cent had completed secondary school. 40.8 per cent had three to four dependents or children, and the majority (43.4 per cent) worked in the food industry. This has historically been a preferred business sector for women micro-entrepreneurs, as it offers significant market opportunities. In addition, when the COVID-19 epidemic struck, the food industry was less damaged; therefore, entrepreneurs continued to increase their reliance on it (Hamdan, Kassim, & Lai, 2021).

Table 2.
Demographic Characteristics of the Respondents (n=120)

Categories	Description	Frequency	Percentage (%)
Age	Between 20 and 30	12	10.1
	Between 31 and 40	35	29.1
	Between 41 and 50	43	36.1
	Between 51 and 60	25	20.9
	61 and above	5	3.8
Marital Status	Single	7	5.8
	Married	103	86.0
	Divorced	10	8.2
Education level	No Formal Education	0	0
	Primary School	8	3.1
	Secondary School	83	73.1
	College	14	11.8
	University	12	9.6
	Other	3	2.4

Table 2.
Demographic Characteristics of the Respondents (n=120) (Continued)

Categories	Description	Frequency	Percentage (%)
No of Dependents	None	14	12.0
	1-2	28	23.0
	3-4	49	40.8
	5-6	24	20.0
	7-8	4	3.2
	More than 8	1	1.0
Type of Business	Food	73	43.5
	Groceries	12	7.1
	Agriculture	16	5.7
	Fisheries	10	6.0
	Craft	9	5.4
	Services	24	14.3
	Manufacturing	10	6.0
	Others	14	8.3
Business Period (Years)	Between 1 to 2	9	7.5
	Between 3 to 5	34	28.2
	Between 6 to 10	48	40.0
	Between 11 to 15	14	12.0
	Between 16 to20	11	9.1
	More than 20	4	3.2
Number of Employees	None	55	45.7
	1	25	20.9
	2	23	19.2
	3	8	6.5
	4	7	6.0
	5	2	1.6
Years of Participation in AIM	Between 1 to 2	5	4.6
	Between 3 to 5	56	46.4
	Between 6 to 10	48	40.4
	Between 11 to 15	9	7.2
	More than 15	2	1.4

Source: Authors

4.1.2. Common Method Variance

The study data were gathered utilising a single source. Therefore, Kock and Lynn (2012) and Kock (2015) recommend testing standard method variance to address the problem of common method bias and to examine full collinearity. The cutoff value for VIF 3.3, when regressed against variables, indicated that the data had no serious issues with single-source bias. As shown in Table 3, all the variable cutoff values were below 3.3.

Table 3.
Full Collinearity Testing

IM	HC	ICTU	WMEP
2.546	2.422	2.613	2.310

Note: IM= Islamic microfinancing, HC = Human capital, ICTU = ICT usage, WMEP = Women micro-entrepreneurs' performance

4.1.3. Measurement Model

The researchers evaluated the loadings, Cronbach's alpha (CA), composite reliability (CR) and average variance extracted (AVE) in the measurement model. Based on Hair et al. (2019), loadings should be higher than 0.5, AVE should also be higher than 0.5, and CR should be higher than 0.7. As shown in Table 4, all the AVE values are above 0.5, and all the CR values are above 0.7. In additional, the loadings were appropriate, as the values were all above 0.5.

Table 4.
Measurement Model

Construct	Item	Loading	CA	CR	AVE
Islamic microfinancing	IM1	0.764	0.855	0.891	0.578
	IM2	0.660			
	IM3	0.861			
	IM4	0.792			
	IM5	0.784			
	IM6	0.689			
Human capital	HC1	0.852	0.880	0.912	0.676
	HC2	0.868			
	HC3	0.852			
	HC4	0.739			
	HC5	0.792			
ICT usage	ICTU1	0.792	0.832	0.889	0.576
	ICTU 2	0.741			
	ICTU 3	0.585			
	ICTU 4	0.875			
	ICTU 5	0.855			
Women micro-entrepreneurs' performance	WMEP1	0.737	0.863	0.894	0.548
	WMEP2	0.706			
	WMEP3	0.703			
	WMEP4	0.802			
	WMEP5	0.835			
	WMEP6	0.696			
	WMEP7	0.689			

Discriminant validity was evaluated using the HTMT criteria, as recommended by Henseler et al. (2015). In order to meet the stricter criteria, HTMT values should be lower than 0.85 or lower than 0.90 for HTMT criterion standard (Franke &

Sarstedt, 2019). According to the results shown in Table 5, the HTMT values were lower than the stricter criteria of less than 0.85, indicating that the respondents perceived the three constructs differently. Therefore, a combination of these validity tests resulted in valid and reliable measurement items.

Table 5.
Discriminant Validity (HTMT)

	1	2	3	4
1. IM				
2. HC	0.617			
3. ICTU	0.397	0.486		
4.WMEP	0.586	0.606	0.575	

Note: WMEP = Women micro-entrepreneurs' performance, IM= Islamic microfinancing, HC = Human capital, ICTU = ICT usage

4.1.4. Descriptive Statistics of the Latent Constructs

In this subsection, the mean and standard deviations for all the constructs were examined based on a seven-point Likert scale. As shown in Table 6, the mean for all the four latent variables ranged from 5.5762 to 6.5264. Islamic microfinancing had the highest mean value, at 6.5264 with women micro-entrepreneurs' performance having the lowest value of 5.5762.

The standard deviation values ranged from 0.493 to 0.8575, indicating the scores are not spread too widely around the mean. Women micro-entrepreneurs' performance had the highest standard deviation value of 0.8575, with Islamic microfinancing having the lowest value of 0.4932.

Table 6.
Results of the Descriptive Analysis

Latent Variable	No of items	Mean	SD
Islamic microfinancing	6	6.5264	0.4932
Human capital	5	5.9100	0.6889
ICT usage	5	5.9000	0.6505
Women micro-entrepreneurs' performance	7	5.5762	0.8575

4.1.5. Structural Model

In line with Hair et al. (2017) and Chin et al. (2013), the multivariate skewness and kurtosis were evaluated. The results indicate that the data were not normal-multivariate as Mardia's multivariate skewness (β =3.05, $p< 0.01$) and Mardia's multivariate kurtosis (β = 31.07, $p<0.01$) were not present. Therefore, in accordance with Hair et al. (2019), the path coefficients, standard errors, t-values, and p-values for the structural model were reported using a 5,000-sample re-sample bootstrapping procedure (Ramayah et al. 2018). Moreover, Hahn and Ang (2017) argue that p-values are an inadequate criterion for determining the significance of a hypothesis, proposing a combination of p-values, confidence intervals, and effect sizes. The criteria for testing the developed hypotheses are listed in Table 7.

To begin, the effects of the three predictors on women micro-entrepreneurs' performance were tested. The coefficient of determination, R^2, was 0.521 (Q^2 = 0.254), indicating that Islamic microfinancing, human capital and ICT usage explained 52.1 per cent of the variance in women micro-entrepreneurs' performance, demonstrating a moderate level of predictive accuracy as according to guideline of Hair et al. (2017). Islamic microfinancing ($\beta = 0.298$, $p<0.01$), human capital ($\beta = 0.270$, $p<0.01$), and ICT usage ($\beta = 0.331$, $p<0.001$) were all positively related to women micro-entrepreneurs' performance, indicating that H1, H2, and H3 were supported. Confidence interval bias corrected at 95% for upper limit and 5% for lower limit revealed no intervals straddling a value of 0, hence providing significant support for the study findings.

Table 7.
Results of the Structural Model

Relationship		Std Beta	Std Error	t-value	p-value	BCI LL	BCI UL	f^2
H1	IM → WMEP	0.298	0.092	3.157	0.001	0.139	0.436	0.107
H2	HC → WMEP	0.270	0.101	2.620	0.004	0.093	0.429	0.081
H3	ICTU → WMEP	0.331	0.09	3.655	P< 0.001	0.165	0.464	0.171

Note: WMEP = Women micro-entrepreneurs' performance, IM= Islamic microfinancing, HC = Human capital, ICTU = ICT usage

This study extended the PLSpredict recommended by Shmueli et al. (2016). PLSpredict initially performed a preliminary check of Q^2 predict in the LV prediction summary before proceeding with the remainder of the process. The cut off for Q^2 predict must be greater than 0, suggesting that the research is capable of predicting. In this study, the Q^2 predict was 0.465, so it was possible to proceed to the measurement item. The RMSE (or the MAE) values were then compared with the naive LM benchmark.

As can be seen in Table 8, the majority of the indicators exhibited fewer prediction errors than the LM model, with the exception of one WMEP3 item in which the PLS model outperformed the LM model. Therefore, in line with Shmueli et al. (2019), the model has a medium degree of predictive power.

Table 8.
Results of PLSpredict

Item	PLS		LM		PLS-LM	
	RMSE	MAE	RMSE	MAE	RMSE	MAE
WMEP1	0.602	0.502	0.724	0.587	-0.122	-0.085
WMEP2	0.599	0.505	0.653	0.540	-0.054	-0.035
WMEP3	0.596	0.460	0.510	0.479	0.086	-0.019
WMEP4	0.591	0.466	0.598	0.469	-0.007	-0.003
WMEP5	0.523	0.435	0.547	0.468	-0.024	-0.032
WMEP6	0.657	0.534	0.755	0.612	-0.098	-0.078
WMEP7	0.658	0.524	0.700	0.574	-0.042	-0.005

Note: WMEP = Women micro-entrepreneurs' performance

4.2. Analysis and Discussion

In general, this study has contributed to a better understanding of the resources in RBV theory from an Islamic viewpoint, particularly in terms of Islamic microfinancing, human capital, and ICT usage. The empirical evidence supports the addition of at least three components to the current body of research on enhancing the performance of women micro-entrepreneurs in the context of Islamic microfinance clients.

First, the significant association between Islamic microfinancing and the performance of women micro-entrepreneurs suggests that the funding provided by AIM has benefited a large number of such women in terms of income generation and poverty alleviation. This finding is consistent with those made by Ahmad Nadzri (2018) and Nordin et al. (2019). Nordin et al. discovered that Islamic microfinancing enabled business owners to acquire new equipment, expand their market reach, and engage in product innovation. This may result in increased revenue and profit, as well as overall improvement in business performance.

As an Islamic microfinance institution, AIM has contributed to the fulfillment of maqasid al-shari'a (underlying intents of Islamic law). As Alkhan and Hassan (2021) underline, Islamic microfinancing contributes to many key aspects of maqasid al-shari'a, including poverty eradication, economy enhancement, social development, wealth distribution and circulation, and the intellectual development of society.

AIM, as Malaysia's largest Islamic microfinance institution, has achieved these objectives, and the financing products provided comply with shari'a law (AIM, 2022). Riba is mainly prohibited because it has a detrimental impact on distributive justice and equality (Alkhan, 2016; Khan, 1986; Visser & Macintosh, 1998). The argument is that a riba-based society would enrich the wealthy, while impoverishing the poor. This may be even more relevant in microfinancing than in conventional financing, given that microfinance clients are typically the poor, who are also frequently subjected to high interest rates (Hassan et al., 2013). Therefore, Islamic microfinancing is a critical source of funding for small and women microbusiness owners in order for them to continue operations and directly contribute to their performance.

Second, the significant relationship between human capital and women micro-entrepreneurs' performance emphasises the crucial importance of human capital as an intangible resource. According to the study respondents, the learning process and prior experience are essential components of human capital that enable the acquisition of varied business opportunities. This finding corroborates that of Ayob et al. (2016), who discovered that although women micro-entrepreneurs first lacked knowledge about how much stock to acquire, they eventually learnt via experience how to design items that their consumers appreciated.

In addition, this study has demonstrated that business owners who received training reported statistically significant improvements in sales, income, and asset value compared to MSEs with untrained business owners. As a result, AIM's purpose includes ongoing customer training in order to promote entrepreneurialism among the poor and low-income groups (AIM, 2019). Moreover, the study findings validate the application of the RBV theory, which focuses on the role of human capital in establishing competitive advantage and increasing market efficiency.

Finally, the significant association between ICT usage and women micro-entrepreneurs' performance enables women business owners who effectively incorporate IT into their business operations and practices to accelerate their business development. According to the study, women micro-entrepreneurs would benefit from using an e-marketplace to venture into new markets and identify suppliers of affordable services and goods.

RBV theory reaffirms the conclusion that businesses may achieve and sustain a competitive advantage through the use of ICT as an intangible resource (Pitt & Khandker, 1996; Galbreath & Galvin, 2008; Ong et al., 2020). This finding corroborates previous research which has indicated a positive association between ICT usage and company growth (Budiarto & Pramudiati, 2018a; Mohamad Radzi et al., 2017; Sansul Bahri, Mohtar, & Ariffin, 2016).

Women micro-entrepreneurs funded by AIM may also benefit from AIM's digital platform; the institution provides ongoing training to its clients on digital marketing techniques to aid the growth of their businesses.

V. CONCLUSION AND RECOMMENDATIONS

5.1. Conclusion

The study has accomplished its objective of exploring the effects of Islamic microfinancing, human capital, and ICT usage on the performance of women micro-entrepreneurs. The empirical evidence confirms that these three variables have a significant positive effect on their performance and are capable of explaining 52.1% of the variance in such performance, implying a moderate level of predictive accuracy and a moderate degree of predictive power. The study makes several major theoretical, methodological, and managerial contributions.

5.2. Recommendations

The study findings have theoretical, methodological, and managerial implications for understanding the determinants that influence the performance of women micro-entrepreneurs as IMFI clients. The underlying theory in the study was RBV, which is categorised as a soft theory (grand theory) owing to the unfixed specific variables. In terms of theory, the study has enhanced the resources that contribute to competitive advantage and outstanding performance by merging tangible resources such as Islamic microfinance and intangible ones such as human capital and ICT usage.

The study makes a methodological contribution by extending the analysis to predictive assessment through the use of PLS-SEM. The empirical findings should help in the prediction of exploratory factors from the soft theory of RBV and will expand the current literature.

The study findings could also aid policymakers, such as IMFIs, in establishing comprehensive business plans and educating their clients on the advantages of the digital economy. Additionally, the findings will assist the government in making sensible policy decisions and implementing the measures required to provide an enabling environment, infrastructure, and financial support for women micro-entrepreneurs. The study was designed to provide significant information and

recommendations to women micro-entrepreneurs about entrepreneurship skills and the crucial aspects affecting their performance. Moreover, it will be able to establish a positive and healthy business environment.

However, the study also has several shortcomings. It was restricted to Selangor and AIM clients, as the data was gathered during the ongoing COVID-19 outbreak. As a result, it would be very advantageous if future research concentrated on more states in Malaysia and increased the sample size of women micro-entrepreneurs in additional microfinance institutions around the country. Furthermore, considering the significant impact that unforeseen crises such as the COVID-19 pandemic have on business performance, future research could examine the effects of the crisis on the performance of women micro-entrepreneurs post-COVID-19. Finally, future research could address the research gaps by assessing the effectiveness of women micro-entrepreneurs across a range of demographic factors in terms of achieving the nation's overall economic growth and sustainable development goals (SDGs).

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