

UNIVERSITI TEKNOLOGI MARA

TECHNICAL REPORT

**A DEMATEL ANALYSIS OF THE COMPLEX
BARRIERS HINDERING DIGITALIZATION
TECHNOLOGY ADOPTION IN THE MALAYSIA
AGRICULTURE SECTOR**

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IN THE NAME OF ALLAH, THE MOST GRACIOUS, THE MOST MERCIFUL

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ABSTRACT

An improvement in technology indirectly impacts the development of the agricultural industry. However, numerous barriers hinder the adoption of digitalization technology particularly in the context of Malaysian agriculture sector. This is because sometimes using digital technology can make a problem become worst. So, most of agriculturists decide to use manually compared to use digital technology. There are several barriers that reveals in this study, including lack of skills, high cost, low level of education, lack of technology, and resistance to change. By using the DEMATEL (Decision-Making Trial and Evaluation Laboratory) approach, this study investigates the challenges to the digitalization technology adoption in Malaysia agriculture sector, which will give a complete knowledge of the interdependencies among the barriers. This study objectives are to determine the cause and effect of digital agriculture using DEMATEL and to recommend the best way to overcome the obstacles in using digital technology. A mixed-methods strategy is used in the research design, which is integrating quantitative and qualitative analysis. In qualitative phase, 20 respondents who have experience in the field of agriculture were interviewed about the barriers hindering digitalization technology adoption and acceptance in the Malaysia agriculture sector and all their answers were reviewed, answer from 20 respondents were evaluated using DEMATEL in the quantitative phase. The DEMATEL technique is used to evaluate the relationships between causes and effects as well as the relative significance of the barriers. The findings from this study reveals the cause and effect from the barriers which is lack of skills, lack of technology, high cost, infrastructure and connectivity, and resistance to change are in the cause group while limited locality, data privacy and security concerns, low level of education, market access and regulatory and policy are in the effect group. The DEMATEL research explain the interdependencies between these barriers, pinpointing the key barriers that impede the adoption of digitalization technologies in the agriculture sector of Malaysia. The research findings are utilized to give policymakers and stakeholders with practical recommendations aimed at addressing the identified barriers and promoting the adoption of digital technologies in Malaysian agriculture. These recommendations include analyse the results from the earlier stages, paying particular attention to the highlighted obstacles, important factors, and how they interact, create

strategic suggestions based on the study to address the problems highlighted and maximize the potential of digitalization technology in the farm industry and prioritize the recommendations based on their potential impact and feasibility of implementation. The DEMATEL technique's implementation helps prioritize issues that require immediate attention and offers informative data regarding the interdependencies among the barriers to advancement.