

**MODEL OF CLOUD ACCOUNTING ADOPTION
AMONG INDONESIAN MICRO, SMALL AND
MEDIUM ENTERPRISES (MSMES)**

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**MODEL OF CLOUD ACCOUNTING ADOPTION
AMONG INDONESIAN MICRO, SMALL AND
MEDIUM ENTERPRISES (MSMES)**

by

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LIST OF ABBREVIATIONS

AIS	Accounting Information Systems
BAM	Business Activity Monitoring
BI	Business Intelligence
BPM	Business Process Management
BPMS	Business Process Management Suite
BPS	The Indonesian Central Bureau of Statistics
CA	Cloud Accounting
CAATTs	Capability and Computer-assisted auditing tools and techniques
CC	Cloud Computing
CCC	Cloud Computing Characteristic
CSP	Cloud Service Providers
DIT	Digital Information and Technology
DOI	Diffusion of Innovation Theory
EA	Enterprise Architecture
EAIA	Enterprise Application Integration
EDI	Electronic Data Interchange
FRS	Financial Reporting System
GI	Government Intervention
GL	General Ledger
GoF	Goodness of Fit
I&M	Industrial & Market
ITAC	Intention to adopt Cloud Accounting
KUR	Microfinance Program
LEs	Large Enterprises
MEs	Medium Enterprises

MIEs	Micro Enterprises
MP	Mimetic Pressure
MSE	MSMEs Services
MSMEs	Micro, Small, and Medium Enterprises
OLAP	Online Analytical Processing
OR	Organizational Readiness
PEU	Perceived Ease of Use
PU	Perceived Usefulness
S3	Simple Storage Service
SaaS	Software as a Service
SAK-ETAP	Standard Accounting Financial Entity without Public Accountability
SEM	Structural Equation Modelling
SEs	Small Enterprises
SMEs	Small, and Medium Enterprises
SPIs	Security and Privacy Issue
TA	Technology Adoption
TAM	Technology Acceptance Model
TI	Trust in Internet
TOE	Technological, Organizational, Environmental
TPB	Theory Planned Behaviour
TPS	Transaction Processing System
TS	Trust in System Reliability
UTAUT	The unified theory of acceptance and use of technology
XML	eXtensible Markup Language

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**MODEL PENGGUNAAN PERAKAUNAN AWAN DI KALANGAN
PERUSAHAAN MIKRO, KECIL DAN SEDERHANA (MSMES) INDONESIA**

ABSTRAK

Perakaunan awan (CA) ialah sistem maklumat perakaunan bersesuaian dengan ciri-ciri perusahaan mikro kecil dan sederhana (MSMEs) untuk pengurusan perakaunan. Secara umum, praktikal pengurusan perakaunan masih rendah di kalangan MSMEs sehingga kegagalan bisnis kerap terjadi. Sementara itu, MSMEs ialah penyumbang terbesar bagi ekonomi kebanyakan negara termasuk Indonesia. Kajian ini menguji kesan model Teknologi-Organisasi-Persekitaran (TOE) dan Model Penerimaan Teknologi (TAM) terhadap niat untuk menerima CA. Pemboleh ubah independen diantaranya ialah ciri pengkomputeran awan, kesediaan organisasi, dan konteks persekitaran seperti tekanan mimetik industri & pasaran, serta campur tangan kerajaan. Tambahan, pemboleh ubah mediator diantaranya ialah persepsi kemudahan penggunaan (PEU) dan persepsi kegunaan (PU), sedangkan kepercayaan pada internet (TI) dan kepercayaan pada sistem (TIS) sebagai pemboleh ubah moderator. Kajian ini menggunakan kaedah kuantitatif dengan pensampelan bukan kebarangkalian jenis pensampelan bertujuan. Populasi ialah MSMEs di Indonesia sebagai peniaga GoFood, dengan data yang dikumpulkan sebanyak 345 tindak balas. Didapati bahawa PEU dan PU mempunyai peranan mediator antara ciri pengkomputeran awan, kesediaan organisasi, tekanan mimetik industri & pasaran, dan niat untuk menerima CA. Disamping itu, TS diterima signifikan sebagai moderator untuk PEU dan niat untuk menerima CA, manakala PU ditolak. Ringkasnya, MSMEs tidak bimbang dengan internet yang matang saat ini, dan lebih kluatir pada PU, dan TS. Kajian ini telah

mengetengahkan hasil dan berupaya untuk menerangkannya secara logik dan disokong literatur berkaitan.

**MODEL OF CLOUD ACCOUNTING ADOPTION AMONG INDONESIAN
MICRO, SMALL AND MEDIUM ENTERPRISES (MSMES)**

ABSTRACT

Cloud accounting (CA) is an accounting information system that fits the characteristics of micro small and medium enterprises (MSMEs) for management accounting. MSMEs generally low uptake of management accounting and thus lead to the failure of the business. Meanwhile, MSMEs are considered the major contributor to the economic growth of most nations including Indonesia. This study has examined the effect of the Technology-Organization-Environment Framework (TOE) and Technology Acceptance Model (TAM) on the intention to adopt CA. The independent variables consist of cloud computing characteristics, organizational readiness, and environmental context such as industrial & market, mimetic pressures, as well as government intervention. In addition, the moderator variable consisted of perceived ease of use (PEU) and perceived usefulness (PU), whereas trust in the internet (TI and trust in system reliability (TS) as moderator variables. A quantitative method with non-probability purposeful sampling has been employed in this study. The population is MSMEs in Indonesia as GoFood merchants, with data collected of 345 responses. The result found PEU and PU have a mediating role between cloud computing characteristics, organizational readiness, industrial & market, mimetic pressures, and intention to adopt CA. In addition, TS has significantly moderated the relation between PEU and intention to adopt CA, while PU has been rejected. In short, the owners-managers of MSMEs are not concerned with the advanced internet, but more concerned with PEU, and TS. This study has highlighted the results and attempted to justify them with logic supported by the relevant literature.

CHAPTER 1

INTRODUCTION

1.1 Introduction

The main role in the nation's economy of a developing country is currently played by Micro, Small, and Medium Enterprises (MSMEs), and thus the researchers had been attracted to study related the MSMEs performance (Latifah, Setiawan, Aryani, & Rahmawati, 2020; Tjahjadi, Soewarno, & Gunawan, 2020). Management accounting information (MAI) is one of the good business strategies to achieve well performance. With the advance of technology, Cloud accounting (CA) can support the MAI practice for MSMEs that have limitations such as lack of budget and expertise (Cleary & Quinn, 2016). The MSMEs can enjoy a better economic model through pay as per use, secure, work from anywhere as long as have internet access and can run via tablets or smartphones, and are able to share resources to increase collaboration.

Despite its undeniable benefits, there is limited research in the field of CA utilization among MSMEs. The objective of this study is to investigate the adoption level of CA in MSMEs, exploring factors related the technology adoption, and examine the relationship between the factors determined for intention to adopt cloud accounting among MSMEs. The sample is MSMEs of the culinary sector in Indonesia, and the data will be collected in a quantitative method by using a questionnaire that will be circulated to the business owners-managers.

According to Gupta et al. (2013), the perception of micro small and medium enterprises (MSMEs) in different geographical regions is different. For example, European companies have different behaviors compared to companies in the US and

Asia. A study by TCS (Tata Consultancy Services in India) found that the companies in Asia-Pacific and Latin America are the most active users, while the United States and Europe are lagging in the adoption of cloud computing (Wahyuni, 2018). In Indonesia, MSMEs is categorized as businesses owned by individuals and households, which operate from their own homes with the income generated relatively small (Koperasi, 2008). But, many MSMEs in Indonesia have potential to upgrade since the development of technology-based cloud computing on the digital economy era. The numerous of MSMEs turnover have increased about 350% upon utilized GoFoodas the merchant (Kurniawati & Kustulasari, 2020). However, they have been facing difficulties on their MAI due to the manual bookkeeping (Vision, 2017); consequently, they have failed to expand or sustain their business (Nasir & Talib, 2018).

With the implementation of accounting applications using cloud computing among MSMEs, it is expected that MSMEs can concentrate on the core business and manage their accounting so that the MSMEs become more productive and have a competitive advantage (Al Lami, Maelah, & Ghassan, 2019). Gupta, Seetharaman, and Raj (2013) also mention that there are 5 important variables to adopt cloud computing by MSMEs, namely: cost reduction, ease of use, reliability, sharing and collaboration, and security and privacy. Wahyuni (2018) mentioned that as many as 51% of micro, small and medium enterprises have concerns about security and privacy issues, availability versus sudden downtime, and migration across cloud services. The study concluded that it is significant for MSMEs to move and use cloud computing. In the above discussions, authors encouraged the usage of cloud accounting in MSMEs regardless of the fact that a micro business with limited resources mainly focuses on day to day operation and customers.

This chapter provides the background of the study including the brief of the digital economy era for MSMEs. Furthermore, the study motivation and the problem necessitating the need for this research, and questions generated from the problem statement are described. The chapter is then followed by the objectives of the research and the discussion of the significance of the study.

1.2 Digital Economy Era for MSMEs

In the digital economy era or known as the internet economy, micro small medium enterprises (MSMEs) worldwide, including Indonesia, have a huge opportunity to expand their market with a low budget at high impact by adopting innovation to create a horizontal relationship with customers. According to Social (2019), “there are around 93% of 150 million internet users in Indonesia have searched online product or services and 86% of them have enjoyed it. For the transaction platform, most of them utilized mobile device which about 76%, and the rest via a laptop or desktop computer”. Moreover, most Indonesian MSMEs are actively using Facebook, Instagram, and YouTube as their marketing and customer relationship channels.

Besides that, “most of the MSMEs have collaborated with marketplaces such as Shopee and Tokopedia to sell their products and to better serve their customers throughout Indonesia” (Yuldinawati, van Deursen, & van Dijk, 2018). Another platform widely used is Go-Jek application, an Indonesian e-commerce giant based ride-hailing service that provides an online food delivery service via their GoFood feature. The platform had delivered such a big impact on Indonesian MSMEs which recorded an increase in transactions up to 2.5 times per month (Maftukhah, Rahmawati, and Fadlilah (2018). There were about 125,000 Indonesian MSMEs registered as

GoFood merchants. For instance, a restaurant of Nasi Goreng Ulala at Gegerkalong, Bandung has increased about 15 additional orders upon engaging GoFood. Besides, Sate Solo Pak Min at Kiara Condong, Cibiru also receives additional orders even from Bandung which is located about 9 Km away. Martabak Andir Bandung's turnover came to around USD 400 per day because the customers saved at least in the range of USD 0.80 to USD 1.20 compared to conventional orders.

1.2.1 Global Perspective of MSMEs

The definition of MSMEs is usually made based on several criteria, such as the employee numbers, annual sales, turnover, and in terms of total investment in their plants or machinery. For instance, the World Bank defines MSMEs based on the employee numbers, as described below (Samantha, 2018):

- 1) an enterprise that has less than 5 employees is considered micro-sized;
- 2) an enterprise with 6-49 employees as small-sized;
- 3) an enterprise with 50-99 employees as medium-sized, and
- 4) an enterprise with more than 100 employees as large-sized.

MSMEs have a significant role in the national socio-economic developments across the globe and they have absorbed about 45% of the total manpower in half of the high-income economies (LLP) (T. T. Tambunan, 2018). Research also shows that the MSME sector is equitably aligned with economic growth indicators in both developing and developed countries around the world (Ogunyomi & Bruning, 2016).

In developing countries, Malaysian MSMEs represent around 90% of enterprises, where around 57.5% generate employment and 33.1% of them contribute to the country's GDP in 2015 (Wan Ismail & Mokhtar, 2016). According to the

statistical data in 2017, a similar result was found among the Thai MSMEs which has recorded a contribution of 42.5% to Thailand’s GDP (Nuh, bin Ibrahim, & Ab Rahman, 2019).



Figure 1. 1 Global Picture of MSMEs until 2015 (Corporation, 2017)

It can be seen in Figure 1.1 that MSMEs banking revenues have been increasing since 2010 especially in East Asia. The increase in the revenue from 2010 to 2015 was around 150% whereas in South Asia, Latin America, sub–Saharan African countries, Middle East/North Africa (MENA) Eastern Europe, the banking revenues only increased around 100% in the total revenue over the period of five years. This shows the importance of MSMEs on a global perspective especially in Asian countries in this case (Latifah et al., 2020).

1.2.2 The Context of Indonesian MSMEs

In Indonesia, MSMEs are defined according to the Act of the Republic of Indonesia Number 20 of 2008 (Koperasi, 2008) as shown in Table 1.1. The definition of MSMEs in Indonesia for all sectors is similar, while in other countries, such as Malaysia, the definition of MSMEs may differ across different sectors. For example, the MSMEs in services and the MSMEs in the manufacturing industry have different criteria in their definitions (T. T. H. Tambunan, 2009). Based on the Act of the Republic

of Indonesia Number 20 of 2008, micro enterprises (MIEs) are defined as businesses with an annual turnover of a maximum IDR300 million or about USD 20,700, and small enterprises (SEs) are defined as businesses with an annual turnover of IDR300 million up to IDR2.5 billion or about USD 20,700 up to USD 172,500. Whereas, enterprises with an annual turnover of IDR2.5 billion up to IDR 50 billion or about USD172,500 up to USD 3.45 million are defined as medium enterprises (MEs), and enterprises with a turnover of more than of IDR50 billion or about USD 3.45 million are considered as large enterprises (LEs). Additionally, the definitions of MSMEs based on the number of employees are described as follows:1) enterprises with up to 4 workers are defined as a MIEs; 2) SEs are units with between 5 to 20 workers; 3) enterprises with 20 up to 100 workers are defined as a MEs, and 4) any enterprises with more than 100 workers are categorized into LEs.

Table 1.1 Definition of MSMEs in Indonesia (Koperasi, 2008)

Micro (MIEs)		Small (SEs)		Medium (MEs)	
Sales Turnover	Employees	Annual Turnover	Employees	Annual Turnover	Employees
<USD20,700	<4 employees	USD20,700-172,500	5 to 20 employees	USD172,500 - 3.45 Million	>20 to 100 employees

The total number of Indonesia's MIEs, SEs, and MEs were around 62 million enterprises or around 99% and around 92% of the total workforce was working across the different sectors in 2017 as shown in Table 1.2 (BPS, 2018). The numbers of Indonesian MSMEs in total enterprises showed that MSMEs have made a significant contribution to the government's efforts in reducing the unemployment rates, especially among the youths, relatively low-educated workers, and women (T. T. Tambunan, 2018). This business sector had managed to support many workers, where many were

considered low-income employees. It had also indirectly supported the Indonesian government's effort to alleviate national poverty.

Table 1.2 Indonesia's Total Enterprises by Size Category (000 units) (BPS, 2018)

Description	Period			
	2009	2011	2013	2017
MIEs	52,176.8	54,560.0	57,189.4	62,106.9
SEs	546.7	602.2	654.2	757.1
MEs	41.1	44.3	52.1	58.6
LEs	4.7	5.0	5.1	5.5

The features of MIEs, SEs, and MEs are different in terms of the legality, market segmentation, demographics of owners, source of capital, business location, motivation, level of entrepreneurship, etc., as shown in Table 1.3 (T. T. Tambunan, 2018). It shows their legal and formal responsibilities for the MSME's. For instance, in the terms of legality there is no formal license required for the micro, whereas as for the small and medium enterprises it is required for them to register and pay for all the liabilities.

Table 1.3 Features of MIEs, SEs, and MEs in Indonesia (T. T. Tambunan, 2018)

Description	MIEs	SEs	MEs
<i>Legality</i>	Informal (no business license)	The majority formal and pay all taxes	All formal and pay all taxes
<i>Place</i>	Mostly in villages	Many in town & big cities	Mostly in town & big cities
<i>Way of doing business</i>	<ul style="list-style-type: none"> - The owner handles most of the activities - Mostly doesn't have proper financial records or not-well documented 	<ul style="list-style-type: none"> - The owner handles most of the activities - Well-financial records 	<ul style="list-style-type: none"> - adopts a modern management system - Well-financial records system

Table 1-3. Continued

Description	MIEs	SEs	MEs
<i>Type of worker</i>	The majority operate without wage-paid workers	Some use unpaid family members as helpers	All use wage-paid laborers with formal system recruitment
<i>Process of production</i>	Manual	Some use advanced technologies	Mechanized/computerized
<i>Market</i>	Serve only local consumers with low-income	Serve a wider market including export	All serve the wider market for middle to high-income buyers
<i>Owner's profile</i>	The majority are low educated and poor	Some are well-educated and non-poor	The majority are well educated
<i>Sources of capital</i>	The majority use their own money	The majority use external sources, including banks	The majority have access to financing from banks
<i>Business relations</i>	<ul style="list-style-type: none"> ✓ Lack of partnerships with LEs or other business entities ✓ The majority have no membership of any business association 	<ul style="list-style-type: none"> ✓ Many have partnerships with LEs in the form of subcontracting ✓ The majority are members of business associations 	<ul style="list-style-type: none"> ✓ The majority have strong external networks including bank, foreign companies ✓ The majority are members of business associations and the Chamber of Commerce
<i>The motivation of the owner</i>	Survival / to increase family's income	Profit	Profit
<i>Entrepreneurship level</i>	Very low	Higher	Very high
<i>Level of women engagement as owner</i>	Majority	Many	Few

Historically, the economic development in Indonesia have being supported by the role of MSMEs. During the economic crisis that occurred between 1997 and 1998, only the MSME sector was able to remain steady. Bellefleur et al. (2012) highlighted that Indonesia's MSMEs have an outstanding level of achievement during such a large crisis. Similarly, the Ministry of Cooperative and the Small Medium Enterprises of the Republic of Indonesia also highlighted that the number of MSMEs had increased even after the crisis and was able to employ around 114 million workers by the year 2013 (Anggadwita, Luturlean, Ramadani, & Ratten, 2017).

Besides that, MSMEs contributed around 57% to the total Indonesian GDP (Iramani, Fauzi, Wulandari, & Lutfi, 2018). This shows that the Indonesian MSMEs could be considered critical in boosting the national economic growth. Nevertheless, one of the limitations of MSMEs is the GDP formation is not linear with their contribution to job creation. As shown in Figure 1.2, the contribution of MSMEs to the GDP is around 57% which is higher than the LEs (43%), but the level of productivity per enterprise is very low when it is compared to LEs which is less than 1% of the total number of all enterprises. The lower productivity is because the MSMEs, which are dominated by MIEs, have limited access to the latest technologies, lack of skilled human resources, suffer from inadequate financing, and have mismanagement of accounting (T. T. Tambunan, 2019).

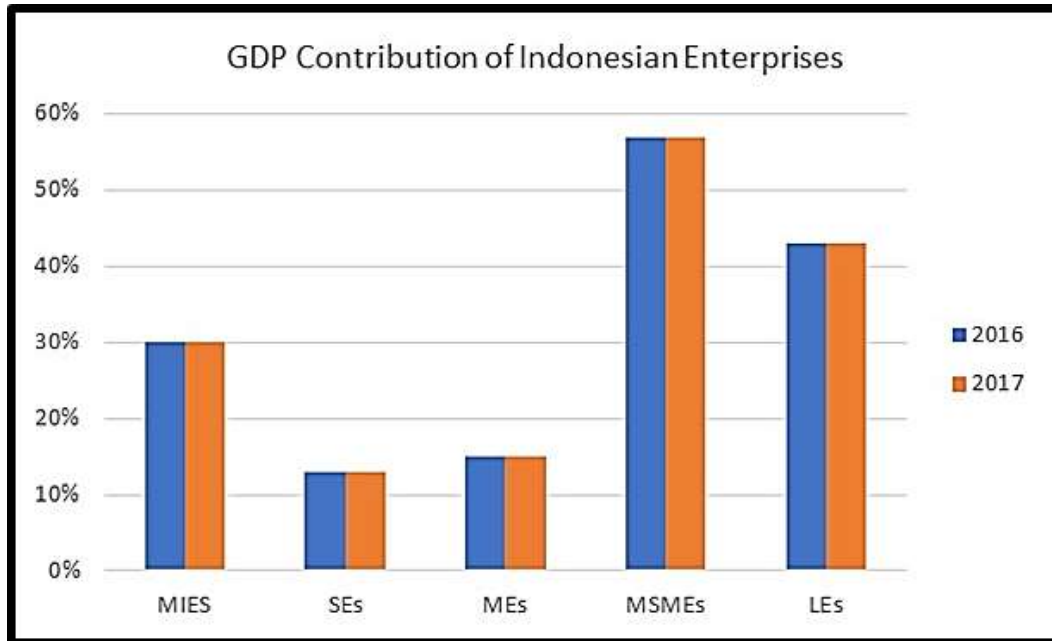


Figure 1. 2 Comparison of MSMEs and LEs in Indonesia GDP Shares
(SME, 2017)

1.3 Research Motivation

Researchers should assist small business owners in how to improve their management practices to boost their work efficiency since the MSMEs contribute to a wide range of industries (Williams Jr, Pieper, Kellermanns, & Astrachan, 2018).

Management accounting information (MAI) is the most valuable source of information in an organization to support its strategic management planning with the main goal to achieve optimum business performance. The current study is focused on MSMEs' performance due to the significant roles of MSMEs in the development of the national economy (Al Lami et al., 2019; Azudin & Mansor, 2018; Latifah et al., 2020). In the same vein, the report written by Ahmad (2012) confirmed that business performance is influenced by MAI and it will deliver better performance if the business is better managed.

Owner-managers of MSMEs should concern about both innovation and MAI to run their business process. Accounting information systems (AIS) is a form of innovation under MAI which is aimed to increase revenue, assist in retaining clients, and increase operational efficiency, particularly in this digital economy era. Cloud Accounting (CA) is considered as part of an online AIS innovation based on cloud computing technology. The focus of CA is to enable customers to use cloud connected computer or other devices for their accounting and financial analysis functions without having an accounting software on-premise (Yau-Yeung, Yigitbasioglu, & Green, 2020).

The ASEAN E-commerce is projected to increase of double-digit average rates of growth (Lurong, 2020). In 2018, Indonesia's contribution was about 45% of the regional e-commerce revenue and was projected to achieve over 60% within 5 years, due to Indonesia's e-commerce market was successful at the rate of over 30% per year. Singapore, Thailand, and Malaysia have also maintained a double-digit market share, and their markets are projected to achieve double-digit growth.

The rise of e-commerce has created voluminous and cross-border transactions which increase the rate of transaction and growth prospects. This has made accounting information necessary. Owner-managers of MSMEs need the information to support decision-making for the company, while the external parties, like investors and creditors, need this accounting information to evaluate the risks of lending money activities (Putra, 2019).

The significance of information for enterprises makes them highly reliant on Accounting Information Systems (AIS) (Ibrahim, Ali, & Besar, 2020). In other words, AIS will assist the MSMEs in becoming more knowledgeable in accounting to improve

their overall business management in handling uncertainties like the current pandemic issue within their competitive market (Mohammad, 2018). Else, the MSMEs would inaccurately assess their financial status which leads to poor decision-making. Hence, the MSMEs require AIS to ensure that financial information could be obtained in a reliable, and more-timely manner (Fordham & Hamilton, 2019).

A study by Mohammad (2018) found that the absence of AIS could cause business failure. A study by Harash (2015) presents a statistic showing that the failure rate of MSMEs in several countries, within the first few years is greater than 50%. The enterprises have surviving rate of 37% with 4 years of lifespan business, while for 10 years with only at 9% (Mohammad, 2018). In Malaysia, the SMEs have a failure rate of about 60% according to Wan Ismail and Mokhtar (2016). Such similar results could also be seen in Indonesia, M. Y. Ali and Kodrat (2017) noted that the failure of MSMEs within their first five (5) years and the failure rate was about 78%. Majid and Nasir (2018) emphasized that MSMEs are facing such barriers to success and growth due to several factors such as internal mismanagement of accounting or financial, non-performing loan, lack of human resource capacity, and lack of technical mastery. The main issue of accessibility to formal financial sources is one of the external reasons that many MSMEs face to grow, especially in the micro and small enterprises (MSEs) in developing countries (Das & Mohiuddin, 2015; Oyelana & Adu, 2015; T. Tambunan, 2019; Thapa, 2013; Yoshino & Taghizadeh-Hesary, 2017).

From the Asian context, there are several studies such as A. Ali, Rahman, and Ismail (2012) that conducted on the AIS usage continuance by examining Relative advantage, Organizational readiness in 146 SMEs in Terengganu, Malaysia. Their research found insights on the influence of the readiness and relative advantage factors.

Similarly, another research by Lutfi, Idris, and Mohamad (2016) on AIS usage and impact among 187 SMEs in Jordan Jordanian SMEs, that examine factors named as *Technological*: compatibility, *Organizational*: owner/manager commitment, organizational readiness, *Environmental*: competitive pressure and government support. They found that all the key factors have significant influence within their framework.

The utilization of information technology (IT) allows MSMEs to compete by enhancing their competitiveness with their competitors (Y. Alshamaila, Papagiannidis, & Li, 2013a). Even though MSMEs have difficulties to adopt the technology because their small-scale operations and limited resources in particular costs and expertise, the utilization of AIS is imperative in ensuring to operate more effectively and efficiently (Ahmad, 2014). MSMEs can enjoy essential advantages through cloud computing (CC) as it reduces costs related to current IT adoption (Carcary, Doherty, & Conway, 2014). One example of a CC technology that is highlighted under AIS is called Cloud Accounting. The technology is an innovative solution that provides significant benefits for MSMEs by moving the costs of installation, processing, and storing data to the remote servers of cloud service providers from on-premise (Dimitriu & Matei, 2015). By adopting CA, MSMEs can focus solely on maintaining efficient accounting records as the cloud service providers manage the relevant systems (Tarmidi, Rasid, Zaleha, Alrazi, & Abdul Roni, 2014).

Despite the service subscription cost is affordable, the adoption rates in developing countries such as Indonesia, Malaysia, and Thailand seem to be rather low as reported by large analysts such as Forrester (Hamerman, Herbert, Andrews, & Ephraim, 2015). Moreover, studies in CC and AIS remain inadequate (Tarmidi et al.,

2014). In recognizing the significance of AIS-based CC and the wide-ranging contribution of MSMEs, it is important to investigate the main factors that may influence MSMEs' adoption of CA technology in management accounting, and the motivation for conducting this study is to gain a better understanding of the technology's potential.

1.4 Preliminary Study

This study have reviewed existing literature to investigate the current level both AIS and CA usage among MSMEs, but the relevant literature was very limited (A. Ali et al., 2012; Zul Karami Che Musa, Muhayiddin, Yusoff, Ismail, & Muhamad, 2018; Wan Ismail & Mokhtar, 2016). In line with Murthy (2016), it is concluded that there is still a lack of references on CA research among existing accounting journals. Besides that, the uniqueness of MSMEs, especially the owners-managers' behavior had not been considered in the existing literature reviewed which only focused on the organizational context (Abdulai, 2018; Lutfi, Idris, & Mohamad, 2017). Therefore, a preliminary study through an online questionnaire to MSMEs' owners-managers is deemed necessary for this research.

The main objective of the study is to identify the current level of CA adoption rate, including the implementation of the Standard of Accounting Financial Entity without Public Accountability (SAK-ETAP) and extensively explore the potential factors that influence the intention to adopt CA among Indonesian MSMEs, and explore owners-managers' responses regarding their expectation and perceived barriers in adopting CA.

1.4.1 The Methodology of Preliminary Study

The methodology of this preliminary study consists of four main stages as shown in Figure 1.3, which are questionnaire development, respondent selection, data collection, and data analysis (Zardari, Jung, & Zakaria, 2013).

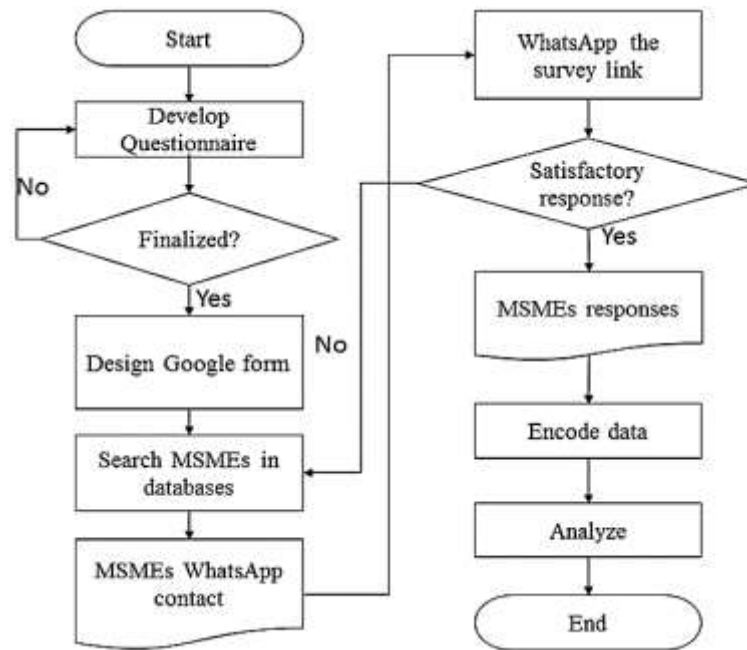


Figure 1.3. Survey Methodology

The survey questionnaire was designed by using Google Form and contained open-ended questions adapted from the question list by Chan and Ngai (2007). The questionnaire can be seen in Appendix A. It is meaningful to note that the questions chosen were adapted from a previous study in the internet adoption model field, which is relevant to a CA adoption issue relevant to this study. In order to observe the current status of CA usage and to determine such factors that influence the intention to adopt CA among Indonesian MSMEs, the adapted questions were then modified to be more relevant to the focus of this preliminary study and they consist of the following parts:

1. Demographic information of the respondents;
2. Current status of CA usage;
3. Factors influence to adopt CA;

4. Description of CA purpose with examples.

The respondents were selected from the culinary sector in the e-commerce platform for Indonesian MSMEs (GoFood). The data collection was done through an online questionnaire sent to the owner-managers who had been key persons in the decision to adopt the technology. The online technique was adopted due to the coverage of the Indonesia business domain, inexpensive costs, convenience for the respondents and the efficiency of the approach, (Duffy, Smith, Terhanian, & Bremer, 2005). This study utilized the WhatsApp platform tool to disseminate the survey as it is one of messaging and social media platforms that is widely used in Indonesia with about 130 million users (Social, 2019). Figure 1.4 shows a typical example of the dissemination of the survey.

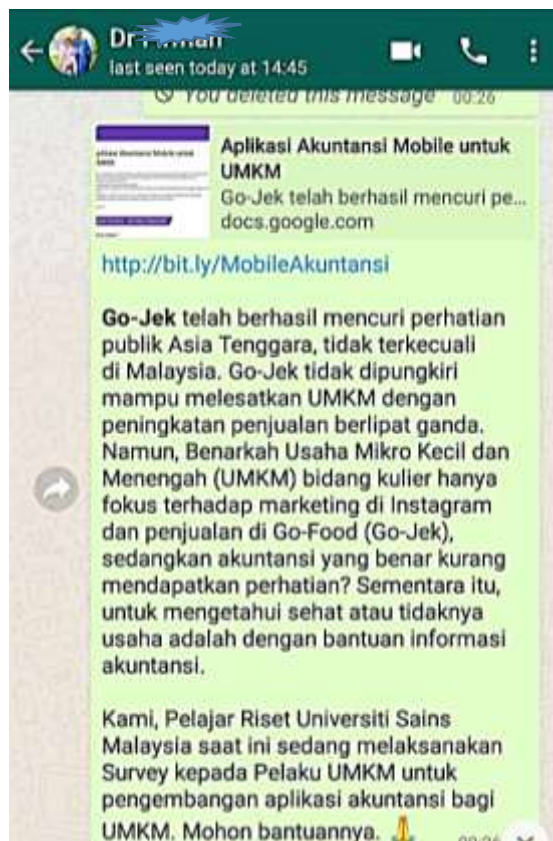


Figure 1.4. Questionnaire Distribution via WhatsApp Platform

A sampling of a heterogeneous sample list of Indonesian MSMEs selected by a researcher was adopted as the list was deemed appropriate for the early stages of an exploratory study (Brace, 2018; Vehovar, Toepoel, & Steinmetz, 2016). The survey was disseminated between 25th October 2019 and 30th November 2019 by using WhatsApp to the relevant MSMEs owners and managers. The majority of preliminary studies have 50% response rate (Hertzog, 2008), and thus around 50 surveys were distributed to achieve the sufficient responses back with expectation of minimum 25 response received.

1.4.2 Discussion on the Preliminary Result

The total number of valid survey responses was 26 MSMEs but this number decreased to 17 MSMEs when non-culinary MSMEs was excluded. As such, a descriptive analysis with percentage calculation was applied due to the small sample size for the large number of MSMEs in Indonesia.

1.4.2(a) Demographic Information

The demographic composition of the sample is shown in Table 1.4. Among the respondents from the 17 MSMEs, which were distributed in several cities in Indonesia, the majority are the owners, and they hold a university degree. Besides that, they have utilized IT support even though most of their enterprises are categorized as MIEs. Further details of demographic information are presented in Appendix B.

Table 1.4 Preliminary Study - Demographic Information

Theme	Conclusions
Demographic information	<p>Most of the respondents are the owner of the businesses</p> <p>Most of the respondents are degree holders</p> <p>Most of the enterprises categorized as MIEs</p> <p>17 respondents have utilized DIT for their business operation</p>

1.4.2(b) Current Status of Accounting Activities

The existing accounting activities among Indonesian MSMEs are depicted in Table 1.5. All respondents agreed that accounting is important, but only a few have implemented SAK-ETAP. Additionally, the majority have not utilized CA in their business and the level of confidence in believing that MSMEs require CA is moderate, i.e. a half of the respondents. It was similar with a level of information received about CA in the market. The details of the current status of accounting activities as in Appendix B. This finding is interesting as the most of respondents who have high education levels should have indeed utilized accounting information systems to comply with accounting standards as per the study by (Samaha & Khlif, 2016).

Table 1.5 Preliminary Study - Current Status of Accounting Activities

Theme	Conclusions
Current status	<p>Level of awareness of the accounting importance at a high, but</p> <p>Level of SAK-ETAP implementation at a low</p> <p>Low adoption rate on CA</p> <p>Level of confidence in believing that MSMEs require CA at a moderate</p> <p>Level of information received about CA at a moderate</p> <p>Level of intention to adopt CA at a high</p>

1.4.2(c) Factors influence of intention to adopt CA

There are four categories of significant factors that influence the willingness of Indonesian MSMEs to adopt CA as depicted in Table 1.6.

Table 1.6 Preliminary Study - Factors Influencing the Intention to Adopt CA

Theme	Categories	Sub-categories
<i>Factors influence of intention to adopt CA</i>	Expectation	Simple and efficient Features (UF)
	Usability factors (UF)	SAK-ETAP Compliance (UF)
	Technology characteristics	Mobile record and access (TC)
		Back-up data (TC)
		Save time (TC)
		Scalability (TC)
		Suitable price (TC)
		Vendor support (External Factors)
		Accurate (UF)
	Perceived barriers	Organizational readiness
Limited human resources		
Lack of accounting knowledge		
Lack of technological literacy		
Cost (OR)		
Data security (Trust)		
Workers		
Budget allocation		
Infrastructure,		
Training/workshop,		
External factors		Competitive pressure
		Government intervention
		Trend

These factors such as expected advantages, perceived barriers, organizational readiness, and external factors, including its sub-categories are specifically determined as factors that influence Indonesian MSMEs intention to adopt CA. The details of the responds in each subcategory are presented in Appendix B.

1.4.2(d) Relevant Examples of Financial Statement Purpose

The result of an investigation on the current usage of financial statements as CA outcome is presented in Table 1.7. There are two activities supported by CA through financial statements according to the respondents such as for getting a loan from the bank and for tax report purposes. However, more than half of the total respondents have never received any loan from private banks or any government schemes. Moreover, more than half of the total respondents have never reported their business taxes. Further details of the financial statement purpose are included in Appendix B.

Table 1.7 Preliminary Study - Examples of Financial Statement Purpose

Theme	Conclusions
Examples of Financial	Experience to get fund lending from Bank at a moderate level
Statement Purpose	Experience for tax report at a moderate level

1.5 Research Problem Statement

Salehi, Abedini, and Rasouli (2012) has studied the performance of 118 listed companies in Iran supported by AIS and found that the system has a significant impact. In line with the study, Soudani (2012) found that 74 listed companies in the United Arab Emirates have been supported by AIS for better performance. In summary, the

significance of AIS advantages has been highlighted in existing studies such as (Fordham & Hamilton, 2019; Latifah et al., 2020; Mohammad, 2018).

AIS has benefits and adds value to any business size, and it will assist the management in the decision-making process and boost their business efficiency (Romney & Steinbart, 2015). The AIS allows the management to good planning and control their businesses (Jordan, 2016). The main objective of AIS is to handle the financial data related to accounting transactions such as costing expenditure and cash flow and to present the information in the form of financial reports to management (Kundelienė, 2011). The importance of maintaining accurate accounts is one of the factors determining the success or failure of micro-businesses (Lussier & Halabi, 2010). Hence, the improvement of business management in micro-businesses shall be achieved through upgrading their financial information access supported by AIS. In the context of MSMEs, the system is not an exception, especially for those who have large transactions (Burinskienė & Burinskas, 2010).

Despite the promised benefits of AIS, there are a small number of MSMEs that utilized AIS in their business operations. MSMEs have been reported to be lagged in AIS use (Lutfi et al., 2016) and have been slow in adopting these technological innovations (Fadhil & Fadhil, 2010). In the literature on the digital economy of Indonesian MSMEs, Vision Institution (2017) found that a small number of enterprises utilized CA. The research was analysed based on 310 questionnaires received and the results were three different groups, which are those who use IT in their business, those who use IT at a moderate level, and those who do not use IT to assist their business. There are 56% of the respondents who set an IT budget at only 1%-2% of the total revenue, while 36% of the respondents also do not have any dedicated IT staff, and 47%

of the respondents spend IT costs less than USD30 per month, which is only for internet connections. Meanwhile, 32% of the respondents are aware of the benefits of the CA, particularly those who have transactions increased but recorded manually. Finally, 74% of respondents expressed an intention to adopt the application.

With the purpose to gain a full understanding of CA adoption among the MSMEs, a preliminary study has been conducted. Focusing on owner-managers behavior and the organizational context can help develop more robust theories in predicting the technology adoption of MSMEs. Based on the results, to date, the use of AIS-based CC application or cloud accounting (CA) by Indonesian MSMEs is very low even though they have a degree holder and are aware of the accounting importance. Nevertheless, the intention to adopt CA with affordable prices is at a high level to assist them in book-keeping and financial reporting. Overall, the research problems in this research based on this investigation are shown in Table 1.8.

Table 1.8 Alignment between Preliminary Study and Problem Statement

<p>Problem Statement: The adoption level of cloud accounting (CA) among Indonesian MSMEs is low even though most of the owner-managers aware of the accounting importance, and the CA cost is affordable.</p>	
<p>Literature Review Finding: a. a small number of enterprises have adopted CA b. facing issues to handle large transactions due to record on the non-automated system</p>	<p>Preliminary Study Finding: a. level of awareness of the management accounting is at a high b. level of SAK-ETAP implementation at a low c. low adoption rate on CA d. level of confidence in believing that MSMEs require CA at a moderate e. level of information received about CA at a moderate</p>

Meanwhile, the government, NGOs, and service providers are actively encouraging accounting systems adoption (Putra, 2019). Government regulation no. 17

of 2013 states that there are obligations for micro businesses to keep accounting records. However, the MSMEs were not able to fulfill the regulation and thus the Indonesian Accounting Standards Board has assisted MSMEs by implementing the Standard of Accounting Financial Entity without Public Accountability (SAK-ETAP), due to the difficulties to use International Financial Reporting Standards (IFRS).

One approach to resolve the issue of financial literacy including accounting standards in MSMEs is through the adoption of information technology (Qi & Ismail, 2019), and thus the key question faced by service providers is how to bring the potential of CA benefits to answer the concerns of the MSMEs. Hence, the research question addressed in this study is about the factors influencing the intention of the Indonesian MSMEs to adopt CA technology. The answer to this question is very important, as MSMEs will face competitive markets and potential growth.

Moreover, with the high volume of active internet users and mobile applications among the owner-managers of Indonesian MSMEs. CA, which is online-based, has the potential to make a significant contribution to the advance of accounting management. Therefore, the study on CA adoption is imperative to determine those factors that influence the rate of adoption in Indonesia to guide the policy design and implementation to encourage its adoption and usage. Several factors have been listed upon the preliminary study of 17 owner-managers of the MSMEs on AIS adoption in Indonesia as shown in Table 1.6.

1.6 Research Questions

The present research attempts to answer the following questions:

1. What is the extent of the Indonesian MSMEs' intention to adopt CA?

2. How to measure the relationship between the influencing factors and intention to adopt CA among Indonesian MSMEs?
3. How do the CA usability factors address the limitation of technological, organizational, and environmental (TOE) contexts on the intention to adopt CA among Indonesian MSMEs?
4. How do the trust in system reliability and trust in the internet affects the intention to adopt CA among Indonesian MSMEs?

1.7 Research Objectives

The research has the following objectives:

1. To determine the extent of CA adoption intentions among the Indonesian MSMEs.
2. To develop a model that measures the relationship between the influencing factors and intention to adopt CA among the Indonesian MSMEs.
3. To formulate and test hypotheses to measure the mediating role of the CA usability factors on the relationship between TOE factors and intention to adopt CA among the Indonesian MSMEs.
4. To formulate and test hypotheses to measure the moderating effect of the trust in system reliability and the internet on the relationship between usability factors and intention to adopt CA among Indonesian MSMEs.

1.8 Research Scope

Based on the literature review and the preliminary study, the research aims at only the digital information technology (DIT) users such as GoFood merchants,