

## ARTICLE

# Urban Farming Success: Insights on Entrepreneurship, Motivation, Personality, and the Role of Islamic Worshipful Entrepreneurship

Istiqomah \* , Lilis Siti Badriah , Wiwiek Rabiatal Adawiyah , Bambang Agus Pramuka 

Faculty of Economics and Business, Universitas Jenderal Soedirman, Purwokerto 53122, Indonesia

## ABSTRACT

This research aims to explore the relationships between entrepreneurial attitudes, motivation, personality traits, and urban farming entrepreneurial model, specifically focusing on the moderating role of Islamic Worshipful Entrepreneurial Intention (IWEI). The focus of this study is comprised of individuals who are involved in urban farming registered as members of an Islamic philanthropy foundation throughout Indonesia. The process of gathering data involved disseminating questionnaires via two separate channels: offline distribution and an online platform facilitated by Google Forms. To evaluate both the direct and indirect impacts, as well as moderation, the analysis primarily utilized Jeffreys's Amazing Statistics Program (JASP). The findings reveal positive associations between entrepreneurial attitudes, motivation, personality traits, and entrepreneurial model. Furthermore, we identify Islamic Worshipful Entrepreneurial Intention as a significant moderator that influences the strength of the relationships between these variables. This research contributes to the existing literature by introducing Islamic Worshipful Entrepreneurial Intention as a novel factor that moderates the relationships between critical entrepreneurial components. The incorporation of IWEI adds a unique perspective to the understanding of entrepreneurial behavior and models. The study suggests that fostering Islamic values and intentions in entrepreneurial endeavors can significantly impact the development and success of entrepreneurial models. Practitioners and policymakers should consider the role of IWEI in designing effective strategies to promote entrepreneurship. The research highlights

### \*CORRESPONDING AUTHOR:

Istiqomah, Faculty of Economics and Business, Universitas Jenderal Soedirman, Purwokerto 53122, Indonesia;  
Email: [istiqomah@unsoed.ac.id](mailto:istiqomah@unsoed.ac.id)

### ARTICLE INFO

Received: 19 February 2025 | Revised: 29 April 2025 | Accepted: 14 May 2025 | Published Online: 15 July 2025  
DOI: <https://doi.org/10.36956/rwae.v6i3.1749>

### CITATION

Istiqomah, Badriah, L.S., Adawiyah, W.R., et al., 2025. Urban Farming Success: Insights on Entrepreneurship, Motivation, Personality, and the Role of Islamic Worshipful Entrepreneurship. *Research on World Agricultural Economy*. 6(3): 315–338. DOI: <https://doi.org/10.36956/rwae.v6i3.1749>

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the significance of integrating Islamic values into entrepreneurship, emphasizing the potential positive impact on the community. This approach promotes ethical and socially responsible entrepreneurial practices.

**Keywords:** Urban Farming; Entrepreneurial Attitudes; Entrepreneurial Motivation; Personality Traits; Entrepreneurial Models; Islamic Worshipful Entrepreneurial Intention (IWEI)

## 1. Introduction

Urban farming, driven by innovative aquaponic technology, reshapes the entrepreneurial landscape. This technology fosters sustainable food production and is promising to enhance social acceptance within urban communities<sup>[1,2]</sup>. Urban farming, as a form of innovative entrepreneurship, contributes to sustainable development and local economic development<sup>[3]</sup>. By employing innovative methods and technologies, urban farming has the potential to alleviate the pressure on rural agriculture and guarantee a sustainable provision of food<sup>[4]</sup>. The sustainability of urban aquaponic farming is evaluated through emergy synthesis, considering variables such as scale and marketable products<sup>[5]</sup>. The success of urban farming, particularly in Indonesia, underscores its pivotal role in enhancing human life quality, offering sustainable solutions rooted in circular economy principles, and embracing biomimetics for community development<sup>[2,6]</sup>.

The increasing prominence of successful entrepreneurs in urban farming indicates a growing societal inclination towards this study area<sup>[7]</sup>. Supporting this view, a systematic literature review suggests that aquaponic systems integrate well with sustainable growth in intensive agriculture, with an emphasis on industrial mechanisms<sup>[6]</sup>. While extensive research has been conducted on entrepreneurial motivation, attitudes, and personality traits, there remains a dearth of knowledge regarding their correlation with entrepreneurial models<sup>[2,6]</sup>. A knowledge gap exists regarding how the interplay of these factors influences entrepreneurial success in urban farming<sup>[8,9]</sup>.

Entrepreneurial attitudes are fundamental in determining the course of action and are the main driver for adopting a specific entrepreneurial framework<sup>[10,11]</sup>. For example, a person's tendency to take calculated risks, be creative, and demonstrate strategic proactivity, or en-

trepreneurial orientation, can influence his desire to become an entrepreneur and his choice of entrepreneurial model<sup>[12]</sup>. Accordingly, Egu and Chiloane-Phetla conducted a study to examine the effects of early-stage entrepreneurial activities on entrepreneurial attitudes and behaviors. Their findings validated the fundamental connection between these constructs and their consequential impact on entrepreneurs' decision-making process<sup>[13]</sup>. Attitudes, subjective norms, perceived behavioral control, and social media influencers significantly influence behavioral intentions towards sustainable agricultural ventures, emphasizing the need for targeted interventions<sup>[14]</sup>.

Entrepreneurial attitudes are significant in the realm of urban farming. This attitude includes the desire to innovate, take risks, and engage in one's own farming<sup>[8]</sup>. However, the relationship between entrepreneurial attitudes and the choice of entrepreneurial model is unclear. A study shows that the main challenges for the sector's steady growth are acquiring knowledge and optimizing production and business models<sup>[15]</sup>.

Another important factor that contributes to forming an entrepreneurial model is entrepreneurial motivation. Motivation is the driving force behind entrepreneurs' actions, decisions, and persistence, thereby influencing the formation of entrepreneurial models<sup>[16,17]</sup>. Highly motivated individuals tend to be proactive in recognizing market opportunities and more persistent in facing challenges, helping understand the feasibility of business ideas and turning them into successful ventures<sup>[18]</sup>. Motivation influences the willingness to take risks, and highly motivated individuals see risks as growth opportunities<sup>[19]</sup>. Examining the initial impetus behind establishing a company can impact various post-corporate outcomes<sup>[20]</sup>. Entrepreneurial motivation strongly correlates with subjective norms, social judgment, entrepreneurial intentions, and attitudes toward entrepreneurship<sup>[21,22]</sup>. Highly motivated en-

trepreneurs have resilience, resulting in adapting the entrepreneurial model over time. Moreover, motivated entrepreneurs tend to be more creative and innovative, create unique solutions that disrupt markets, and create new value through innovative business models<sup>[20,23,24]</sup>. Overall, entrepreneurial motivation is an essential factor in the formation of an entrepreneurial model, and it influences the development and operation of a company<sup>[25]</sup>.

The influence of the entrepreneur's personality extends beyond motivation and significantly affects the entrepreneurial model. According to research, entrepreneurial success is significantly influenced by proactive personality and self-efficacy<sup>[26]</sup>. Additionally, a clear correlation exists between entrepreneurial personality traits and individuals' perceptions of new venture opportunities; this underscores the significance of these traits in shaping entrepreneurial decision-making<sup>[27,28]</sup>. On top of that, entrepreneurial intentions are influenced by the Big Five personality traits, including openness to experience, via the mediating mechanism of entrepreneurial alertness<sup>[27]</sup>. A comprehensive understanding of the entrepreneurial model and its evolutionary trajectory necessitates an examination of entrepreneurial personality traits<sup>[29]</sup>. The impact of general traits on particular personality traits on entrepreneurial formation has been proposed<sup>[30]</sup>. Integrating entrepreneurial traits with technological advancements in urban farming is expected to generate novel frameworks that effectively respond to the complexities and prospects posed by aquatic technology<sup>[31]</sup>. The interaction between personality traits and entrepreneurial models forms a complex and dynamic relationship, taking the entrepreneurial journey in a unique and evolving direction.

This study offers novelty by applying IWEI as a moderating variable to the entrepreneurial model of urban farming. In entrepreneurship literature, IWEI is relatively new, incorporating social responsibility, spiritual well-being, and ethical business practices within Islamic values. The application of IWEI as a moderating variable contributes new understanding to how religious motivation is capable of influencing the interplay between dominant traits of the entrepreneurs, their motivation, and

their attitude. Another novel element of this study is its specific context, which involves Indonesian Muslim urban farmers who are registered members of an Islamic philanthropy foundation.

Most prior studies have not explored the intersection of religious values and urban farming entrepreneurship, which limits this study's empirical exploration. From a contribution to the literature perspective, this research applies classical frameworks of entrepreneurial intention and adds dimensions of Islam's ethics and spirituality to its frameworks. This is a constructive change to the existing theories that have largely concentrated on rationality and psychology. Moreover, this paper provides significant interdisciplinary insights for the growth of value-based companies in Muslim communities by linking the domains of entrepreneurship and religious studies. Practically, the results of this study can guide researchers, practitioners, and legislators in developing empowerment plans based on Islamic values, especially in the urban agriculture domain. Thus, in addition to theoretical contribution, this work offers practical relevance in assisting the sustainable development of urban farming businesses in line with ethical, cultural, and religious values.

## 1.1. Theoretical Background and Hypotheses Development

The proposed research model is based on the Theory of Planned Behavior<sup>[32]</sup> and the integration of Islamic ethics in Entrepreneurship<sup>[33,34]</sup>. Ajzen's Theory of Planned Behavior is a foundational framework for comprehending the interconnections proposed among motivation, personality, entrepreneurial attitudes, and entrepreneurial models. According to this theory, attitudes, subjective norms, and perceived behavioral control collectively influence an individual's intention to perform a behavior, influencing actual behavior<sup>[35]</sup>. In the entrepreneurial context, the theory posits that entrepreneurial attitudes, motivation, and personality collaboratively shape entrepreneurial intentions, guiding subsequent entrepreneurial actions<sup>[36]</sup>.

On the other hand, the integration of Islamic ethics in entrepreneurship provides a specific cultural lens to

understand the relationships proposed in hypothesis development. This perspective acknowledges the influence of IWEI on the development of entrepreneurial conduct in the Islamic framework<sup>[37]</sup>. This theory examines the unique cultural and ethical factors associated with Islamic entrepreneurship by applying religious values, making ethical decisions, and integrating spirituality into entrepreneurial practices<sup>[38,39]</sup>. The moderation effect proposed in this study can be explained within this framework, considering the influence of Islamic values on the relationship between individual characteristics and entrepreneurial models.

Spirituality plays an important role in entrepreneurship, especially in Islamic contexts, according to recent research. By encouraging moral, social, and environmental values, spirituality in business has been demonstrated to improve sustainability<sup>[40]</sup>. Islamic spirituality provides Muslim business owners with a basis for social responsibility, decision-making, and work-life balance<sup>[41]</sup>. While spiritual intelligence harmonizes business practices with religious principles, the incorporation of Islamic values into entrepreneurship cultivates traits like reliability and service orientation<sup>[42]</sup>. Particularly, it has been discovered that sufi practices help entrepreneurs develop strong, morally upright personalities, which improves the stability and expansion of their businesses<sup>[43]</sup>. All of these studies highlight how adding spiritual components to business endeavors enhances not just the individual aspect but also provides competitive advantages and contributes to sustainable business development.

This research model effectively incorporates the Theory of Planned Behavior and the integration of Islamic ethics in entrepreneurship. Integrating fundamental psychological principles with particular cultural considerations establishes a robust theoretical framework to examine the intricate interconnections delineated in the study.

## 1.2. Hypotheses Development

### 1.2.1. Entrepreneurial Attitude and Entrepreneurial Model

An entrepreneurial attitude encompasses a persistent frame of mind, distinguished by specific attributes and conduct critical for a business's prosperous establishment and operation<sup>[44]</sup>. This attitude includes self-confidence, leadership, knowledge, skills, and education<sup>[45]</sup>. It is also characterized by mental and behavioral characteristics such as self-confidence, creativity, innovation, active problem-solving, independence, intuition, adaptability, perseverance, and a positive outlook<sup>[46]</sup>. Moreover, it is closely related to the willingness to take risks, the ability to identify and pursue opportunities, and a strong work ethic<sup>[47]</sup>. This particular mindset is a critical determinant for individuals engaged in entrepreneurial activities and is frequently regarded as a pivotal component in the achievements of their ventures. A person's attitude can be understood through two basic approaches<sup>[48]</sup>. First, the unidimensional approach characterizes attitudes as a solitary construct, exclusively emphasizing affective reactions.

On the other hand, the multidimensional approach defines attitude as a combination of three types of reactions: affect, cognition, and conation. The tripartite model explains attitudes by positing that they arise from the interplay among the three factors. In this context, the cognitive component includes beliefs and thoughts about the attitude object, while the affective component consists of positive or negative feelings towards the object. The conative or behavioral component involves intentions and behavioral tendencies toward an object.

Meanwhile, the entrepreneurial model denotes a methodical and structured approach or framework that small businesses or individuals embrace to establish, oversee, and assume the risks linked to a company or enterprise<sup>[49]</sup>. Entrepreneurship models provide a comprehensive framework outlining the essential elements and characteristics of entrepreneurship, innovation, and technology<sup>[49,50]</sup>. It differentiates itself from traditional business models by emphasizing financial aspects, strategic partnerships, quality human resources, and social mission, all of which are interconnected through a clear governance structure<sup>[51]</sup>. The entrepreneurial model is distinguished by its emphasis on technology and innovation, which entail the development and execution of novel concepts and business pro-

cedures<sup>[52]</sup>. Entrepreneurship models can differ significantly depending on the nature of the business, industry, and market conditions. It is crucial for an entrepreneur to carefully develop and adapt a model that aligns with their vision and goals.

Entrepreneurial attitudes play an essential role in forming an entrepreneurial model, influencing various aspects of an individual's intention to become an entrepreneur<sup>[53]</sup>. The existence of a positive relationship between entrepreneurial attitudes and entrepreneurial models shows that individuals who have positive attitudes toward entrepreneurship are more likely to adopt innovative and creative strategies in their businesses<sup>[51]</sup>. Prior studies have established that entrepreneurial attitudes substantially impact various aspects of entrepreneurship, including business independence, entrepreneurial intentions, and business model novelty<sup>[45,54–56]</sup>. Entrepreneurial Attitude Orientation (EAO) models, which illuminate how attitudes impact entrepreneurial behavior, enhance the importance of entrepreneurial attitudes<sup>[57]</sup>. Additionally, research examining the determinants of entrepreneurial intentions among business students underscores the importance of attitudes as potential drivers of entrepreneurial action<sup>[58]</sup>. Based on existing arguments and references, the first hypothesis of this research is:

**H1.** *Entrepreneurial attitude is positively related to the urban farming entrepreneurial model.*

### 1.2.2. Entrepreneurial Motivation and Entrepreneurial Models

Entrepreneurial motivation encompasses intrinsic and extrinsic elements that drive individuals to initiate and sustain entrepreneurial endeavors and enterprises<sup>[59,60]</sup>. Various determinants can impact entrepreneurial motivation, such as economic conditions, entrepreneurial type, cultural orientation, and gender<sup>[60,61]</sup>. Entrepreneurial motivation is a multifaceted concept that is important for understanding the dynamics of individuals involved in entrepreneurial endeavors. Scholars have examined the intriguing paradox of entrepreneurial motivation, highlighting its contentious characteristics and its impact on business

achievement<sup>[62]</sup>. Different motivational factors drive entrepreneurs to seize opportunities to profit from planned businesses. A literature review by Wiley emphasizes the critical role of motivation in business startups, moderating the relationship between structural similarity and opportunity beliefs<sup>[63]</sup>. Motivation is an essential element in entrepreneurship, influencing the decision to become an entrepreneur and contributing to economic growth and innovation<sup>[64]</sup>. Self-motivation, in particular, is highlighted as a critical driver of success in entrepreneurship, emphasizing that entrepreneurs are responsible for every aspect of their venture<sup>[65]</sup>. Providing an action plan with motivational strategies emphasizes the importance of self-motivation for entrepreneurs, guiding them to maintain motivation to navigate entrepreneurial challenges<sup>[66]</sup>.

The influence of motivation on entrepreneurial intentions and actions is substantial, as numerous studies have demonstrated. A university study explored the influence of entrepreneurial motivation and knowledge on entrepreneurial interest, revealing a strong correlation between motivation and entrepreneurial propensity<sup>[21]</sup>. An investigation conducted at the university examined the impact of entrepreneurial knowledge and motivation on entrepreneurial interest. The findings of the study discovered a strong association between entrepreneurial tendency and motivation<sup>[67]</sup>. Additional studies investigate the moderating influence of entrepreneurial motivation, examining its role concerning the theory of planned behavior and personality traits and highlighting its crucial role in the entrepreneurial process<sup>[22]</sup>. Entrepreneurial motivation was also found to significantly influence entrepreneurial intentions among young individuals residing in rural South Africa. This finding underscores the importance of motivation within the framework of a demographically diverse setting<sup>[68]</sup>. The complex relationship between personal entrepreneurial motivation and its impact on behavior is also explored, emphasizing the nature of the impact of motivation on entrepreneurial models<sup>[69]</sup>. Therefore, the following hypothesis can be formulated:

**H2.** *Entrepreneurial motivation is positively related to the*

*urban farming entrepreneurial model.*

### 1.2.3. Entrepreneurial Personality and Entrepreneurial Models

Successful entrepreneurs are known to have distinct personality traits that set them apart from other leaders. Entrepreneurs are inclined to investigate novel concepts and prospects, with curiosity constituting a fundamental attribute<sup>[70]</sup>. Additionally, self-motivation, leadership qualities, and willingness to take risks are recognized as integral components of the entrepreneurial personality. As explored in academic articles, entrepreneurial personality is a multifaceted concept influenced by various factors. Dispositional personality traits, the growth of personal entrepreneurial resources, and the generation of business ideas explain entrepreneurial behavior<sup>[71]</sup>. Personality traits like neuroticism have been linked to entrepreneurial success<sup>[72]</sup>. A configurational approach has been proposed to understand entrepreneurial emotions and their progress.

Additionally, differences in personality traits between entrepreneurial types have become a significant focus of academic research<sup>[73]</sup>. Combining a person's personality traits with business needs is crucial in determining the entrepreneurial personality type<sup>[74]</sup>. Entrepreneurial personality has been the subject of interdisciplinary research on start-up processes, resources, and the environment<sup>[75]</sup>.

Academic research is currently examining the correlation between entrepreneurial models and entrepreneurial personality. Empirical evidence suggests that specific personality traits substantially influence individuals with entrepreneurial aspirations<sup>[26,29,76,77]</sup>. Additionally, factors such as entrepreneurial knowledge, motivation, entrepreneurial spirit, proactive personality, and family environment contribute to shaping individuals' intentions to pursue an entrepreneurial career<sup>[27,78]</sup>. In addition to personality traits, professional experience, and entrepreneurial education, demographic factors were identified as influential in promoting social entrepreneurship<sup>[67]</sup>. Other research finds that proactive personality and institutional support positively and significantly affect entrepreneurial intentions<sup>[79]</sup>. In essence, personality traits significantly impact the en-

trepreneurial model people adopt, influencing various aspects of their approach to entrepreneurship. For example, individuals high in extraversion feel comfortable engaging with others and networking, increasing their ability to build relationships and seek opportunities in entrepreneurial ventures<sup>[80]</sup>. Meanwhile, related to the willingness to take risks and explore new ideas, openness to experience forms the innovative and adaptive nature of the entrepreneurial model<sup>[81,82]</sup>. Therefore, the following hypothesis can be formulated:

**H3.** *Personality is positively related to the urban farming entrepreneurial model.*

### 1.2.4. The Moderating Effect of Islamic Worshipful Entrepreneurial Intention (IWEI)

Islamic worshipful entrepreneurial intention (IWEI) originates from the Islamic word "Niyyah," which translates to "intention," containing deep meaning as the core of human behavior, especially in the context of worship. Intentions originate from the heart and serve as catalysts for subsequent actions<sup>[37,83]</sup>. The Prophet's words, "Innamala'amalo bin-niyyah," indicate that intentions determine actions in Islam<sup>[37,84]</sup>. The intention to worship is considered the driving force behind the I-ENT (Islamic Entrepreneurship) practice. Furthermore, in the entrepreneurial context, Islamic worshipful entrepreneurial intention (IWEI) is described as an individual's intention to carry out entrepreneurial activities while adhering to Islamic principles and values<sup>[37]</sup>. Islamic Worship Entrepreneurial Intention (IWEI) refers to an individual's intention within an Islamic framework to engage in entrepreneurial activities that align with his religious beliefs and values<sup>[83]</sup>. This highlights the convergence of faith and commerce, in which entrepreneurs endeavor to operate their enterprises following the principles of Islam<sup>[85]</sup>. IWEI is characterized by a deliberate dedication to upholding ethical and moral standards, such as honesty, justice, and social responsibility, in business operations.

Additionally, it is committed to fostering societal progress through entrepreneurial endeavors<sup>[37]</sup>. This is rooted in the belief that entrepreneurship can be a means of worship and devotion to Allah and aims to

positively impact individuals, society, and the economy while still upholding Islamic teachings<sup>[86]</sup>. The determining factors of IWEI include Islamic entrepreneurial values, social entrepreneurial intentions, and the inclusion of Islamic work ethics in entrepreneurial characteristics. The role of entrepreneurship education and encouragement of entrepreneurship in Islam, as reflected in the Al-Quran and Sunnah of the Prophet Muhammad, also contributed to forming IWEI<sup>[37]</sup>. These qualities encompass a dedication to ethical conduct, social accountability, and constructive societal contributions, which exemplify the incorporation of Islamic principles into entrepreneurial pursuits<sup>[85]</sup>.

Islamic Worshipful Entrepreneurial Intention (IWEI) is pivotal in influencing Islamic financing and entrepreneurship behaviors. Studies have emphasized the mediating role of Niyyah, or Worshipful Intention, in evaluating the impacts of Islamic financing, entrepreneurial motivation, and social capital on entrepreneurial behaviors<sup>[87]</sup>. In Islam, intention plays a significant role in identifying motivations and characteristics related to entrepreneurial activities<sup>[83]</sup>. Furthermore, the research aims to test the model incorporating attitude values shaped by Islamic entrepreneurial values intention<sup>[85]</sup>. Islamic values also influence social entrepreneurial intentions within Muslim communities<sup>[88]</sup>. IWEI is a powerful mediator, influencing the relationship between entrepreneurs' mindsets and their chosen business models. By incorporating Islamic values and principles into entrepreneurial activities, IWEI is a guiding force, shaping how entrepreneurs approach their ventures. Therefore, the following hypothesis can be formulated:

**H4.** *Islamic worshipful entrepreneurial intention (IWEI) moderates the relationship between entrepreneurial attitude and urban farming entrepreneurial model.*

Islamic Worshipful Entrepreneurial Intention (IWEI) plays a significant moderating role in shaping the relationship between entrepreneurial motivation and the entrepreneurial model. This concept is rooted in Islamic principles, where intention (Niyyah) is fundamental to understanding the motivation for entrepreneurial activities<sup>[87]</sup>. An investigation is conducted into the correlation between entrepreneurial motivation and behavior

within the framework of Islamic values, including the Fortune Magnet, which has been found to impact entrepreneurial motivation<sup>[85]</sup>. This emphasizes the importance of aligning intentions with aspects of worship in entrepreneurial endeavors. It has been found that Niyyah mediates the relationship between Islamic Financing, Entrepreneurial Motivation, Islamic Social Capital, and entrepreneurial behavior<sup>[87]</sup>. Based on these findings, the researchers suggest that Islamic rituals can provide potential benefits for fostering entrepreneurial endeavors and promoting religious practices. This notion underscores the significance of intention, referred to as Niyyah in Islam, to comprehend the impetus behind initiating entrepreneurial endeavors. The impact of motivation on entrepreneurial behavior within an Islamic framework is underscored by the mediating function of prayer intentions<sup>[87]</sup>. Supportive policies can strengthen the impact of IWEI on entrepreneurial intentions, fostering a conducive environment for Islamic entrepreneurship<sup>[89,90]</sup>. Programs specifically designed to address individual aspirations with IWEI can serve as a catalyst, fortifying the connection between IWEI and the expansion of entrepreneurial intentions<sup>[91,92]</sup>. Therefore, the following hypothesis can be formulated:

**H5.** *Islamic worshipful entrepreneurial intention (IWEI) moderates the relationship between entrepreneurial motivation and urban farming entrepreneurial model.*

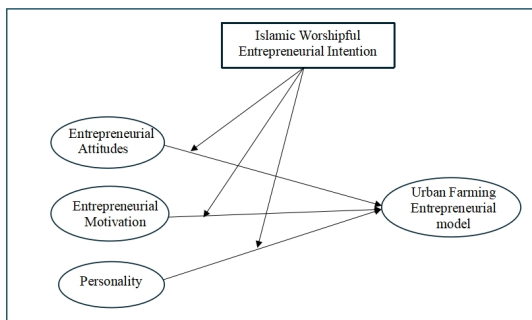
IWEI emphasizes the significance of integrating worship and religious practices into the entrepreneurial endeavor. This emphasizes aligning business activities with Islamic principles and values, ensuring that entrepreneurship is carried out consistently with Islamic principles<sup>[93]</sup>. The moderating function acknowledges that the degree to which an entrepreneur's personality traits correspond with the Islamic entrepreneurship model may be impacted by their religious intention to worship. By exploring the link between personality, religious observance, and entrepreneurship, IWEI contributes to a more comprehensive understanding of the factors that shape entrepreneurial behavior in an Islamic context<sup>[94]</sup>. Entrepreneurial intention to worship Islam (IWEI) is a moderating factor in the relationship between personality traits and entrepreneurial models. Islamic values, including sincerity, worship of God, and

obedience to taqwa (faith), play an essential role in forming entrepreneurial intentions from an Islamic perspective<sup>[83,93]</sup>. This holistic approach aligns with Islam as a comprehensive way of life, influencing an individual's internal desires and behaviors, such as entrepreneurial intentions<sup>[95]</sup>. Therefore, the following hypothesis can be formulated:

**H6:** *Islamic worshipful entrepreneurial intention (IWEI) moderates the relationship between entrepreneurial personality and urban farming entrepreneurial model.*

## 2. Methodology

This study employed five variables, Islamic worshipful entrepreneurial intention (IWEI), entrepreneurial attitude, motivation, personality, and model, to examine the hypotheses presented in **Figure 1**. **Figure 1** depicts the proposed research model's comprehensive connections among Islamic worshipful entrepreneurial intention (IWEI), entrepreneurial attitude, motivation, personality, and model.



**Figure 1.** Research Model. (Source: The authors).

### 2.1. Sample and Procedures

The business model of each entrepreneur can vary significantly among individuals. To get the best understanding of different entrepreneurial models, data was gathered from the target group using a systematic sampling method, chosen because it reduces bias in who is selected and makes sure respondents are evenly spread out across a structured list<sup>[96]</sup>. A comprehensive survey was conducted by distributing 300 questionnaires, with the sample size determined based on practical considerations of accessibility and statistical adequacy for behavioral research<sup>[97]</sup>.

Out of the 300 questionnaires distributed, 223 valid responses were successfully collected, resulting in a response rate of 74.3%, which meets the acceptable threshold for survey-based studies in social sciences<sup>[98]</sup>. The final sample reflected demographic diversity, with efforts made to ensure representation across educational backgrounds, occupational sectors, age groups, and income levels dimensions considered relevant in understanding entrepreneurial behavior<sup>[99]</sup>.

The questionnaire was meticulously structured into two main sections. The first section focused on the core research variables: Islamic Worshipful Entrepreneurial Intention (IWEI), entrepreneurial attitude, entrepreneurial motivation, entrepreneurial personality, and entrepreneurial model. The second section gathered demographic information such as education, occupation, age, and income level. To uphold ethical research standards, participants were assured of the confidentiality of their responses, as stated clearly in the questionnaire's cover letter. The cover emphasized that all data would be used exclusively for research purposes, and no personal information would be disclosed. To maximize reach and enhance response rates, researchers adopted a hybrid data collection strategy that incorporated both online and offline distribution methods. This approach has been found effective in increasing participation, particularly in heterogeneous populations<sup>[100]</sup>.

### 2.2. Measures

We adapted the questionnaire from several studies generally listed in the existing literature to test the research hypothesis. Entrepreneurial attitude is measured by 20 instrument items<sup>[101]</sup>. An example of the instrument is "I want a field of business in which you can operate independently?". Entrepreneurial motivation was measured with 17 items<sup>[101]</sup>. An example of an item is "My motivation for going on the entrepreneurial world is to attain substantial profits." Entrepreneurial personality was measured with 17 items<sup>[101]</sup>. An example of an item is "I would rather be a trendsetter than follow a trend." The entrepreneurial model is measured by 8 instruments<sup>[101]</sup>. An example of an item is "This business model is suitable for implementation on a narrow land". Finally, IWEI is measured with three instru-



ments<sup>[37]</sup>. An example item is “I have plans to start implementing aquaponics technology in the future.” The instrument is measured on a scale from 1 (strongly disagree) to 5 (strongly agree).

### 2.3. Data Analysis

The present study employs various methods for data analysis, including descriptive statistics, correlation modeling, and Jeffreys’s Amazing Statistics Program (JASP). The correlation between survey results and hidden variables is investigated through a measurement model, as outlined by the work<sup>[102]</sup>. We utilized a covariance approach to explore the linear relationship. Covariance-based methods assess how two random variables change simultaneously, revealing their directional relationship, while the variance-based approach focuses on how a dataset is distributed around its average value<sup>[103]</sup>.

During the initial phases, validity and reliability tests ensure the questionnaire’s credibility. The stan-

dard reliability coefficient surpasses .70, meeting the criteria for adequacy<sup>[104]</sup>. Additionally, the AVE values for all variables exceed 0.50, confirming their reliability. The model’s goodness-of-fit is assessed through various parameters, including chi-square ( $\chi^2$ ), degrees of freedom (df), chi-square/degrees of freedom ( $\chi^2/df$ ), normed fit index (NFI), comparative fit index (CFI), Tucker Lewis Index (TLI), and root-mean-square error of approximation (RMSEA).

## 3. Results

### 3.1. Sample Description

The description of respondents illustrates a varied and inclusive representation across gender, age, educational attainment, and marital status as shown at **Table 1**. This diversity is essential for obtaining comprehensive insights into the perspectives and behaviors of the sampled population, contributing to a more nuanced understanding of the study’s objectives.

**Table 1.** Description of Respondents.

| Demographics       | Category                      | Total | Percentage (%) |
|--------------------|-------------------------------|-------|----------------|
| Gender             | Male                          | 117   | 52.47          |
|                    | Female                        | 106   | 47.53          |
| Age                | 15–25 years                   | 36    | 16.14          |
|                    | 26–35 years                   | 124   | 55.61          |
|                    | 36–45 years                   | 60    | 26.91          |
|                    | > 45 years                    | 3     | 1.35           |
| Level of education | Elementary-Junior High School | 18    | 8.07           |
|                    | High School                   | 88    | 39.46          |
|                    | Diploma                       | 1     | 0.45           |
|                    | Bachelor Degree               | 81    | 36.32          |
|                    | Masters                       | 33    | 14.79          |
|                    | Ph.D.                         | 2     | 0.89           |
| Marital status     | Single                        | 46    | 20.63          |
|                    | Married                       | 177   | 79.37          |

From the analysis of the demographic data provided, the respondents in this sample have a balanced gender distribution, with 52.47% men and 47.53% women. When looking at the age of the respondents, the majority of them were in the 26–35 year age range, reaching 55.61% of the total respondents. In contrast, the 15–25 year and 36–45 year age groups have lower proportions, 16.14% and 26.91%, respectively. In terms of education, the majority of respondents had at least a high school or vocational school level (39.46%), fol-

lowed by a bachelor’s degree (36.32%) and a master’s degree (14.79%). Although most respondents are married (79.37%), a small number (20.63%) are still unmarried. Overall, this demographic analysis can provide valuable insights for direct marketing strategies or campaigns that more appropriately match the demographic characteristics of the target audience.

**Table 2** reveals that the average loading factor and variance extract (AVE) values for all indicators exceed 0.50, per the criteria established<sup>[104]</sup>. Similarly, the al-

pha Cronbach value surpasses 0.70<sup>[104]</sup>. These elevated values of loading factor, Cronbach's alpha, and AVE suggest internal solid consistency among the indicators employed in the study, affirming the validity of the results. This robust measurement agreement reinforces the findings of the study, confirming both its validity and reliability. Consequently, it is deduced that all questionnaire

items are valid and reliable.

The model's goodness-of-fit is assessed through various parameters such as chi-square ( $\chi^2$ ) and root-mean-square error of approximation (RMSEA). According to the data presented in **Table 3**, it can be inferred that the research model demonstrates a good fit.

**Table 2.** Validity and Reliability Test.

| Variables                  | Indicator                      | Standardized Loading | AVE   | CR    |
|----------------------------|--------------------------------|----------------------|-------|-------|
| Entrepreneurial Attitude   | Autonomy and Authority1        | 0.726                | 0.584 | 0.965 |
|                            | Autonomy and Authority2        | 0.823                |       |       |
|                            | Autonomy and Authority3        | 0.805                |       |       |
|                            | Autonomy and Authority4        | 0.784                |       |       |
|                            | Autonomy and Authority5        | 0.828                |       |       |
|                            | Opportunities and challenges1  | 0.771                |       |       |
|                            | Opportunities and challenges2  | 0.822                |       |       |
|                            | Opportunities and challenges3  | 0.719                |       |       |
|                            | Opportunities and challenges4  | 0.573                |       |       |
|                            | Opportunities and challenges5  | 0.542                |       |       |
|                            | Opportunities and challenges6  | 0.821                |       |       |
|                            | Opportunities and challenges7  | 0.697                |       |       |
|                            | Risk Taking1                   | 0.792                |       |       |
|                            | Risk Taking2                   | 0.698                |       |       |
|                            | Risk Taking3                   | 0.817                |       |       |
|                            | Realization and Participation1 | 0.788                |       |       |
|                            | Realization and Participation2 | 0.798                |       |       |
| Entrepreneurial Motivation | Confidence1                    | 0.802                | 0.580 | 0.959 |
|                            | Confidence2                    | 0.808                |       |       |
|                            | Confidence3                    | 0.788                |       |       |
|                            | Motivation1                    | 0.799                |       |       |
|                            | Motivation2                    | 0.764                |       |       |
|                            | Motivation3                    | 0.762                |       |       |
|                            | Motivation4                    | 0.731                |       |       |
|                            | Motivation5                    | 0.758                |       |       |
|                            | Motivation6                    | 0.749                |       |       |
|                            | Motivation7                    | 0.732                |       |       |
|                            | Motivation8                    | 0.753                |       |       |
|                            | Motivation9                    | 0.779                |       |       |
|                            | Motivation10                   | 0.773                |       |       |
|                            | Motivation11                   | 0.757                |       |       |
|                            | Motivation12                   | 0.766                |       |       |
|                            | Motivation13                   | 0.795                |       |       |
|                            | Motivation14                   | 0.765                |       |       |
|                            | Motivation15                   | 0.74                 |       |       |
|                            | Motivation16                   | 0.769                |       |       |
|                            | Motivation17                   | 0.746                |       |       |
| Personality                | Self-efficacy1                 | 0.776                | 0.585 | 0.960 |
|                            | Self-efficacy2                 | 0.74                 |       |       |
|                            | Self-efficacy3                 | 0.791                |       |       |
|                            | Task and results oriented1     | 0.734                |       |       |
|                            | Task and results oriented2     | 0.772                |       |       |
|                            | Task and results oriented3     | 0.786                |       |       |
|                            | Courage to take risks1         | 0.756                |       |       |
|                            | Courage to take risks2         | 0.742                |       |       |
|                            | Courage to take risks3         | 0.784                |       |       |
|                            | Leadership1                    | 0.784                |       |       |
|                            | Leadership2                    | 0.778                |       |       |
|                            | Leadership3                    | 0.759                |       |       |
|                            | Originality1                   | 0.773                |       |       |
|                            | Originality2                   | 0.745                |       |       |
|                            | Originality3                   | 0.785                |       |       |
|                            | Future oriented1               | 0.753                |       |       |
|                            | Future oriented2               | 0.753                |       |       |

**Table 2. Cont.**

| Variables                                    | Indicator   | Standardized Loading | AVE   | CR    |
|--|---|----------------------|-------|-------|
| Urban Farming Entrepreneurial Model          | 1. This business model is suitable for implementation on a narrow land  | 0.753                | 0.556 | 0.909 |
|  | 2. This business model is appropriate for implementation during leisure time  | 0.749                |       |       |
|  | 3. This business model is appropriate for implementation to increase income   | 0.698                |       |       |
|  | 4. This business model requires minimal capital   | 0.739                |       |       |
|  | 5. This business concept is simple and easily executable  | 0.734                |       |       |
|  | 6. This business model generates revenue quickly and consistently   | 0.764                |       |       |
|  | 7. This business model has an accessible market   | 0.752                |       |       |
|  | 8. This business model can be executed collectively or independently  | 0.772                |       |       |
| Islamic Worshipful Entrepreneurial Intention | 1. I plan to engage in the development and implementation of aquaponics technology in the future to address socio-economic challenges | 0.753                | 0.538 | 0.778 |
|  | 2. I intend to incorporate aquaponics technology into my future business venture  | 0.749                |       |       |
|  | 3. I do not intend to implement aquaponics technology in the future   | 0.698                |       |       |

Source: The authors.

**Table 3. Comparisons of Measurement Model.**

| No | Relevant Statistics                           | Cut-Off Value | Result | Interpretation |
|----|---|---------------|--------|----------------|
| 1  | CMIN/DF                                       | < 3           | 2.6    | Good Fit       |
| 2  | GFI/Goodness of Fit Index                     | > 0.90        | 0.91   | Good Fit       |
| 3  | RMSEA/Root Mean Square Error of Approximation | < 0.06        | 0.05   | Middle Fit     |
| 4  | TLI (Tucker Lewis index)                      | ≥ 0.90        | 0.92   | Good Fit       |
| 5  | NFI/Normal Fit Index                          | > 0.90        | 0.90   | Good Fit       |
| 6  | AGFI/Adjusted Goodness of Fit Index           | > 0.90        | 0.93   | Good Fit       |

Source: The authors.

The fit table indicates that the assessed model demonstrates a favorable fit with the data. The assessment metrics employed, such as CMIN/DF, GFI, RMSEA, TLI, NFI, and AGFI, consistently suggest that the model exhibits either a good fit or, at the very least, a satisfactory fit with the data. Based on the findings presented in

the fit table, it can be affirmed that the research model is well-suited.

Moving to the final phase of this study, the focus shifts to data analysis for hypothesis testing. The ensuing results are outlined in **Table 4**, encompassing the examination of direct and indirect effects.

**Table 4. Hypothesis Testing, Direct and Indirect Effects.**

| Hypothesis | Description  | Path Coefficient | p-value | Conclusion |
|------------|--|------------------|---------|------------|
| H1         | An entrepreneurial attitude is positively related to an entrepreneurial model  | 0.649            | 0.001   | Supported  |
| H2         | Entrepreneurial motivation is positively related to the entrepreneurial model  | 0.420            | 0.001   | Supported  |
| H3         | Personality is positively related to the entrepreneurial model   | 0.222            | 0.001   | Supported  |
| H4         | Islamic worshipful entrepreneurial intention (IWEI) moderates the relationship between entrepreneurial attitude and entrepreneurial model    | 0.050            | 0.001   | Supported  |
| H5         | Islamic worshipful entrepreneurial intention (IWEI) moderates the relationship between entrepreneurial motivation and entrepreneurial model  | 0.033            | 0.001   | Supported  |
| H6         | Islamic worshipful entrepreneurial intention (IWEI) moderates the relationship between entrepreneurial personality and entrepreneurial model | 0.018            | 0.042   | Supported  |

Source: The authors.

This research delves into an analysis of several proposed hypotheses, primarily concentrating on the intricate relationship between psychological factors and entrepreneurial models. The findings underscore a significant positive correlation between entrepreneurial attitude, entrepreneurial motivation, and personality with the entrepreneurial model. To begin with, the first hypothesis (H1) regarding entrepreneurial attitude reveals a path coefficient of 0.649, accompanied by a  $p$ -value of  $0.001 < 0.05$ , affirming the support for the hypothesis. The outcomes indicate a favorable stance towards entrepreneurship in urban farming. This positive attitude encompasses the willingness to embrace new technology and confront challenges associated with urban farming, highlighting that those with supportive entrepreneurial attitudes are more likely to formulate an entrepreneurial model.

The second hypothesis (H2) concerning entrepreneurial motivation manifests a path coefficient of 0.420, coupled with a  $p$ -value of  $0.001 < 0.05$ , endorsing the support for hypothesis 2. The constructive relationship between entrepreneurial motivation and urban farming entrepreneurial models signifies that a heightened level of motivation serves as a pivotal driver for adopting techniques in urban farming ventures. This motivation may include establishing efficient, sustainable, and innovative agricultural solutions.

The third hypothesis (H3), focusing on personality, reveals a path coefficient of 0.222, accompanied by a  $p$ -value of  $0.001 < 0.05$ . The discovery that personality is positively associated with the urban farming entrepreneurial model implies that personality traits, such as perseverance, independence, and initiative, play a crucial role in urban agricultural businesses' design and management. These characteristics contribute significantly to the entrepreneurial model in urban farming.

Furthermore, this research explores the moderating role of Islamic Worshipful Entrepreneurial Intention (IWEI) in these relationships. The findings underscore that IWEI positively moderates the relationship between entrepreneurial attitudes and entrepreneurial models, indicated by a path coefficient of 0.05 and a  $p$ -value of 0.001 which is less than 0.05. In the framework of Islamic religious values, the revelation that IWEI positively

moderates the relationship between entrepreneurial attitudes and urban farming entrepreneurial models suggests that religious values can fortify the positive impact of attitudes and entrepreneurship in adopting techniques within urban farming. This highlights the influential role of religious values in shaping the dynamics between entrepreneurial attitudes and the application of innovative techniques in urban agricultural practices.

Similarly, IWEI plays a moderating role in the positive relationship between entrepreneurial motivation and the entrepreneurial model, as evidenced by a path coefficient of 0.033 and a  $p$ -value of  $0.001 < 0.05$ , supporting the hypothesis. The findings indicate that IWEI positively moderates the relationship between the aspiration to become an entrepreneur and the development of business models for farming in urban settings. This highlights how religious beliefs can enhance the positive influence of entrepreneurial desire on creating business models for urban agriculture. Furthermore, IWEI demonstrates its moderating effect on the relationship between entrepreneurial personality and the entrepreneurial model, with a path coefficient of 0.018 and a  $p$ -value of  $0.042 < 0.05$ , affirming the hypothesis. These outcomes suggest that individuals with specific personality traits, such as perseverance, independence, and initiative in the context of urban farming, experience heightened positive influences when Islamic religious values, especially those linked to entrepreneurial intentions are involved. IWEI emerges as an enhancer in the association between entrepreneurial personality and the urban farming entrepreneurial model, underscoring the role of spiritual and religious values in strengthening motivation or commitment to adopt techniques in urban farming.

## 4. Discussion

Urban farming assumes a multifaceted significance, not only economically but also in the realms of climate change mitigation and disaster risk management. Given that cities are major contributors to greenhouse gas emissions, they both shape and bear the impact of climate change directly and indirectly<sup>[105]</sup>. The unchecked expansion of urban areas, leading to land con-

version, threatens agricultural sustainability and food security<sup>[106]</sup>. To counteract these challenges, adopting new technologies or expanding production scale becomes imperative, underscoring the entrepreneurial attitude as a catalyst. This proactive approach fosters innovation and propels positive development in urban farming models<sup>[107]</sup>.

This study provides empirical evidence that entrepreneurial attitudes significantly impact the development of entrepreneurial model, especially in urban farming. The entrepreneurial attitude proves pivotal in several aspects. Firstly, autonomy and authority empower individuals to make decisions and take responsibility for their actions, fostering innovation and flexibility in the design and management<sup>[108]</sup>. Secondly, recognizing opportunities and navigating challenges is critical for urban agricultural entrepreneurs, who must adeptly identify local market opportunities and sustainable agricultural concepts while surmounting obstacles like limited space or resources<sup>[109]</sup>. Risk-taking is the main element of an entrepreneurial attitude<sup>[12]</sup>. Entrepreneurs must be willing to take measured risks<sup>[110]</sup>, such as trying new technologies or expanding production scales, which can result in innovation and positive developments in urban farming models<sup>[111]</sup>.

Simultaneously, the entrepreneurial attitude's facets of realization and participation entail the ability to actualize ideas and involve relevant stakeholders, such as local communities, in model development<sup>[109]</sup>. Community engagement not only garners support for urban farming but also facilitates the actualization of ideas, such as implementing concepts, resulting in tangible impacts. The indispensable trait of self-confidence propels agricultural entrepreneurs to overcome obstacles and confront challenges in developing and operating models<sup>[112]</sup>. Overall, this entrepreneurial attitude is essential in establishing an environment supporting innovation, sustainability, and success in urban farming.

Prior research has shown that entrepreneurial attitudes have a significant impact on different characteristics of entrepreneurship, such as business independence, entrepreneurial intention, and business model uniqueness<sup>[45,54–56]</sup>. Entrepreneurial Attitude Orientation (EAO) models, which show how attitudes influ-

ence entrepreneurial behaviour, emphasize the significance of entrepreneurial attitudes<sup>[57]</sup>. Furthermore, research on the factors influencing entrepreneurial intentions among business students emphasizes the significance of attitudes as possible drivers of entrepreneurial action<sup>[58]</sup>.

The findings also reveal a positive correlation between entrepreneurial motivation and the entrepreneurial model, particularly in implementing urban farming. This entrepreneurial motivation exerts a notable positive influence, acting as a catalyst that not only encourages individuals to enhance their initiative and creativity in overcoming challenges within urban settings but also serves as a tool for community empowerment<sup>[108,113]</sup>. Strengthened motivation enables communities to manage local resources actively, heighten food security, and diminish reliance on external food sources, fostering a more sustainable and self-reliant approach<sup>[114]</sup>. This motivational drive extends its impact to the development of sustainable business models, which transcend mere economic considerations to encompass broader social and environmental dimensions, thereby fostering holistic sustainability<sup>[115]</sup>. Moreover, entrepreneurial motivation propels individuals toward seeking the requisite training and education essential for success in urban farming<sup>[116]</sup>. Such motivation facilitates active community participation and stimulates the formation of a network characterized by mutual support and increased collaboration<sup>[115]</sup>. Under entrepreneurial motivation, urban farming emerges as a viable solution to economic challenges in urban environments<sup>[117]</sup>. This approach generates local employment opportunities, augments people's income, and mitigates unemployment rates, thereby contributing to the socioeconomic fabric of urban communities<sup>[118]</sup>.

This finding aligns with the previous research that achievement motivation positively affects entrepreneurial intention, particularly for men<sup>[119]</sup>. Among Muslim vocational students, specific motivational dimensions like "entrepreneur is cool" and "financial freedom" predict entrepreneurial intention<sup>[59]</sup>. Motivation is significantly associated with entrepreneurship among university students<sup>[120]</sup>.

The results of the third hypothesis testing were also

supported. The application of entrepreneurial personality traits, such as self-confidence, task and results orientation, risk-taking courage, leadership, originality, and future orientation, has a significant impact on the urban farming entrepreneurial model. High self-confidence encourages entrepreneurs to face challenges in managing a business with assurance and effectively communicate with customers while confidently promoting their products<sup>[121,122]</sup>. Focusing on tasks and results increases operational efficiency, ensures consistent product quality, and supports business growth<sup>[123]</sup>. The courage to take risks allows exploring new opportunities and innovations, such as experimenting with new plant varieties or more advanced techniques<sup>[124]</sup>. With effective leadership, an urban farming operation can achieve long-term success by focusing on innovation, quality, and sustainability<sup>[125]</sup>. The ability to think creatively and initially positively impacts the development of unique solutions and innovative products<sup>[126]</sup>. In addition, being future-oriented helps entrepreneurs plan long-term growth by continuously updating technology, analyzing market trends, and adapting business strategies according to future needs<sup>[127]</sup>. By implementing a favorable combination of these personality characteristics, urban farming businesses can increase their competitiveness, sustainability, and success in an ever-growing market.

The results support the findings of the previous research. The relationship between personality traits and entrepreneurship has uncovered some significant insights. The big six personality qualities, including emotional stability, conscientiousness, extraversion, and interpersonal relationship, exhibit a positive correlation with entrepreneurial ambition, with entrepreneurial self-efficacy serving as a mediating factor<sup>[128]</sup>. Likewise, characteristics including self-efficacy, opportunity recognition, and personal perseverance strongly influence entrepreneurial intention<sup>[129]</sup>. Entrepreneurs in the tourism sector demonstrate elevated traits of narcissism, extraversion, agreeableness, conscientiousness, openness to experience, and an internal locus of control<sup>[130]</sup>.

In the urban farming entrepreneurial model, Islamic Worshipful Entrepreneurial Intention (IWEI) plays a crucial role as a moderating variable that reflects

entrepreneurial intentions originating from Islamic values. Entrepreneurial intentions in this model are not just focused on economic incentives alone but are guided by Islamic ethical principles such as sincerity, integrity, and responsibility<sup>[94,131]</sup>. The entrepreneurial attitude promoted by IWEI recognizes that economic activity can also express Islamic spiritual and ethical values<sup>[37,132]</sup>. This urban farming entrepreneurial model is designed to create harmony between economic activities and religious principles, emphasizing that business success can be achieved without ignoring moral values. Thus, this model is aimed to provide economic benefits and be in line with Islamic teachings, which emphasize sustainability, social responsibility, and justice in the distribution of business results<sup>[89,90]</sup>. By placing Islamic ethical principles as a foundation, this model embraces a holistic approach that includes economic, social, and environmental aspects, forming financially successful entrepreneurs who contribute positively to society and the surrounding environment<sup>[36]</sup>.

Islamic worshipful entrepreneurial intention (IWEI) has also been proven to moderate the relationship between entrepreneurial motivation and the entrepreneurial model. In the context of IWEI, often referred to as "niyyah" (intention), it acts as a moderating variable that can influence the relationship between entrepreneurial motivation and the urban farming entrepreneurial model. IWEI ensures that entrepreneurial individuals have precise and sincere intentions, providing them with a spiritual orientation in their efforts<sup>[67,133]</sup>. IWEI can moderate the relationship between entrepreneurial motivation and the urban farming entrepreneurial model by ensuring that these intentions form a solid ethical foundation<sup>[37]</sup>. Individuals with a strong intention, known as IWEI or niyyah, to seek Allah's pleasure are more likely to integrate Islamic values into every aspect of their business practices<sup>[134]</sup>. IWEI ensures that business decisions are not only driven by financial gain but also by the desire to provide benefits to society, adhere to Islamic ethical values, and run a business with accountability to Allah<sup>[135,136]</sup>. Thus, niyyah can motivate individuals to run urban farming businesses with sustainable diligence and strong social and environmen-

tal responsibility in accordance with Islamic teachings about sustainability and justice<sup>[137]</sup>.

Aligned with our initial hypothesis, Islamic Worshipful Entrepreneurial Intention (IWEI) assumes a pivotal role in guiding entrepreneurs' intentions and actions, ensuring the embodiment of Islamic values, such as justice and social responsibility, in their every endeavor<sup>[95]</sup>. IWEI is a moderating factor within this framework, enhancing the relationship between entrepreneurial personality traits and developing an urban farming entrepreneurial model. The entrepreneurial personality, characterized by courage, perseverance, and creativity, constitutes the foundation for entrepreneurial actions<sup>[34,138]</sup>. By integrating IWEI as a moderating element, entrepreneurs can align their personalities with Islamic values, engendering positive impacts across all facets of their business operations<sup>[139]</sup>. The resultant urban farming entrepreneurial model exhibits a conscientious awareness of sustainability and yields positive societal benefits<sup>[140]</sup>. Consequently, incorporating Islamic values into entrepreneurial intentions, cultivating entrepreneurial personalities, and implementing sustainable business models converge to engender enterprises that are not solely economically prosperous but also yield affirmative contributions to society and the surrounding environment<sup>[141]</sup>. This integration fosters a holistic approach wherein economic success intertwines seamlessly with social and environmental responsibility.

The results of this study provide substantial practical implications for urban farming entrepreneurs, especially those functioning inside Muslim populations. Integrating business aspirations with spiritual principles by perceiving entrepreneurship as an act of worship (ibadah) cultivates a profound feeling of purpose, resilience, and ethical accountability. This spiritual impetus not only supports entrepreneurs during adversities but also promotes socially and environmentally conscientious actions.

The research underscores the significance of including IWEI into training and capacity-building programs. Integrating spiritual and ethical dimensions with conventional entrepreneurial abilities provides a more comprehensive development strategy, fostering

enhanced commitment, innovative integrity, and significant community contributions.

Considering IWEI's moderating function, urban farming methods must be culturally and religiously attuned. Assistance from faith-based organisations, including Islamic philanthropic foundations, enhances communal cohesion and promotes entrepreneurship motivated by profit as well as social and environmental responsibility. Furthermore, the ethical framework of IWEI can bolster customer confidence, especially among individuals pursuing halal and ethically sourced products, resulting in a more robust market presence and increased loyalty. The study underscores the necessity for policymakers and practitioners to integrate Islamic values into entrepreneurship development programs, positing that this strategy can more successfully involve Muslim entrepreneurs and foster sustainable, inclusive economic growth.

This research provides significant contributions to the literature on entrepreneurship and Islamic economics. In entrepreneurship studies, it enhances the theoretical framework by presenting Islamic Worshipful Entrepreneurial Intention (IWEI) as an innovative moderating factor. This study underscores the significance of faith-based values in enhancing entrepreneurial behaviour, contrasting with typical models that focus on psychological traits, motives, and attitudes. It illustrates that spiritual drive can augment entrepreneurial commitment, ethical behaviour, and business sustainability.

This research in Islamic economics operationalizes entrepreneurship as an act of worship (ibadah), incorporating Islamic ideas into actual economic endeavors like urban farming. It broadens the discussion by demonstrating how Islamic ethics focused on integrity, social accountability, and environmental stewardship can be integrated into entrepreneurial operations. Moreover, by concentrating on urban farmers connected to Islamic philanthropic organisations, the study demonstrates how grassroots entrepreneurship can facilitate the attainment of Maqasid al-Shariah (the aims of Islamic law), especially in advancing welfare, livelihood, and ethical economic development. This paper addresses a significant gap between entrepreneurial theory and Islamic economic principles, offering a com-

prehensive model that highlights economic achievement with moral, social, and environmental obligations.

## 5. Conclusions

Based on the existing results, a positive attitude towards entrepreneurship, high motivation, and a supportive personality is positively related to developing an urban farming entrepreneurial model. Islamic religious values, especially those represented by Islamic Worshipful Entrepreneurial Intention (IWEI), play an essential role as an enhancer in strengthening the relationship between attitude, motivation, and personality with the entrepreneurial model.

### 5.1. Theoretical and Practical Implications

The results of this study yield theoretical implications that contribute to our understanding of Ajzen's Theory of Planned Behavior (TPB) and its intersection with Islamic Ethics in Entrepreneurship. Within the TPB framework, the observed positive attitudes towards entrepreneurship, heightened motivation, and conducive entrepreneurial personality align cohesively with the dimensions of attitude, subjective norms, and behavioral control delineated in TPB. Notably, the implications for the subjective norm dimension underscore the significant role Islamic religious values play, specifically manifested through Islamic Worshipful Entrepreneurial Intention (IWEI), as a positive moderating force. This modulation is instrumental in shaping how subjective norms influence the entrepreneurial context, emphasizing the nuanced interplay between TPB and Islamic ethics in entrepreneurship. The synthesis of these dimensions shed light on the intricate dynamics where religious values, particularly IWEI, impact subjective norms, offering novel insights into the interconnection between psychological theories and Islamic ethical frameworks within the entrepreneurial domain.

Furthermore, the positive relationship between Islamic religious values and entrepreneurial intentions highlights that Islamic ethics in entrepreneurship can function as an amplifier or mediator, bridging psychological variables with entrepreneurial intentions in the TPB. In terms of behavioral control, elements of Islamic

ethics, such as transparency and fairness, provide an additional dimension to understanding behavioral control in the TPB. Overall, integrating Islamic ethics in entrepreneurship in the TPB can provide a more holistic and contextual understanding of entrepreneurial behavior by paying attention to Islamic ethical values as an essential factor in shaping entrepreneurial intentions and actions. These implications can help design interventions and policies that are more appropriate to the context of Islamic ethics, supporting the development of ethical entrepreneurial theory and practice.

Apart from theoretical implications, this study yields practical implications that can inform interventions in the realm of urban farming. Aligning activities with the practical implications derived from entrepreneurial attitudes, entrepreneurial motivation, entrepreneurial personality, and religious values can enhance the efficiency and sustainability of agricultural practices in this context. Initiating entrepreneurial attitude training emerges as a foundational step, enabling participants to discern the potential and challenges while fostering a proactive and creative mindset toward urban farming management<sup>[142]</sup>. Furthermore, cultivating entrepreneurial motivation through competitions or incentive programs is an effective strategy to incentivize urban farmers, encouraging optimal production outcomes and the proposition of innovations.

Effective management of entrepreneurial personality traits can be facilitated by establishing working groups or discussion forums, providing individuals with platforms to share experiences and ideas, thereby collectively addressing challenges. Finally, the integration of religious values, encapsulated within the Islamic Worshipful Entrepreneurial Intention (IWEI) framework, can be reinforced through reflective sessions or lectures. These sessions guide urban farmers in making decisions grounded in Islamic business ethics, focusing on sustainability, justice, and social responsibility. By orchestrating these diverse activities, an environment can be cultivated that not only fosters the development of entrepreneurial attitudes, motivation, and personalities but also upholds religious values within the realm of urban farming. This multifaceted approach aims to create a holistic framework that seamlessly integrates theoretic-



cal insights into actionable practices, thereby enhancing urban agricultural endeavors.

This study enhances entrepreneurship literature by presenting IWEI as a new moderating variable that reinforces the connections among entrepreneurial attitudes, motivation, personality factors, and entrepreneurial models. It broadens traditional entrepreneurial paradigms by incorporating spiritual and ethical aspects, emphasizing that religious values significantly influence entrepreneurial behavior. Furthermore, it enhances Islamic economics literature by actualising the notion of entrepreneurship as an act of worship (ibadah), illustrating how Islamic ideals can be integrated into entrepreneurial endeavours to foster socially responsible, ethical, and sustainable practices.

This study offers pragmatic insights for urban farming entrepreneurs and stakeholders. It underscores the significance of harmonizing commercial endeavors with Islamic principles to bolster resilience, ethical commitment, and social impact. The results imply that integrating IWEI into entrepreneurship training and capacity-building initiatives can promote more comprehensive and sustainable entrepreneurial growth. The study advocates for policymakers and practitioners to develop culturally and religiously attuned entrepreneurship support systems, especially through collaborations with Islamic philanthropic foundations, to enhance community cohesion, foster market trust, and advance inclusive economic development.

## 5.2. Limitations and Suggestions for Further Research

The research has limitations, including potential challenges in generalizing findings to broader contexts due to specific urban and participant settings. Cross-cultural variations and the temporal dynamics of urban farming practices may need to be adequately addressed. Additionally, the study's sample size limitations could impact the generalizability of results. Future study could use longitudinal designs to look at how Islamic Worshipful Entrepreneurial Intention (IWEI) affects entrepreneurial behaviour and business sustainability over time. Mixed-methods approaches that

include surveys and qualitative interviews may provide more detailed insights into how Islamic principles influence entrepreneurial decision-making. Comparative studies across religious or cultural groups might also help us understand the universality or distinctiveness of worshipful entrepreneurial intention. Furthermore, more development and validation of the IWEI construct is suggested to capture its multidimensional nature. Exploring the role of Islamic financial institutions and sector-specific applications outside of urban farming, such as Islamic fintech or halal tourism, would provide a broader perspective on faith and entrepreneurship.

## Author Contributions

Conceptualization, L.S.B., I., W.R.A. and B.A.P.; supervision, L.S.B., I., W.R.A. and B.A.P.; data curation, formal analysis, methodology, and writing-original draft, L.S.B. and I.; investigation, validation, visualization, and writing-review & editing, W.R.A. and B.A.P. All authors read and agreed to the published version of the manuscript.

## Funding

This work was supported by the Universitas Jenderal Soedirman [grant number 27.53/UN23.37/PT.01.03/II/2023].

## Institutional Review Board Statement

Not applicable.

## Informed Consent Statement

Informed consent was obtained from all subjects involved in the study.

## Data Availability Statement

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

## Acknowledgments

Grateful thanks are due to Universitas Jenderal Soedirman for funding this research.

## Conflicts of Interest

The authors declare no conflict of interest. The funders had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript; or in the decision to publish the results.

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