

DEVELOPING A *WAQF*-FINTECH INTEGRATED
MODEL FOR FUNDING PADDY FARMING SECTOR
IN MALAYSIA

BY

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ABSTRACT

Despite the widespread adoption of financial technology (fintech) solutions in various industries, its application is still relatively low in the field of agriculture, especially in the paddy farming sector. This study aims to develop a *Waqf*-Fintech Integrated Model (WFIM) to achieve two objectives: First, to meet the financing needs of small farmers in developing their paddy land. Second, to assist *Waqf* institutions in raising funds via cash waqf and fintech for financing the *Waqf paddy* lands in Malaysia. Although there are several challenges, the liquidity problem seems to be the primary concern that requires rigorous focus in this study. Various studies have revealed that there are a number of *Waqf* lands in Malaysia that are undeveloped. Hence, this study looks at the possibility of combining *Waqf* lands, cash *Waqf*, fintech solutions, such as equity-based crowdfunding and smart contracts on the blockchain to meet the financing needs of small farmers who can develop *Waqf* paddy lands. Such an arrangement could enhance the local rice production to ensure the problem of food security is tackled in Malaysia. In this study, an Integrated *Waqf* Fintech Model (WFIM) has been proposed and developed to ensure that financing liquidity supply is available and to automate the process of fund allocation via crowdfunding and Blockchain technologies. This model consists of three stakeholders, namely: Malaysian employees living in the Klang Valley area, *Waqf* institutions, and small paddy farmers. The study uses interview and survey (mixed method) approaches for data collection. The former was conducted to validate the WFIM model regarding its viability, applicability, challenges, and suggestions for improvement, by conducting interviews with paddy farmers, *Waqf* institutions, Fintech Experts and academicians. The findings of the interviews revealed that stakeholders from different backgrounds have positive perceptions towards the proposed WFIM. In addition, experts affirmed that a WFIM platform is a viable and relevant model that would have tremendous benefits for paddy farmers. Similarly, the survey examines and investigates the main factors that influence the adoption of the WFIM by Malaysian employees, using the Technology Acceptance Model (TAM). The sample consists of 458 respondents, analysed using Structural Equation Modelling (SEM) to examine causal relationships among the latent variables. The SEM results indicate that perceived usefulness, perceived ease of use, trust, and social finance have a significant and positive influence on intention towards the adoption of WFIM among Malaysian employees. Nevertheless, risk has no significance but a negative effect on intention towards WFIM. Awareness also has no significance but a positive effect on WFIM adoption. Furthermore, the findings of the study reveal that the social influence relationship with perceived usefulness was not significant but had a negative impact on the respondents' intention. It can be concluded that the extended TAM framework explains Malaysian employees' intention to adopt the WFIM. This suggests that when employees have a positive view about the outcome of the WFIM, the stronger their intention is to finance *Waqf* paddy projects. The findings of this study will provide useful insights for *Waqf* institutions and policymakers who want to consider investing in the fintech solutions for *Waqf* and paddy development, hoping to restore the leading role of *Waqf* in the Malaysian society.

خلاصة البحث

قامت الدراسة بتطوير نموذج متكامل للأوقاف والتكنولوجيا المالية من أجل تحسين سبل عيش مزارعي الأرز و كذا مساعدة المؤسسات الوقفية في تطوير الأراضي الوقفية المعطلة بماليزيا. فبالرغم من التحديات الكثيرة التي يواجهها المزارعون و مؤسسات الأوقاف، إلا أن السيولة تعد المشكلة الرئيسية التي تتطلب دراسة معمقة من أجل الكشف عن الأسباب و الحلول. هناك دراسات عديدة أكدت على وجود العديد من الأراضي الوقفية المجمدة، مما استدعى الوقوف على هذا المشكل ودراسة إمكانية استخدام الأراضي الوقفية من أجل تطوير قطاع صناعة الأرز في ماليزيا، مع إدماج الوقف النقدي وتكنولوجيا المالية كأداة تمويل رئيسة في هذا المشروع. من شأن هذا النموذج أن يقوم بتطوير الأراضي الوقفية المعطلة، وزيادة إنتاج الأرز، ثم تحقيق الأمن الغذائي في ماليزيا. تم إنشاء نموذج إدماج الوقف و تكنولوجيا المالية (WFIM) من أجل إمداد السيولة الكافية وإتمام العمليات المالية بين الأطراف عن طريق تبني التكنولوجيا المالية (Fintech)، بالخصوص عنصري التمويل الجماعي والعقود الذكية. يتكون هذا النموذج من ثلاثة أطراف: الموظفون الماليزيون الذين يعيشون في منطقة وادي كلانج، و مؤسسات الوقف، و مزارعو الأرز. استخدم الباحث منهجية البحث المدمج (المقابلة والاستبيان). حيث أجريت المقابلة مع مجموعة من الخبراء في قطاع زراعة الأرز، والفتنك والوقف من أجل التحقق من صحة نموذج WFIM من حيث ملائمته وقابليته للتطبيق، والتحديات الكامنة وراءه، ثم طرح الاقتراحات المناسبة لتحسينه. كشفت نتائج المقابلة أن لدى فئة الخبراء المستهدفين تصورات ومواقف إيجابية تجاه هذا النموذج المقترح في توفير خدمات مالية وتكنولوجية لفائدة مشاريع زراعة الأرز وكذا الأراضي الوقفية في ماليزيا. بالمقابل، تم تحليل البيانات بواسطة برنامج نمذجة المعادلة الهيكلية (AMOS، SPSS) لتحديد العلاقة السببية بين المتغيرات. وتم توزيع ٤٥٨ استبانة على الموظفين الماليزيين من أجل فحص العوامل الرئيسية التي تؤثر على تبنيهم وقبولهم لنموذج الوقف والتكنولوجيا المالية WFIM كمستثمرين في المشاريع الزراعية. توضح الدراسة كذلك كيفية استخدام نظرية قبول التكنولوجيا TAM لاختبار العوامل المؤثرة في تبني نموذج WFIM. أظهرت نتائج الدراسة أن سهولة الاستخدام، وإدراك المنفعة، والثقة، وعامل التأثير الاجتماعي لهم الأثر الكبير والإيجابي على نية تبني واستخدام هذا النموذج القائم على منصة التمويل الجماعي مدعومة بتقنية العقود الذكية. أما إدراك المخاطر فتبين أن له تأثيرا ضعيفا وسلبيا على نية المشاركين. في حين اتضح أن الوعي أيضا ليس له أهمية كبيرة وتأثيره إيجابي على نية تبني هذه التقنية. في الجانب الآخر، أكدت النتائج على أن التأثير الاجتماعي عامل غير مؤثر على إدراك المنفعة. في الختام، يمكن أن نستنتج أن نموذج قبول التكنولوجيا يفسر نية الموظفين الماليزيين في اعتماد منصة WFIM. وهذا يشير إلى أنه كلما كانت لدى الموظفين وجهة نظر إيجابية حول نتائج نموذج الوقف والتكنولوجيا المالية، كانت نيتهم أقوى وأكبر لتمويل مشاريع الأرز على الأراضي الوقفية عبر منصة التمويل الجماعي القائمة على البلوكشين. ستوفر نتائج هذه الدراسة رؤى وإرشادات لمؤسسات الأوقاف وصانعي القرارات، لاعتبار الاستثمار في حلول التكنولوجيا المالية لتطوير الأوقاف وقطاع زراعة الأرز، على أمل استعادة المؤسسات الوقفية الماليزية لدورها الريادي في خدمة المجتمع.

APPROVAL PAGE

I certify that I have supervised and read this study and that in my opinion, it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the Doctor of Philosophy in Islamic Banking and Finance

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DECLARATION

I hereby declare that this thesis is the result of my own investigations, except where otherwise stated. I also declare that it has not been previously or concurrently submitted as a whole for any other degrees at IIUM or other institutions.

Hassan Azganin

Signature

Date 20 September 2022



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Dedicated to

My Parents- Mr. Mohamed Azganin and Mrs. Fatima Akhouchal
for nurturing in me love of scholars and admiration of being proud of my faith and
religion

and most importantly,
My wife Radia Moumou, my daughter Maria Azganin
for whole heartedly supporting my PhD endeavor and bearing my daily absences

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who were pillars of support and strength in my life

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GLOSSARY

Transliteration	Translation
Crowdfunding	A financing method through which funds are raised in a small amount of money to fund different types of businesses, from large projects to small and medium enterprises.
Equity Crowdfunding	It is the online offering of private company shares to a crowd of people for investment.
P2P Crowdfunding	A form of financial technology that allows the crowd to lend or borrow money from one another through a platform without going through a bank
Islamic Crowdfunding	A financing method through which funds are raised online in a small amount of money to fund shariah-compliant projects.
Smart Contract	As an electronic programmed contract whose terms are executed automatically when the conditions set by the two contractors are met
Blockchain	Is a distributed or peer-to-peer public ledger consisting of 'blocks' maintained by a distributed computers network containing multiple verified transactions records without a central authority or third-party's interference
Food Security	The state of having reliable access to a sufficient quantity of affordable, nutritious food
Waqf	Endowment
Cash Waqf	A perpetual mobilisation of funds from donors to be invested in productive assets that either provide revenues or usufruct for future consumption by individuals.
Waqf 'Am	Public Waqf
Waqf Khas	Private Waqf
Mutawalli	Administrator
Waqif	Founder/donor
Khalifah	Ruler

Mazhab	School of thought
Qard Hasan	Interest-free loans
Muzara'a	An agreement between an agricultural landowner and a farmer to harvest in exchange for a share of the crop.
Mudrabah	A fiduciary relationship between the entrepreneur (mudarib) and capital provider (rabbul mal). The profit will be shared between parties, while financial losses are borne by the capital provider
Istisna'	A contract in which a seller sells to a purchaser an asset that is yet to be constructed, built, or manufactured according to agreed specifications and delivered on an agreed specified future date at an agreed pre-determined price
Waqf Paddy Lands	Paddy land under the management of a Waqf institution (Trust Foundation)
Idle Waqf Lands	Undeveloped waqf lands
Sawah	Paddy
Padi	Paddy
Majlis Agama Islam	State Islamic Religious Council

LIST OF ABBREVIATIONS

AIBIM	Association of Islamic Banking Institutions Malaysia
BNM	Bank Negara Malaysia
CWM	Crowdfunding <i>Waqf</i> Model
ECF	Equity Crowdfunding
FSX	Food Security Exchange
ICP	Islamic Crowdfunding Platforms
IDB	Islamic Development Bank
IZCM	Integrated Zakat Crowdfunding Model
JAWHAR	Jabatan Wakaf, Zakat Dan Haji
LLP	Limited Liability Partnership
MADA	Muda Agricultural Development Authority
MAIN	Majlis Agama Islam Negeri
MAINPP	Majlis Agama Islam Negeri Pulau Penang
MT	Metric Tons
NLC	National Land Code
P2P	Peer to Peer
PCE	Paddy Corporate Entity
RFID	Radio-Frequency Identification
SC	Securities Commission Malaysia
SEC	Securities and Exchange Commission
SEM	Structural Equation Modelling
SIRC	State Islamic Religious Council
SMES	Small and Midsize Enterprises
SPV	Special Purpose Vehicle
SSL	Self-Sufficiency Level
TAM	Technology Acceptance Model
TRA	Theory of Reasoned Action
TRM	Malay Reserve Land
WFIM	<i>Waqf</i> -Fintech Integrated Model



CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Despite the various initiatives undertaken, poverty has generally remained persistent in many Muslim countries. According to the World Bank (2017), around 389 million people globally live under extreme poverty, which is defined as living on \$1.9 a day or less. In Africa, even though the poverty headcount ratio had decreased from 53.3% in 1990 to 41% in 2013, the poor people still live much further below the extreme poverty threshold compared with other regions (Union, 2017). The Islamic Development Bank (IDB) reported that the IDB member countries are home to almost one-third of the world's poor people, where 504 million live in poverty (Alpay, Alkire, Hammock, Bell, Robles Aguilar and Housseini, 2016). The agriculture sector is one of the most potent sectors with the potential to end extreme poverty and feed 9.7 billion people by 2050. The development of this sector is two to four times more efficient in increasing incomes among the underprivileged people compared with other economic fields. Furthermore, it accounts for contributing one-third of the global domestic product in 2014 (World Bank, 2020).

Besides poverty, there is a massive global challenge related to the food supply. The World Bank raised a red flag and requested to increase food supply by roughly 70 per cent in the next 30 years to continue feeding the growing number of the world population and meet their daily food requirements (World Bank, 2018). It can be concluded here that the current level of food production is not enough, and this is a worldwide issue since many factors that caused this problem are correlated with each