

The Use of Management Accounting Information among Manufacturing Industries in Malaysia

Nur Farzanie Jaafar¹ and Raman Noordin^{1*}

¹Faculty of Business, Economics and Accountancy, Universiti Malaysia Sabah, Kota Kinabalu, Sabah, Malaysia

*Corresponding author's email:
raman@ums.edu.my

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ABSTRACT

Management accounting information (MAI) has been used by business owners to record their daily business transactions through bookkeeping during the industrial revolution era. Thereafter, MAI is growing and becomes important as business owners demand more relevant MAI to enhance their business performance. The importance of using MAI to perform business operations has been emphasized in the accounting literature. The changes in the business environment have forced MAI to be more relevant which suits the business environment today. The business competition today has made it difficult for some organizations to enhance their performance consistently. This happens to manufacturing industries in Malaysia in which the industries are lack of competitive advantage and consequently leads to inconsistent performance. Manufacturing industry is the second largest contributor in Malaysia GDP, which contributes to economic development. As such, it is crucial for manufacturing industries to enhance their performance by increasing their competitive advantage to endure the competitive business environment. However, the dearth of research on MAI usage has created a gap in today's accounting literature which leads to lack of understanding among the MAI users about the use of MAI in enhancing the organizational performance. This research is still at a proposal stage which intends to investigate extent use of MAI element among manufacturing sectors in Malaysia through customer satisfaction element.

To achieve this attempt, both financial and non-financial performance of manufacturing industries will be considered, and contingency theory will be applied. The significance of this research is to contribute to Malaysia economy development by considering the use of MAI in manufacturing industries as an important key to enhance performance. A questionnaire survey will be emailed to manufacturing companies that are listed in the Federation of Malaysian Manufacturers (FMM).

BACKGROUND

The increase of globalization and the development of technologies have changed the business environment today, and consequently, the business competition among organizations is increasing strongly. As the business environment has changed, customers' demands have also changed, and this leads to the increase of business competition because organizations are competing among each other to fulfil the customers' demands. For that reason, the need for management accounting information (MAI) becomes crucial to every organization, especially to the manufacturing sectors. The managers in manufacturing sectors are more in need of MAI because besides fulfilling the customers' demands, they need to observe their production cost continuously, to set a target price, and to make a fast decision in any circumstances (Ameen, Ahmed & Hafez, 2018). Relevant and adequate MAI is needed by the managers to perform these tasks to help them to achieve their desired goals and objectives (Chenhall, 2003; Hoque, 2011; Ismail & Isa, 2011; Rasid, Isa & Ismail, 2014; Ismail, Isa & Mia, 2018). By achieving goals and objectives, it eventually helps them to improve their performance (Baines & Langfield-Smith, 2003; Chenhall, 2003; Agbejule, 2005; Hammad, Jusoh & Ghozali, 2010; Ismail & Isa, 2011; Laitinen, 2014; Rasid, Isa & Ismail, 2014; Ghasemi, Habibi, Gasemlo, & Karami, 2019). Furthermore, a strong business competition

among manufacturing sectors today has made the manufacturing operations more difficult (Ismail & Isa, 2011). Therefore, MAI that covers issues like financial and non-financial, historical and future performance, internal and external environment is significant to manufacturing sectors (Rasid, Rahman & Ismail, 2011; Ismail et al., 2018; Ghasemi et al., 2019).

A study by Tengblad (2002) shows that most of the managers consume 23% of their working hours to get sufficient relevant MAI to be used to perform their managerial works. It is quite a time consuming for managers to seek for MAI, to inform and to review MAI which reported by Tengblad (2002) that this whole process consumes 51% on an average of their total working hours in a day. In a competitive business environment, managers must make a fast decision effectively and thus, a demand for timely MAI is increasing (Ismail & Isa, 2011). The previous studies do not emphasize the importance of using MAI in improving the performance of manufacturing sectors and most of the previous studies are ignoring the relationship between MAI and performance (Ismail et al., 2018). Therefore, there are very minimal numbers of studies on highlighting the role of MAI in improving performance in manufacturing sectors (Ismail et al., 2018). Given that today's business environment is changing due to globalization and technological development, the cost structures, operations and controls in manufacturing sectors are affected (Ismail and Isa, 2011). Thus, the managers in manufacturing sectors need MAI to overcome these matters, especially in a competitive business environment. The strong business competition has forced manufacturing sectors to concern more on non-financial performance matters especially on customers' demands (Iyibildiren & Karasioglu, 2017). According to the previous studies, the use of MAI in improving the non-financial performance of manufacturing sectors will consequently improve their financial performance (Fullerton & Wempe, 2009; Ismail et al., 2018). The use of

MAI is very significant to manufacturing sectors because it supports them to achieve their desired goals which eventually improve their performance (Ismail et al., 2018). To endure strong business competition, Iyibildiren and Karasioglu (2017) highlighted the importance of using relevant MAI that suits the current business environment. The previous study by Mia and Clarke (1999) proves that by using MAI in a strong business competition has led the organization to improve its financial performance and non-financial performance. Also, a study by Hoque (2011) also proves that the user of relevant MAI has helped organizations to improve their performance.

During the era of the industrial revolution, which is before the 19th century, MAI has been used by business owners to record their daily business transactions through bookkeeping (Waweru, 2010). Thereafter, as the business environment developed, the role of accounting was changing, in line with the business environment during that time. At the beginning of 19th century, management accounting (MA) became essential to the business organizations which business owners were using MAI to improve their business performance and to keep track on the efficiency of their managers and employees in conducting their business operations (Waweru, 2010). From then on, the business environment has changed rapidly and has resulted in increased of global business competition, which automatically changed the operations of the organization (Iyibildiren & Karasioglu, 2017). Notwithstanding, the increased of global business competition has helped MAI to improve its relevance and suitability with the current business environment, and the flow of MAI is broadened globally (Brignall & Modell, 2000; Parl, 2006; Granlund, 2011; Ismail, Isa & Mia, 2018; Ghasemi, Habibbi, Ghasemlo & Karami, 2019). According to the previous study by Parl (2006), the ever-changing business environment has made the managers more alert to indicate the importance of customers' satisfaction,

which it is a vital measure in improving their performance, besides being able to compete with their competitors. This is also supported by other researchers, which they argued that as the business environment changed, so do the measures, which they have highlighted customers' satisfaction as a vital measure to improve their performance (Henri, 2010; Korhonen, Laine, & Suomala, 2013; Saukkonen, Laine, & Suomala, 2018). In a study by Legaspi (2014), he argued that there is no way for managers to ignore the importance of MAI because business competition has caused an increase in customers' demands. Additionally, Legaspi (2014) argued that to prioritize customers' satisfaction is very essential to ensure that goals and objectives are achieved effectively. As such, in an increasing business competition, it is crucial for the managers to use relevant MAI to satisfy their customers' demands, and thus to make sure their business can survive in a strong business competition (Ghasemi et al., 2019).

In enduring the business environment that shifts regularly and the growing business competition, the use of MAI should have been broadened among the organizations, especially among the manufacturing sectors. Conversely, the relationship between MAI and performance of an organization is still ignored (Ismail & Isa, 2018), even though the importance of MAI has been emphasized by the previous researchers. Most of the studies today are highlighting the relationship between MAI with the decision-making process, planning and control activities. With numerous studies on this relationship, researchers have forgotten that MAI is important to be used in enhancing an organization's performance, especially in today's growing business competition. As argued by Hall (2010), there are only a few studies that discussed types of information that should be used by managers in enhancing the organization's performance. Therefore, by considering the change in today's business environment, this study is exploring the use of MAI among manufacturing sectors in

Malaysia. This is in line with the study of Ismail and Isa (2018), which they argued that the use of MAI in manufacturing sectors helps to guide managers in implementing manufacturing practices efficiently and effectively. Additionally, the manufacturing sector in Malaysia is considered to be one of the largest contributors in Malaysia gross domestic product (GDP) which consequently helps to increase the economy of Malaysia. Besides that, by considering the growth of business competition today, this study is highlighting customer satisfaction as an important element of MAI. Customer satisfaction is known as one of the elements in marketing information and has been recognized in the marketing literature (Pitcher, 2018). However, due to the change of business environment, customer satisfaction has also been recognized in accounting literature around the 1990s, and considered to be one of the important elements in MAI (Pitcher, 2018). This is in line with the study of Ismail et al. (2018), which they argued that MAI is needed by the managers in order to monitor the customer satisfaction, especially in today's business environment. This is also supported by Ghasemi et al. (2019), which they argued that the use of MAI helps managers to meet their customers' demands and thus to enhance

the organization's performance. Therefore, this study intends to investigate the relationship between MAI and the performance of manufacturing sectors in Malaysia through customer satisfaction element.

The manufacturing sector in Malaysia is very crucial to the development of Malaysia economy since it has been recognized as one of the biggest contributors to Malaysia GDP. Besides contributing to Malaysia GDP, the manufacturing sector is also contributing to increasing product exports to other countries such as Japan, China, Singapore and Hong Kong. The manufacturing sector in Malaysia has various subsectors, such as electrical and electronic, petroleum, palm oil, rubber, and many more. Among these subsectors, high demand for electrical and electronic products has been the main reason for the growth in manufacturing product exports. As reported by the Malaysia External Trade Development Corporation (MATRADE), electrical and electronic subsector has contributed RM380.81 billion in export revenue, which is 38.2% of total export value in 2018. Figure 1 presents the percentage of electrical and electronic products from 2014 until 2018.

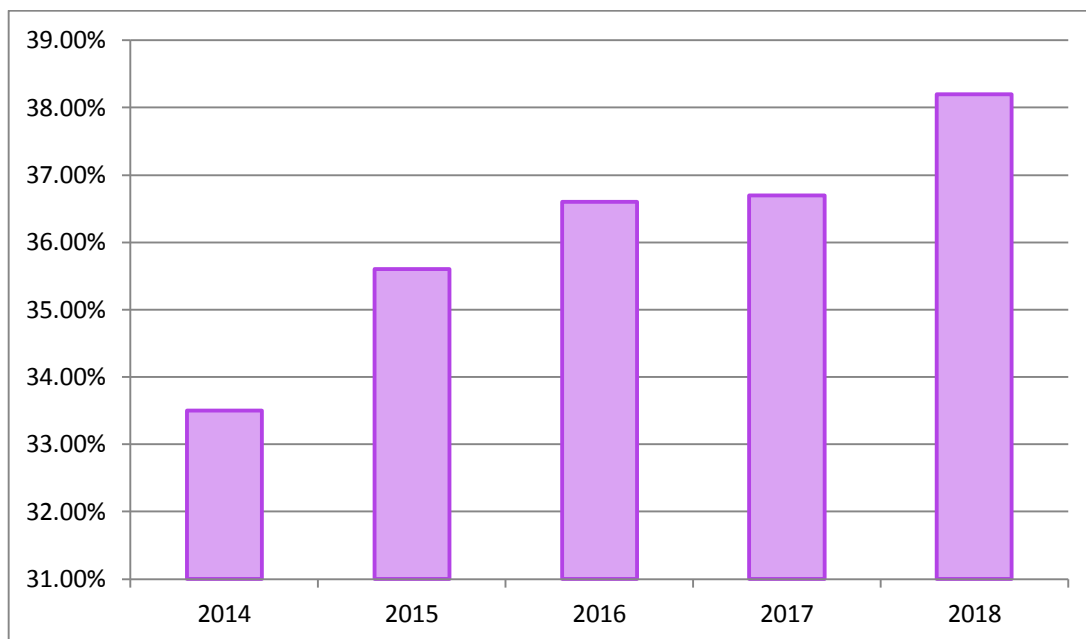


Figure 1 Electrical and electronic export products 2014 – 2018

Source: Malaysia External Trade Development Corporation, 2018

The electrical and electronic subsector in Malaysia has a strong foundation in the field of semiconductor and industrial electronics. Many world-leading companies have semiconductor operations in Malaysia, such as Intel, Infineon and Renesas. In Malaysia, the local company such as Green Packet, Globetronics and Inari are actively involved in semiconductor operations. Furthermore, the global development in telecommunications, technology and mobile devices has made electrical and electronic subsector to grow strongly. However, as can be seen in Figure 1, the performance of electrical and electronic export products is inconsistent. Year after year, the increase in this subsector is not encouraging as the percentage increase is very low. This is due to the upsurge in the global market and technological developments which affect the manufacturing structures, operational processes, and managerial works in the manufacturing sector in Malaysia (Ismail & Isa, 2011). For that reason, manufacturing environment changes rapidly and leads electrical and electronic subsector to face challenges in sustaining its percentage growth due to the strong competition from other countries like China, Taiwan and Singapore. This has become a concern to the government since this subsector is seen not only contributing towards economic growth but also contributing to technology development. Therefore, to be more competitive in today's manufacturing environment, managers need to respond faster and to be more alert to customers' demands (Ameen et al., 2018). As highlighted by Ismail et al. (2018) in their study, they argued that MAI plays an essential key to enhance performance in a challenging manufacturing environment. By using MAI, it helps the manufacturing sector to achieve their goals and objectives (Ismail et al., 2018). Additionally, by achieving goals and objectives then the performance can be improved (Franco-Santos et al., 2007; Nudurupati, Bititci, Kumar, & Chan, 2011; Braz, Scavarda, & Martins, 2011).

Based on contingency theory, there is a need for MA to be improved especially in providing more relevant MAI to the managers (Baines & Langfield-Smith, 2003). Since the development of technologies moves so fast, this has forced the managers to demand more relevant MAI that suits their organization's environment (Iyibildiren & Karasioglu, 2017). Contingency theory believes that organizations are using MAI to achieve their desired goals and objectives (Ismail & Isa, 2011). Furthermore, contingency theory proposes that organizational performance can be enhanced by using MAI that suits the organization's business environment (Haldma & Laats, 2002; Ismail & Isa, 2011; Ghasemi et al., 2019). Therefore, through contingency theory, this study attempts to answer one objective which is to investigate the extent use of MAI element among manufacturing sectors in Malaysia.

The remaining section of this paper will be organized as follows. The first section presents the literature review which firstly briefly discussed on contingency theory that will be applied in this study. Then, manufacturing performance which consists of financial and non-financial performance is briefly discussed. Next, due to the dearth of studies investigating the use of MAI in manufacturing performance in MA literature, the development of MA which leads to MAI improvement is briefly explained, and followed by the element of MAI that is used in this study. The second section presents the theoretical framework of this study and followed by the development of hypotheses. The last section presents some of the contributions and conclusions of this study.

REVIEW OF LITERATURE

Contingency Theory

Based on contingency theory, in a challenging business environment that shifts rapidly, MA is considered to be efficient to adapt with the

changes in organization's environment both internally and externally (Otley, 1980; Haldma & Laats, 2002; Parl, 2006). As MA is efficiently adapt with the changes of the business environment, it provides relevant MAI to managers (Gul, 1991; Perera, Harrison & Poole, 1997; Chenhall & Langfield-Smith, 1998; Yigitbasioglu, 2016) to support them to achieve organizational goals and objectives (Ismail & Isa, 2011), and consequently to improve organizational performance (Haldma & Laats, 2002; Ismail & Isa, 2011; Ghasemi et al., 2019).

Manufacturing Performance

The structure of manufacturing, its operational processes and managerial works have become more complicated due to the increase in the global business environment and technological development (Ismail & Isa, 2011). As for this reason, manufacturing sectors are facing some challenges to survive in a strong business competition and to enhance their performance. Ameen et al. (2018) argued in their study that to be more competitive in a strong business competition, managers need to respond faster and to be more alert on increasing customer satisfaction. During this situation, managers are demanding more relevant MAI in enhancing their manufacturing performance. Ismail et al. (2018) argued that MAI supports manufacturing sectors to achieve their desired goals and objectives. As mentioned by some researchers in the previous studies, they argued that when desired goals and objectives are achieved, the performance is consequently enhanced (Franco-Santos et al., 2007; Nudurupati et al., 2011; Braz et al., 2011). This is in line with the study of Mia and Clarke (1999) which they defined performance as "the extent to which the organization is successful in achieving its planned targets". Performance can be classified into two which are financial performance and non-financial performance (De Toni & Tonchia, 2001).

Financial Performance

Financial performance is a direct MAI which can be explained by mathematical formulae through the preparation of financial statement which concerning only on net income and profitability (De Toni & Tonchia, 2001). As mentioned earlier, MAI is known to have a broader scope which includes financial information, non-financial information, internal information, external information, historical information and future-oriented information (Rasid et al., 2011; Ismail et al., 2018; Ghasemi et al., 2019). According to Langfield-Smith, Thorne, Smith and Hilton (2015), financial information is unidimensional because it concerns only on the financial parts which it is considered to be insufficient to support managers in achieving their goals and objectives, especially in today's strong business competition. Furthermore, manufacturing sectors cannot be relying only on financial information such as accounting figures in the financial statement because these figures do not present the performance of manufacturing as a whole. In strong business competition, previous researchers argued that MAI from every scope need to be concerned in determining the success of an organization as a whole and to be well prepared to face any circumstances when the business environment is changing (Hoque & James, 2000; Jusoh, Ibrahim & Zainuddin, 2008)

Non-Financial Performance

Non-financial is also one of the scopes of MAI which is flexible and can give a fast response to the organization, especially when the business environment is changing rapidly. Prior studies have highlighted elements like customer satisfaction, competitor behaviour, employees' capabilities, product quality, product processing time and innovation of new product (Atkinson et al., 2001; Rasid et al., 2011; Laitinen, 2014) which need to be concerned in order support managers to improve performance (Salleh, Jusoh & Isa,

2010). According to Parl (2006), customer satisfaction is the most crucial element in improving an organization's performance. This is also agreed by Turner, Way, Hodari and Witteman (2017), which they argued that MAI is inadequate when the element of customer satisfaction is not being concerned. Moreover, prior studies showed that managers who used MAI in managing their manufacturing non-financial performance will eventually help manufacturing sectors to improve their financial performance too (Fullerton & Wempe, 2009; Ismail et al., 2018).

Management Accounting Information (MAI)

The Development of MA and MAI

As mentioned earlier, MA has been practised by the business owners in which they recorded their business activities in bookkeeping (Waweru, 2010). This practice has begun before the 19th century, which is during the industrial revolution, and bookkeeping was the only function of MA during that time. However, MA is developing and at the same time, the function of MA is also developing. The development of MA began in the private sector where MA was not just all about bookkeeping but also functions as a guideline that helps business owners to track the process of their business activities (Waweru, 2010).

Then, at the beginning of the 19th century, MA became a necessity for every business organization. The development of MA in this century has led to the development of MAI as business owners demand MAI to improve their organization's performance (Waweru, 2010). Besides, business owners also need MAI to make sure their business operations are conducted efficiently and effectively (Waweru, 2010). MAI is very important for business owners as they want to ensure that their organization's goals and objectives are achieved successfully.

In the middle of the 19th century, railways were developed expeditiously and this has become a major force to the development of MA (Waweru, 2010). During this time, business owners became more demanding on MAI provided by MA because the business environment shifted regularly and for that reason, they required for various elements of MAI.

As we can see today, the business environment changes regularly and that has become a challenge for MA to improve from time to time especially in providing MAI to managers. This is in line with contingency theory which it emphasizes the needs for MA to improve its roles in providing more relevant MAI (Baines and Langfield-Smith, 2003) to support managers to achieve their organizational goals and objectives (Ismail & Isa, 2011). Global technological advances have led to an increase in business competition. For that reason, managers need more MAI that is more relevant to be used in performing their business activities which suits their organization's environment, internally and externally.

Element of MAI

According to previous studies, when MAI just started to develop, MAI paid more attention on financial elements and internal environment of the organization (Chenhall & Morris, 1986; Mia, 1993; Atkinson, Banker, Kaplan & Young, 2001; Bhimani & Langfield-Smith, 2007; Rasid et al., 2011; Rasid et al., 2014). After MAI developed through time, in line with the current business environment, MAI begins to focus on non-financial elements and external environment of the organization (Atkinson, Banker, Kaplan & Young, 2001; Bhimani & Langfield-Smith, 2007; Rasid et al., 2011; Rasid et al., 2014). These include elements such as customer satisfaction, competitor behaviour, employees' capabilities, product quality, product processing time and innovation of new product (Atkinson et al., 2001; Rasid et al.,

2011; Laitinen, 2014). Among these elements, Parl (2006) argued in his study that customer satisfaction is the most important element in improving the organization's performance. Parl (2006) argued that in a strong business competition, it is difficult for managers to get MAI, primarily on customer satisfaction.

In a study of Chung, Su and Yu (2012), they emphasize that it is important for organizations to use relevant MAI to meet customer demands. This is also supported by Ghasemi et al. (2019), which they argued that by using relevant MAI, customer demands can be satisfied and this helps to improve the performance of the organization. According to previous studies of Bernhardt, Donthu and Kennett (2000), and Yeung and Ennew (2000), customer satisfaction has a positive relationship with the financial performance which it helps to increase the organization's profit. However, in a study by Tornow and Wiley (1991), they argued that there is no positive or direct relationship between customer satisfaction and financial performance. Despite that, there are much of study suggests that customer satisfaction has led to the improvement of financial performance (Pitcher, 2018). By referring to a study of Cooper and Kaplan (1991), they have recognized that 20% of customers can make as much as 225% of total

profits or 60% of customers can make double or triple the total profit.

Besides, Van Raaij (2005) argued in his study that it is important to understand the customers' needs to increase their satisfaction because these customers help to improve the performance of the organization's profitability. Pitcher (2018) argued in his study that not all customers are profitable, but they may have hidden value like knowledge or influence (Epstien, Friedl and Yuthas, 2008) which Horngren, Foster and Datar (2008) considered them to be unexpected revenue generation. Furthermore, according to Ghasemi et al. (2019), in a strong business competition, managers are more likely to satisfy customer demands. This is because by satisfying their customer demands will ensure the organization to survive in a strong business competition and sustain in a long-term period.

THEORETICAL FRAMEWORK AND HYPOTHESES DEVELOPMENT

Based on the conceptualization of the respective variables presented in the literature review, the proposed theoretical framework is presented in Figure 2, and the development of hypotheses is presented as follow.

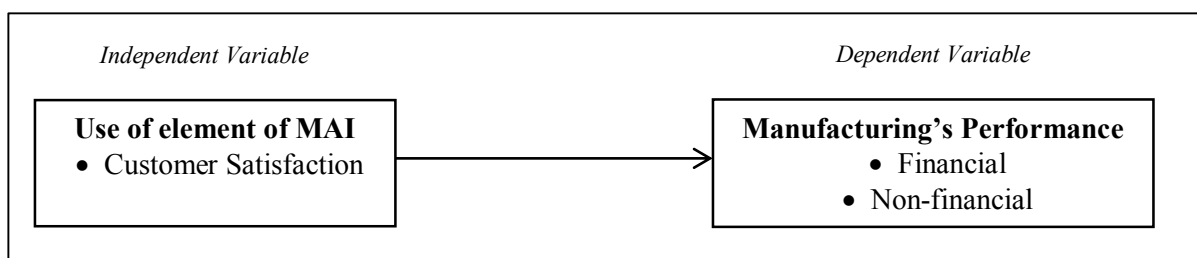


Figure 2 Proposed theoretical framework

MAI and Manufacturing's Performance

MAI has been adopted based on the contingency theory which proposed that performance can be improved by using MAI (Haldma & Laats, 2002; Ismail & Isa, 2011; Ghasemi et al., 2019). In line with the arguments on MAI requirements,

this study indicates MAI as an independent variable and manufacturing's performance as the dependent variable. Prior studies have evidenced that MAI has a positive relationship with manufacturing's performance. For example, a study by Ismail et al. (2018) found a positive relationship between the use of MAI

and manufacturing performance. Therefore, in line with the finding, this study suggests that:

H₁: The higher the extent of use of customer satisfaction will lead to higher manufacturing financial performance.

H₂: The higher the extent use of customer satisfaction will lead to higher manufacturing non-financial performance.

EXPECTED THEORETICAL CONTRIBUTION AND MANAGERIAL CONTRIBUTION

The intention of this study being conducted is firstly to fill in the gap in MA literature which due to the dearth of studies investigating the use of MAI in manufacturing performance. Moreover, the technologies advancements and the increase of globalization have forced MA to be improved especially in providing relevant MAI. As the business environment is changing rapidly, elements of MAI need to be improved to make it relevant to be used in the current business environment. Thus, conducting this study, it will help the researchers to have a better understanding of the relationship between MAI and performance, thus to support them in their future research.

Secondly, this current study aims to contribute to the development of the manufacturing sector in Malaysia since this sector is one of the largest contributors in the Malaysia economy. Additionally, in parallel to the 11th Malaysia Plan, the government plans to steer the manufacturing sector's transition to a high-value and high-technology production to be able to compete with other competitors in the business market. Hence, the manufacturing sector must use relevant MAI in performing their business activities and operations, so that their performance can be improved from time to time.

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