

Managerial Accounting and Digitization

***Ahmad Syafiq Umar, Syahiza Arsad**

Kulliyyah Muamalat dan Sains Pengurusan, Universiti Islam Antarabangsa Sultan Abdul Halim
Mu'adzam Shah, Kuala Ketil, Kedah

Abstract

In this twentieth century era, we clearly see that almost all aspects of the world are changing and evolving with the time. The only difference is that some areas growing slowly, some are changing rapidly and the others area are evolving exponentially. This evolution is also happened in the field of management accounting. According to The International Federation of Accountants (IFAC), since the beginning of the civilization of mankind, managerial accounting has undergone four stages of evolution.

Nowadays, the evolution is still very much continued as the whole worlds are currently entering a new Big Data and the Internet of Thing era called "Digitization". What is the definition of managerial accounting and digitization? What is the relationship between managerial accounting and digitization? What challenges does the accountant have to overcome in relation to digitization? In this paper, all these questions and issues regarding managerial accounting and digitization are going to be addressed and answered.

Keywords: Managerial Accounting, Digitization, Issues, Challenges

Introduction

Accounting field are divided into three sub-categories namely financial accounting, cost accounting and management accounting. Different scholars have different interpretation and definition of management accounting. Here we will analysed the definition of managerial accounting according to difference entities. Firstly, according to American ccounting Association (AAA), management accounting was defined as the necessary approaches and concepts which contribute a lot to the efficient schedule, best decision, and better control over the assessment and explanation of implementations (Niu & Du, 2015).

While, Anglo-American Council on Productivity defines management accounting as, "the presentation of accounting information in such a way as to assist management to the

creation of policy and the day to day operation of an undertaking". Furthermore, the American Accounting Association defines management accounting as "the methods and concepts necessary for effective planning for choosing among alternative business actions and for control through the evaluation and interpretation of performances" (Niu & Du, 2015)

From above definition, we can summarize that management accounting is a process of identifying, measuring, analyzing, interpreting and communicating the information in order to prepare an accurate management report for the manager to make short term and long term decision and also make or buy decision.

On the other hand, digitization is the process of transforming analog material into binary electronic (digital) form, especially for storage and use in a computer (Khan & Aftab, 2015). Digitization is a process of conversion analog information in any form such as text, photographs and voice to digital form that the information can be processed, stored, and transmitted through digital circuits, equipment, and networks with suitable electronic devices.

According to (Afonasova, 2019) digital technology has significantly changed the speed of operation in the economy. Growth of Information and Communications Technology (ICT) use has increased significantly over the past three decades (Castellacci, 2019).

(Afonasova, 2019) stated that recent developments in the information and communication technologies (ICT) , especially the internet and the web based technologies have brought significant changes in the ways the information generate, distribute, access and use. The amount of data and information that need to be manage by an organization are massive if compared to previous generations.

In order for an organization to remain competitive and relevant in the market, their respective accountants that manage managerial accounting reports have to adapt with the changes in the environment. Traditional methods of managing management accounting are no longer efficient in handling such big amount of data. Thus, the idea of integration between managerial accounting and digitization are arise to solve this problem.

Therefore, it is important to have a deep understanding about the basic concept of managerial accounting and digitization before we can understand better on how managerial accounting and digitization work together in this new economic environment.

Literature Review

Everyone is connected to everybody at anywhere in the world and at any time. According to (J. Manyika, 2011) globally produced data double every 18 months, and with data volume processed by organisations expanding by 35–50% per year. It is likely that the next 10 years will see a significant acceleration of these trends. The emergence of advanced mobile

technologies, social media, cloud computing and “Big Data” had been the catalyst of this new environment.

Changes in sources and type of data collection are driving changes in channels of information transfer and what is regarded as analytically powerful data. Most of the data organisations collect, store, create and manage today are unstructured and cannot be easily retrieved or interpreted (C. Beath, Becerra-Fernandez, J. Ross, 2012). As the world is move towards Big Data and the Internet of Things, managerial accounting also has to move on from traditional accounting method into modern style. Failure in adapting to this new environment could prove vital to the business organization as a whole.

Professional accountancy bodies recognise the need to better understand how Big Data could shape accounting practices. Bhimani & Willcocks (2014) also mentioned, “Altering modes and systems of data manipulation from an accounting information angle within enterprises is a major challenge. Another is that data-driven prioritisation of activities in enterprises relies on different notions of autonomy and control.

Discussion

The Importance of the Integration between Managerial Accounting and Digitization.

Naturally, business organizations are always exposed to the risk and uncertainty. The management has to react and adapt to those situation accordingly. They need adequate and solid information in order to fully understand about the context of the situation before they can make any decisions.

Breuer & Lesconi (2018) stated that accounting, oriented especially towards providing information to manager being considered an informational tool necessary to the management for taking decisions, to maximize profitability.

According to Niu & Du (2015), “The importance of management accounting can be easily emphasized by the large scope it contains. What’s more, the six well-known management functions which are plan, control, coordination, organization, motivation and communication can be supported by management accounting information in an efficient and profitable way”

Information need to be prepared to the management fast and precise. The digitalization of daily activities has significantly increased the amount of data available. It was create an extremely large and complex data sets which commonly known as “Big Data”. Traditional methods of handling such amount of data are not practical and almost impossible. The adoption of digital technologies becomes a unique industrial policy goal and the failure to

pick up this challenge could have wide-ranging economic consequences (Afonasova, 2019). Digitization improves access to information resources. Digital projects allow users to search for collections rapidly and comprehensively from anywhere at any time.

Some of the benefits of digitization are been listed and mentioned by scholars from previous research (Khan & Aftab, 2015). Developing a digital substitute of rare, brittle or fragile original documents can provide access to users while preventing the original from damage by handling or display. This is the motivation behind the digitization of many artifacts. Following are the certain benefits of digitization.

1. The documents can be viewed from anywhere, at any time of the day
2. The documents can be printed directly from the web
3. Users can find what they are looking for promptly and independently
4. It can save staff reference time by answering frequently asked questions on the web
5. It can enhance images electronically so that they can be viewed with greater legibility
6. It increases use of collections and facilitates learning and scholarship
7. The documents do not have to be re-shelved or located by staff
8. The documents are not handled frequently which lessen wear and tear

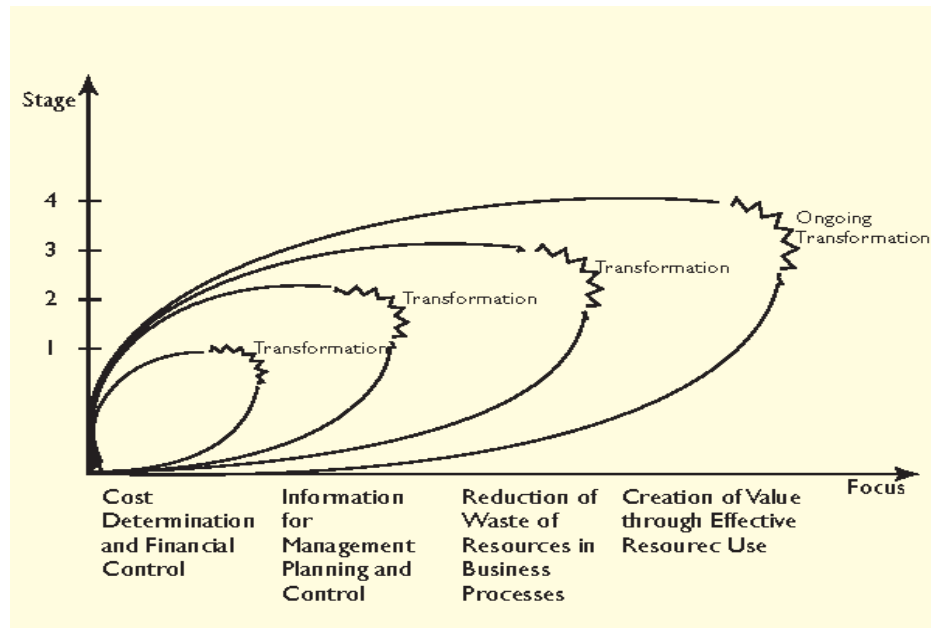


Figure 1: 4 Stages of Evolution of Management Accounting by IFAC

According to The International Federation of Accountants (IFAC), Managerial accountings are currently in the fourth phase of evolution and it is still evolving, new market environment is moving towards Big Data and The Internet of Things. Management accountings have no other choice but to adapt and integrate to the digital environment.

Improved Managerial Accounting Process

In digital world, information and data are easily accessible. It can be acquired anytime and anywhere as long as it is connected to the internet. In preparing full management accounting report, relevant data and information are vital. The process of collecting and gathering information are sometimes it take a lot of time even though it only happen inside the organization.

With the introduction of digitalization concept, the data and information from all over the organization can be stored in the cloud storage. The cloud storage are accessible and made available at all the time. For the person in charge of preparing managerial accounting report,

the time that should be used for collecting data can be minimized as the data can be get directly from the cloud storage.

Improved Managerial Accounting Quality and Function

The main purpose of management accounting report is to help internal management in decision making process. The quality of the report need to be very high, because it will affected the decision that will be make later. If there is one factor that will influence the quality of overall management accounting report, it must be the quality of the information itself.

The presence of digital world helps to improve the quality of the information. The unnecessary data and not relevant information can easily be sorted and removed by the system. Although the amount of the data that need to be considered are massive, digitization technologies able to manage it properly.

When the quality of the information is enhanced, it will automatically improve the report and its functions.

Issues and Challenges

Although we have listed a lot of importance and benefits of managerial accounting and digitization, however there are still some concerning issues that arise because of its emergence. According to Afonasova et al. (2019) although digitalization is a rapidly developing sphere of national interest and has its advantages, scientists differ over this policy direction. The digitization of society pushes the boundaries of our abilities and offers all sorts of opportunities, but also challenges our moral boundaries. (Royakkers et al., 2018).

The discussion of the issues and challenges arise from the integration of managerial accounting and digitization is as follows.

Significant Technological Gap Between Countries

The European Union (EU) member states are on the move towards a digital economy (Afonasova, 2019). Nevertheless, there is a significant development gap between different countries, which is the lack of harmonized relationship between the level of digital technology development and the time taken for introducing digital technologies into industrial and business spheres.

The technological differences between developed countries and other countries are very big. Only the countries with advanced technologies are able to adapt with the digital world. Third world countries are 10-15 years behind in terms of technologies. These differences in terms of technologies hinder the adaptation and development of managerial accounting in the digital world.

Societal Issues of Digitization

Royakkers et al. (2018) stated that, the advent of social media and other online services in the late 1990s and at the turn of the century have had a huge impact on the way we communicate. The growing use of information technologies also means the social interaction between human and co-employees are minimised. Every activities including interaction between people are being digitized. So digitization penetrates our *social-cultural world*: shopping, transactions, listening to music, contacting friends, taking action and finding a date are things we do increasingly online (Royakkers et al., 2018).

For example for accountants in preparing the managerial accounting reports, in the process of collecting and gathering relevant information that need to include in the report, an accountant no longer have to conventionally interact with other people to get the sources. The social interaction between employees within the organization is no longer happening. The accountant can get the detailed information via cloud storage, augmented

reality (AR) or virtual reality (VR). It is not a good indication in term of social life for employees as well as for human being as a whole.

Ethical Issues of Digitization

Let see this cases as an example. Samsung's 46-page privacy policy that comes with its smart TV, tells you that Samsung registers where, when, how and what time you have your TV turned on (Royakkers, 2018). The TV also has a camera for face recognition and a microphone for speech recognition. Samsung's manual warns you to watch out what you say in the vicinity of the TV: "Please be aware that if your spoken words include personal or other sensitive information, that information will be among the data captured and transmitted to a third party." This led to quite a fuss.

With the introduction of Big Data and the Internet of Things, more and more information is being exchanged without control. Sometime the users did not realize they have shared their personal information more than they should. This privacy issues are also affected in some of managerial accounting cases while adapting to the digital world.

Conclusion

These two managerial accounting and digitization are initially from two separates things. Both of it have their own importance, functions and benefits. As the whole aspect of the world is moving towards the concepts of Big Data and the Internet of thing, adaptation and adoption of managerial accounting towards digitization is inevitable.

There are undeniable facts that digitization gives many advantages and benefits especially in economic world. Moreover, digitization also create so many opportunities for business organization to optimize their overall performance include helping organization's accountant in preparing managerial accounting report.

The adaptation and adoption of managerial accounting towards the influence of digitization

can create additional benefits for managerial accounting perspectives. For example, digitization enhanced the process of preparing managerial accounting reports by minimizing the cost and time consumed. It is also improved the quality and the function of managerial accounting.

Besides all the benefits, there are also some issues that should not be overlooked. The issues of technological difference between countries as well as the issues of societal and ethical of digitization are needed to be addressed accordingly.

In conclusion, scholars and the person who practice managerial accounting have to be ready to take the managerial accounting to the next step. This new unprecedented era of digital world should be seen as welcomed opportunity to improve the education and practice of managerial accounting. Utilized the challenges arise while adapting to this new environment for its own benefits. The problems have to be overcome smartly and use it as a stepping stone to bring the new evolution of the managerial accounting even further.

Corresponding Author

Ahmad Syafiq Bin Umar. Universiti Islam Antarabangsa Sultan Abdul Halim Mu'adzam Shah, UniSHAMS 09300 Kuala Ketil, Kedah. arssya792@gmail.com

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