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THE ROLE OF ORGANIZATION, ENVIRONMENT AND FAMILY OWNERSHIP IN DIGITAL ADOPTION AMONG SMES

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ABSTRACT

Digital adoption is increasingly important for micro, small, and medium-sized enterprises (MSMEs) to remain competitive in a rapidly changing business environment. However, adoption decisions may be shaped not only by organizational and environmental conditions but also by the distinctive characteristics of family-owned businesses. This study examines the effects of top management support, organizational culture, government support, perceived trust, competitive pressure, and family ownership on digital adoption among MSMEs in Denpasar, Indonesia. Drawing on the Technology–Organization–Environment (TOE) framework and the Three-Circle Model of family business, this study employs a quantitative approach using questionnaire data from 102 MSME owners or business leaders selected through simple random sampling. Multiple linear regression is used to analyze the data. The results indicate that top management support, government support, and family ownership have positive and statistically significant effects on digital adoption. In contrast, organizational culture, perceived trust, and competitive pressure do not demonstrate statistically significant effects. The model explains approximately 65.29% of the variation in digital adoption. These findings highlight the importance of managerial commitment, institutional support, and family involvement in facilitating digital adoption among MSMEs.

Introduction

MSME are business entities that operate on a relatively small scale in terms of assets, revenue, and workforce. They play an important role in economic growth, employment creation, and local economic development. Based on data from KADIN Indonesia in 2023, Indonesia has 66 million MSMEs that contribute up to 61% of Indonesia GDP. 90% of MSMEs in Indonesia are family ownership business (FOB). Taguri and Davis proposed about uniqueness in FOB with Three Cycles Model (Figure 1). This model explain how FOB combines three important things in business are family, ownership, and company. These three elemenrs have a direct socio-emotional impact on strategic decision making. The amount of socio-emotional subjectivity aims to maintain control, family control and family values in the company (Davis, n.d.; Dewi, 2016).

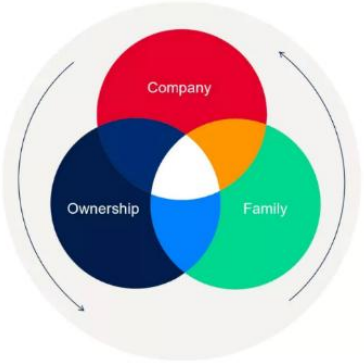


Figure 1. Three Cycles Model in Family Ownership Business

The rapid pace of digitalization encourages MSMEs to make changes in their business. Based on Figure 2, from KPMG report *Family Businesses in the Digital Economy*, identified digitalisation as a major concern among family businesses in Singapore. Based on a survey of 100 family businesses, 64% of respondents considered digitalisation a challenge, followed by manpower (62%) and innovation (61%). The findings highlight the importance of digitalisation as a strategic issue for family businesses, while also pointing to related challenges involving workforce capabilities and innovation. John Davis research form MIT-Sloan also supported this finding, which states MSMEs are not ready to face digitization. Research conducted by Ren (2023) states that are dual challenges face by MSMEs. First the rapid flow of digitalization if done well digital innovation help MSMEs develop their business and second, digital innovation is still slow to be carried out (KPMG, 2017; Ren et al., 2023)

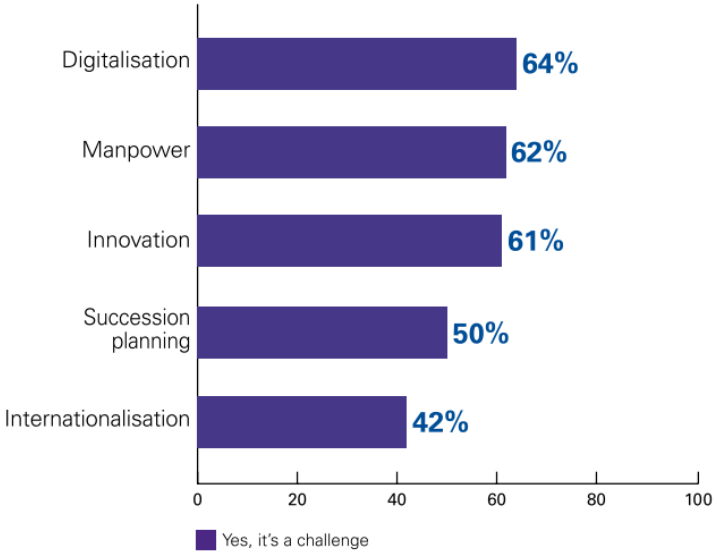


Figure 2. KPMG Survey About Main Challenges for a Family Business in 2017

There are several barriers for MSMEs to digitize, including: limited financial capacity for technology development, human resources capabilities, and innovation (*Digital Transformation in Family Businesses*, 2023) . Digitalization is a dilemma for MSMEs. Based on the results of previous research, MSMEs face the problem of capital constraints and difficulty accessing external capital. From the organizational side, MSMEs are prone to nepotism, which causes a decrease in the quality of human capital. This factor causes digital transformation will be a big challenge. In this case, family will play the main role to control the strategic decision about digital innovation. Its support by the amount of ownership in the company, level of involvement and family influence. Their decision could strengthen or weaken the influence of the MSMEs digital transformation .Previous research

also explained digitization implies that the company need to adapt with the fast changing environment, its will be fundamentally change the knowledge, member skill and process of an organization (Chung & Lee, 2024).

External environmental phenomena have a significant impact on digital adoption in various sectors, including MSMEs. External factors such as government regulations, competitive pressures, customer expectations, technological developments, and digital infrastructure support play a key role in determining the level and speed of an organization's digital transformation. Previous research found that government support plays the important role to support digital transformation with their regulation. Environmental things also relate with competition among industries. So, the competitive pressure will influence other company to follow their digital strategy (Ghobakhloo & Iranmanesh, 2021; Sugandini et al., 2019).

Bank Indonesia in 2020 states a publication that Bali has a "Fairly Good" digitization level with score of 2.87. Survey that conducted by BPS in 2016 also shows MSMEs in Bali are dominated by the trade sector. This sector has high socio-economic value because it absorbs labor and can develop other sectors. Denpasar, as Bali capital city has the biggest number of MSMEs rather than other regency. The highly competition rates, encourages the MSMEs to more innovative with their digital strategies. Based on the previous background, TOE Model and family ownership business influence various aspects of MSMEs management and operations including decision making, innovation and technology adoption. This research explores how organization, external environment and family ownership business can influence digital transformation in Kota Denpasar.

Literature Review

The research of digital transformation on FOBs is in the early stage, previous research shows that the digitalization of FOBs is devided into three steps, process-product/service-business model. FOBs characteristics of more flexibility, less formality, entrepreneurialism, and superior decision making give the advantage over non-family enterprises, which makes it possible to digitize their businesses quickly. Only a small percentage of FOBs have reached the last stage of digitization. Therefore, to survive, FOBs must exploit and explore through digital transformation (Burgel & Hiebl, 2023; Mitra, 2023; Nieto et al., 2023; Tiwasing et al., 2023)

The TOE model concept was developed by Tornatzku and Fleischer in 1990 and its widely used today to analyze the relationship between companies and information systems or information technology. This model interprets the factors that influence company decision making related to the application of information systems or information technology. The three main factors that influence the use of information systems or information technology in a company are Technology, Organization and Environment (Awa et al., 2015; Effendi et al., 2020; N'Dri & Su, 2024; Rawash, 2021)

Top management is the highest hierarchical level management, which in MSMEs its usually the owner or the team leader. Support from the senior management will improve the digital adoption through (Qatawneh, 2024). Previously research explained top management can support all the resources the teams needed for digital adoption (Effendi et al., 2020).

Organizational culture has an important role in determining the success of digital adoption in MSMEs. A culture that supports innovation and technology can accelerate digital adoption, while a culture that is conservative and resistant to change can be a hindrance. Research about culture for digital transformation explain culture is a social control system for digital adoption. Most of MSMEs failed to with their digital strategy because of their organizational culture not supported changes (Butt et al., 2024). Other research findings that organizations culture influence digital adoption among MSMEs (Toscano-Jara et al., 2024).

H1 : Top management support has a significant effect on digital transformation

H2 : Organizational culture has a significant effect on digital transformation

Government support play an important role in digital transformation among MSMEs. Previous research explain government is a critical external factor for successful digital adoption. Unfortunately, this role could be barrier and driver for MSMEs. From government support to access the benefits of digital age and lead training tasks, continuous improvement and skill development that will allow resilience within organizations (N'Dri & Su, 2024; Toscano-Jara et al., 2024). Other result explain government regulation can provide finance and resources for digital adoption (Effendi et al., 2020).

Research by Ocloo, et al (2020) states competitive pressure shows digital transformation driven by market competition. Business partner pressure also encourages business to increase their digitalization. In addition, a significant effect is support from the government regarding infrastructure development, policies, and funding. Other research that support this finding, explain competitive pressure important factor for increase digital adoption (Qatawneh, 2024). Different result explain competitive pressure has not influenced digital transformation (N'Dri & Su, 2024).

H3 : Government support has a significant effect on digital transformation

H4 : Perceived trust has a significant effect on digital transformation

H5 : Competitive pressure has a significant effect on digital transformation

Family ownership has a complex influence on digitalization in business. Family companies often have a long-term vision, traditional values, as well as different leadership structure compared to non-family companies. This can be both a driver and an obstacle in digital adoption. Research by Hu, et al (2023) states that family management moderates the organization on digitalization in family companies. This result is also supported by research conducted by Mirta (2023) which states that FOB strengthens the influence of the organization in carrying out digital transformation.

H6 : FOB has a significant effect on digital transformation

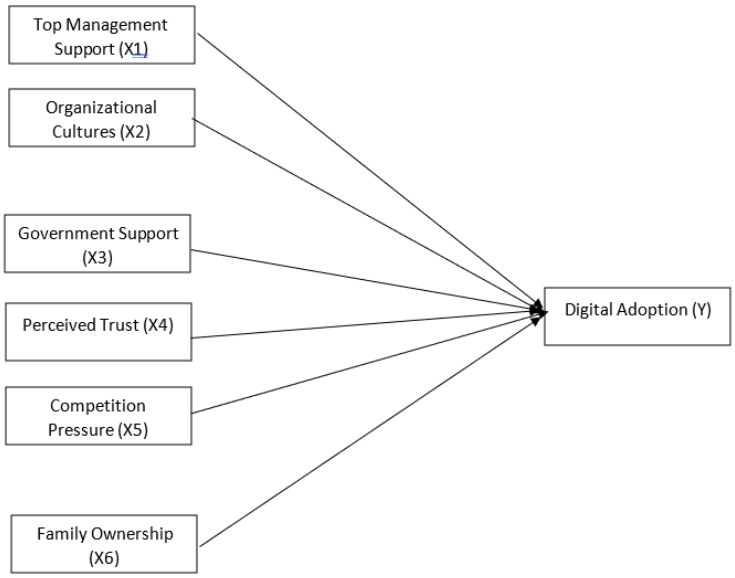


Figure 3. Conceptual Framework Model

Method

This research will be conducted in Denpasar, this location was chosen based on the Economic Census in 2016 by Badan Pusat Statistik which states that Denpasar has the highest number of MSMEs in Bali, both those with legal entities and those without legal entities. The data used in this research was collected through questionnaires and observations from articles and research archive publications.

The data in this research will be analyzed using Linear Regression Analysis. The model of this analysis is as follows:

$$Tech = \alpha + b1.TMS + b2.OrgC + b3.GovS + b4.PercT + b5.ComP + b6.FOB + e \ldots\ldots(1)$$

Note:

Tech	=	Digitization among MSES
TMS	=	Top Management Support
OrgC	=	Organizational Culture
$GovS$	=	Government Support
$PercT$	=	Perceived Trust
ComP	=	Competitive Pressure
FOB	=	Family Ownership Business

Results and Discussion

This study uses data taken form 102 MSMEs in Kota Denpasar. Respondents are all owners or SME leader. Respondent characteristic of this research are 102 MSES in Kota Denpasar, which 81,7% of respondent are engaged in the trade sector and 18,3% are service sector. Based on degree of digitization, 94,2% of respondent have conducted digital financial transactions such as QRIS, Ovo, Shopee pay and other type of digital payments. 35,6% of research respondents using digital marketing such as social media and google ads.

The reliability and validity test results show that all instruments used in the study are valid and reliable so that they can used for further analysis. This research instrument used to measure digital adoption, top management support, and government support was adapted from (Cahyadi & Pradnyani, 2022) and (Citra Resmi Cahyadi et al., 2023). Others instrument to measure organization culture, perceived trust, competitive pressure was adapted form (Effendi et al., 2020; Qatawneh, 2024; Toscano-Jara et al., 2024). Family ownership instrument was adapted form (Chung & Lee, 2024b; Tirdasari et al., 2022).

This study uses STATA analysis tools involving 102 respondents. Table 2 shows the results of data analysis are F value 29,78 with significant 0,000 means all the variables simultaneously effected digital transformation among MSMEs. Goodness of fit index 0,6310 means that the variable influences the model by 63.1% and the remaining 36.9% is influenced by other variables outside the model. The results for partial variables test are top management support, government support, and FOB has a significant effect on digital transformation among MSES. The rest variables are organization culture, perceived trust, and company pressure has not affected digital transformation among MSMEs.

Table 1. Multiple Regression Analysis

Variable	Regression Coefficients				95% Confidence Interval	
	Coefficient	*Standard Error*	*t-statistic*	*p-value*	*Lower Bound*	*Upper Bound*
Top Management Support	0.836	0.286	2.92	0.004	0.268	1.403
Organizational Culture	0.124	0.274	0.45	0.651	-0.419	0.668
Government Support	1.345	0.218	6.17	0.000	0.912	1.778
Perceived Trust	-0.226	0.441	-0.51	0.610	-1.102	0.650
Competitive Pressure	-0.057	0.391	-0.15	0.885	-0.833	0.719
Family Ownership	0.583	0.215	2.72	0.008	0.157	1.009
Constant	0.421	0.612	0.69	0.492	-0.795	1.637
Observations	102					
R-squared	0.6529					
Adjusted R-squared	0.6310					

Note: Dependent variable is Digital Adoption. *Robust standard errors are used.*

In organizational context, top management support is a crucial factor for digital transformation among MSMEs because they have a direct and immediate impact on digitization. This results also support previous research found that top management usually also the business owner usually has awareness of digital adoption, and they can control the implementation of internet technologies initiation. The higher the top management support, the adoption will affect the use of digital sales. If top management support is low, it will certainly reduce the use of digital in MSMEs. The support that can be provided by top management includes support for the development of information technology facilities in the business environment, conducting digital adaptation planning and evaluations related to business adoption and digitalization, so that when experiencing obstacles, they can immediately find the best solution. (Cahyadi & Pradnyani, 2022; Effendi et al., 2020; Rawash, 2021).

Previous research explains about organization culture act like a control system in digital adoption, not directly influence the adoption. To increase the digitization, MSMEs should improve their culture even that not instant way through strategic planning. In other hand, organizational culture has a complex influence in digital adoption. Some reason that makes the organizational culture have not significantly effect: MSMEs scale and structure, which this model usually have modest structure and have not complex hierarchical that makes cultural factor not dominant in making strategic decisions. MSMEs also more focused on daily operational and last is limited resources like financial, employment skill and technology infrastructure (Butt et al., 2024).

Government support through legislation is one of the important factors that influences digital adoption in MSMEs. Through the regulation, government can motivate MSMEs leader to improve their digitization. On other hand, as a support for MSMES, government can provide finance support, resources and tax breaks to encourage business leaders. Indonesia government launched view programs to support digital adoption among MSMEs. Some of the main initiatives: Program Adopsi Teknologi Digital dan Akselerasi Bisinis UMKM 2024; Making Indonesia 4.0 Program Adopsi Teknologi Digital 4.0 bagi UMKM in 13 priorities area; and Pengembangan Talenta Digital. Government support in Kota Denpasar also take their role to support digital adoption among MSMEs. The program initiatives: Digitization workshop; support digital payment systems; and push digital ecosystems. This results also support previous research found that governments support plays the important role of digital adoption (Cahyadi & Pradnyani, 2022; Effendi et al., 2020; N'Dri & Su, 2024).

Perceived trust and competitive pressure are not significantly influenced digital adoption among MSMEs. Some factor that affected this result: lack of digital literacy and often more influence by implementation costs and ease of use than trust in the technology itself. In MSMEs competitive pressure, mostly they keep the traditional way like discount and personal relation rather than digital adoption. Not all MSMEs feel that they face strong enough direct competition to adopt digital technologies. Many MSMEs operate in local markets with a loyal customer base, so they do not feel threatened by digital competitors.

Family ownership in businesses influenced on the digital transformation process in the company, both in terms of positives and challenges. This influence arises from the unique characteristics that are generally inherent in family companies. These results are different from the previous research which is family ownership usually as a moderating variable that has undirect influence to digital adoption. The finding in this research is family ownership has more significant implications in business. Family members who has important role in the business will directly influence decisions making about digital adoption based on their knowledge and experiences in business (Burgel & Hiebl, 2023; Chung & Lee, 2024b; Costa et al., 2023; Tiwasing et al., 2023).

Conclusion

Based on previous analysis and discussions, this research makes some conclusions: in organization, the role of top management support is playing the main role for digital adoption in MSMEs. In environments, government support is important to MSMEs increase the digital adoption. Both results, support the previous research. The role of family ownership directly influences the digital adoption among MSMEs. This results have a different result, which is previous research findings FOB has undirect influence to MSMEs digital adoption. This research finding FOB has stronger influence in digital adoption.

This research was conducted in Kota Denpasar and can only be generalized to MSMEs in area with characteristic like Kora Denpasar. This research was carried out the early stage of MSMEs digital adoption. Further research is expected to conduct more variables and different areas, so they can provide more explanations in digital adoption in MSMEs. Furthermore,

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