Quality Management Implementation among Commercial Printing Companies in Malaysia

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Abstract
Providing experienced and skilled people at all levels in the printing business are essential elements to building a business model that can help business performance towards global standards. The global printing industry issue is always related to print quality and productivity, moreover as a priority in achieving customer satisfaction. The issues of quality and productivity are relevant to be addressed to determine the survival of commercial printers. This study explored the Senior Managers and the owner of the companies in Malaysia Small and Medium Printing enterprises' perspective on quality management implementation. This research focuses on SME commercial printers in Malaysia and ten Senior Managers and the owner of the companies have been interviewed. This empirical study derived on three main categories, including the advantages and challenges of implementing quality management and the strategies adopted in sustaining it.

Keywords: Management; commercial printing; challenge and strategy

1.0 Introduction

The printing industry has contributed and had an impact on the Malaysian economy. According to the Malaysia Department of Statistics (2021), the value of gross output for the printing industry is RM 2.153 billion. Meanwhile, that year, the total number of employees working in the printing industry was estimated at 54,714. With that figure, the majority of them worked in private companies. The printing industry plays a vital role in helping to develop the nation's civilization and supporting the nation in terms of economy, social development, and technology.

The printing industry can be segmented into commercial printers, packaging, security, and publications. Commercial printing is the most significant segment in the printing industry. The Global Commercial Printing Market was worth USD 411. 99 billion in 2020, which is expected to be worth USD 472. 35 billion by 2026. Over the next five years, the commercial printing business is expected to continue to increase (ReportLinker, 2021). The income growth is in line with the changes and development in the global printing industry in terms of customer demand and spending, new technology, and environmental concerns.

Like the other manufacturing and service sectors, the printing business also depends on customer demand. Thompson (2013) stated that customers want and expect better products and services from a printing company. However, Mohammed Ali, (2018) found that commercial printers always face problems meeting customers' demands, especially in producing good colour matching and eliminating colour variation of the printing products. Thompson (2013) further highlighted the need for a print management system that is effective and

efficient to monitor and control the printing process and cost. Kingsley Graham et al. (2014) stated that the critical thing to gain customer attention and loyalty is offering quality products or services. The author further added that the successful Japanese formula in dominating the market share is by ensuring only the superior quality product is provided in the market. Thus, by adopting proper quality management could somehow serve as a business strategy and a tool to enhance the service to the customers (Kingsley Graham, Dissou Arthur, & Peprah Mensah, 2014; Thompson, 2014; Valmohammadi, 2011; Anwar et al., 2015a). Eventually, this will also help to gain customers' trust. No doubt, quality management is not new in organisations nowadays, but its implementation in the printing industry, particularly in Malaysia SME, is still scarce. Therefore, this explored and reviewed the quality management implementation in the Malaysian printing industry among SMEs. Knowing the advantages, challenges, and appropriate strategies to implement could help Malaysia's printing industry strategize their resources better, position their image, and hopefully enlarge their market share. Specifically, this study explored the advantages and challenges faced by SME printers and the strategies practiced by commercial printers in implementing quality to sustain their business.

2.0 Literature Review

2.1 Definition of Quality Management
Various researchers have defined quality. Southworth (1992) and Oakland (2004) stated that quality is meeting customer requirements. Kvicky (2010) emphasized quality is not just meeting customer requirements but also should focus on improvements. Brown (2013) mentioned quality is associated with meeting or exceeding customer expectations.

On the other hand, Total Quality Management has been defined by Miles (1992) as a management style that focused on pleasing the customer. This study's definition of quality management is similar to those mentioned studies, particularly Mosadeghrad (2014). Mosadeghrad (2014) elaborated TQM as an organization's culture that determines the support, the constant attainment of customer satisfaction through an integrated system of tools, techniques, and training. It involves continuous improvement of organizational processes, which in the end results in high-quality products and services.

2.2 Advantages of Implementing Quality Management (QM)
Many Total Quality Management (TQM) or Quality Management (QM) programs have spread throughout various sectors and industries. What causes this trend? Windriya (2020) revealed that many firms use QM because they believe it can contribute to creating and changing quality culture and improving organizational performance. A high level of quality will promote business growth while reducing defects and wastage. Numerous researchers have also found that there is a positive relationship between QM's implementation and organizational performance, financial impacts, quality products, and employees' motivation (Anwar, 2016). Employee satisfaction has a positive and significant impact on employee performance, and QM has a positive and significant impact on employee satisfaction. It has aided in the improvement of quality, operating costs, delivery timeframes, and productivity. QM has also evolved into a business tool that is used to change the working process, resulting in a significant reduction in lead time within the plant, which applies to all printing operations. (Fatimah, Moelyati, & Syailendra, 2016; Kusi-Appiah, & Baiden, 2021; Moreira, Silva, Correia, Pereira, Ferreira & Almeida, 2018; Rashid, Md Mamunur, Biswas, Abu & Ahmed, Sharif, 2019; Kaziliūnas, 2010; Kumar et al., 2011; Lin & Jang, 2008; Mosadeghrad, 2014; Rusjan & Castka, 2012; Windriya, 2020). Additionally, TQM is regarded as one of the strategies to attain competitive advantages and business sustainability (Graham, Arthur, & Mensah, 2014).

The benefits of implementing QM gained by organizations can be divided into internal and external. The internal advantages can be observed via the business's performance, product quality, delivery on schedule, increased productivity, reduced waste, improved motivation, and a better relationship between management and employees (Das et al., 2011; Psomas et al., 2014). For external advantages, customer satisfaction, customer trust, market share, market opportunities, as well as customer support, were found to improve (Psomas et al., 2014). A study by Tarí et al., (2013) listed 13 categories of benefits; six categories are focused on internal benefits while the rest are focused on the external benefits. The internal benefits included improved quality in product or service, enhanced organizational image, augment employee motivation, satisfaction, teamwork, communication, improved work system, efficiency, and increased profit. Among the external benefits are improved customer satisfaction, more sales, larger market share, better positioning and competitive advantage, improved export, and good relationship with authorities and other stakeholders. In short, Brow (2013) corroborated that many organizations around the world agreed that QM contributed to incredible advantages.

2.3 Challenges of Implementing Quality Management
Despite clear evidence of the advantages of implementing QM, there are also challenges faced by printing companies who intend to implement QM. The common problems are lack of top management's commitment and leadership, inappropriate quality measurement, lack of experience in quality implementation, lack of training and knowledge, and shortage of financial and human resources. However, the main difficulties to TQM implementation were determined as hindrances, such as low skills, poor preparation, employee attitude towards quality, and lack of leadership. (Afeliga, 2017; Kusi-Appiah, & Baiden, 2021; Jayaram et al., 2010; Mosadeghrad, 2014; Nwabueze, 2014; Sumarjan, 2011). Jayaram, Ahire, and Dreyfus, (2010) highlighted that while QM has been adopted for almost 50 years in various companies worldwide, the result reported is still considered **minimal**. It is supported by Kumar et al., (2011), who stated that almost 60 - 80 percent of QM implementation is still not achievable. Subrahmanya Bhat and Rajashekhar (2009) identified the barriers faced by Indian industries to TQM are (1) lack of customer orientation, (2) lack of planning for quality, (3) lack of total involvement, (4) lack of management commitment, (5) lack of resources as barriers in TQM implementation, (6) no benchmark, and (7) employee resistance to change.

Mosadeghrad (2014) reviewed articles on quality management from 1980 to 2010 and listed the barriers or challenges in quality implementation. He has been giving four categories of problems, namely, (1) strategic barriers, (2) contextual barriers, (3) human recourses barriers, and structural barriers. Top management commitment has been frequently cited as one of the significant challenges in implementing quality (Mosadeghrad, 2014; Zehir et al., 2012). Management should understand the quality management process to communicate better and enforce the advocate of the programs (Sumarjan, 2011). Brown (2013) also supported that many companies have failed to implement TQM due to not getting strong support from the leaders, and the organizational structure is unclear to all members. Thus, management commitment and involvement are the main critical success factors in practising quality.

2.4 Strategies in Implementing quality

The results of quality implementation cannot be realized overnight, and it requires the endeavour of everyone in the organization. Appropriate strategies are needed to move everyone to achieve the same goal. Research have shown that involvement and commitment from top management is a vital strategy in ensuring the success of a quality management program (Afeliga, 2017; Kumar et al., 2011; Mat Yunoh & Mohd Ali, 2015; Valmohammadi, 2011). Top management is to play an active role in explaining the quality program, and provide training and sufficient resources to execute the quality programs. The involvement of top management also could improve employee motivation and morale. Kumar et. Al (2011), and Mosadeghrad (2014) emphasized that these strategies applied by organizations to successfully maintained their quality management programs; (1) adequate training and education, (2) full participation of employees, (3) proper measurement technique and tools, (4) ample resources, (5) continuous improvement system, (6) reasonable supplier quality assurance, and (7) favourable work environment and culture.

According to Ali (2015), the implementation of ISO 9001 is considered as a stepping stone that leads the successful TQM implementation. Therefore, they recommended actions that the QM practitioners should take are; (1) providing proper planning on quality program structure for their implementation (2) establishing appropriate reward systems and organizing mechanisms that are applied in the organization (3) providing adequate resources in facing the organization changes. Paige (2013), who surveyed managers and employees in the United States commercial printing companies, found that; (1) customer focus, (2) Employee Involvement, and (3) continuous Improvement is the essential principles or strategies to be implemented for successful quality implementation. Mat Yunoh and Mohd Ali (2015) proposed a TQM model to assist SMEs in Malaysia to deal with the changes in the global markets and remaining competitive. Among the constructs of the model are (1) Management commitment, (2) strategic planning, (3) customer focus, (4) supplier relationship, (5) benchmarking, and (6) continuous improvement.

2.5 Quality Implementation in Printing Industries

There are numerous studies conducted to evaluate the effectiveness of quality management in the organization. Most of the studies undertaken to seek the relationship between the principles of quality management and business performance.

Kingsley Graham et al. (2014) have conducted a study on the implementation of TQM in Ghanaian printing firms. The study focused on three TQM criteria consists of management commitment, leadership, and quality policy to evaluate organizational performance. The authors found a positive relationship between TQM's criteria included; leadership and quality policy practice and organizational performance (OP). Meanwhile, the organizational performance of a company is not impacted by the support of the management. This study's finding is contrary to the typical results. Management commitment is often associated as a core principle in ensuring successful quality program implementation.

In another study, Paige (2013) surveyed managers and employees within the printing industry in the United States. The researcher found that an association between core TQM principles and implementation in the printing companies. TQM principles are extensively practiced in printing companies. The author also has seen the importance of having the TQM's knowledge. This study conducted shows most of the employees do not understand well the concept of TQM to help the company gain optimum success. When employees do not understand the mission of the company's quality will retard the implementation. Mosadeghrad (2013) has indicated the successful TQM implementation is assisted by an understanding of the concepts and principles of quality management.

In later research, Ali (2015) aims to explore and assess the importance of graphic arts standards in the Malaysian printing industry. The study found the trend of acceptance for the implementation of graphic arts standards is continuous growth. The author added, the factors are (1) most of the printing companies already have ISO 9001 certification, which can be used as a stepping stone towards certification for graphic arts standards. 2) Customers need and prefer the printing company with international standards certification. Malaysian printing companies can use these findings to understand the actual scenario or profile of the Malaysian printing industry as well as to adopt international standards.

Realizing the importance of adopting and implementing quality management in the printing industry in Malaysia, it is good to start with research and analysis. There is no in-depth and empirical study conducted on Malaysia's printing industry, particularly commercial printing businesses. Most of the studies in Malaysia involve fields such as engineering, construction, food, hospitality, and otherwise but not in the printing industry. The results of the literature review conducted showed that there are numerous studies in the quality of management have been carried out in the different fields or sectors (Mustapha, Muda, & Abu Hasan, 2011; Sumarjan, 2011; Talib; Mohd Ali; Yunoh, 2015) and nature of studies are coming from other countries, most of it from developed countries (Afeliga, 2017; Lokhande, 2012; Moreira, et al., 2018; Paige, 2013; Romano, 2015; Thompson, 2014; Urbain, 2012).

In the Malaysian context, it is hard to get information and to understand the level of awareness of QM among printing companies. Although Malaysian manufacturing industries are rapidly adopting and practicing the standards such as ISO 9001 but the exact figure of the number of the company that are practicing it remains unknown. Thus, an empirical study to gather the data is needed to describe the actual scenario in the Malaysian printing industry.

Instead, many commercial printing companies are operating in Malaysia, still lagging behind the cause by not being able to outperform in both markets, local and international. Research has been done to measure the level of understanding and wiliness of the owner of the firms to change their mindset to adopt the new culture in implementing the quality management system. Ever thought, there are a lot of issues that each organization must face in making the changes in the working environment and investing in upgrading the firms in preparing and implementing the new system.

3.0 Research Methodology

This study employed a qualitative approach with the interview as the main of obtaining data (Mohammed Ali et al., 2015). A one-to-one interview has been conducted with ten informants from six SME commercial printers located in Klang Valley. The interview questions were self-developed, reviewed by experts having backgrounds and experience in quality management. The questions mainly asked about the advantages of quality implementation, the challenges faced in implementing quality, and strategies adopted in sustaining quality management.

A purposive sampling method has been used (Anwar et al., 2015b). The sample of this study was Senior Managers and the owner of companies who have experience in the printing industry and involve in the company's decision-making process. Generally, most of the interviews took approximately thirty to sixty minutes. The interview was done in dual language (Malay and English). Interview in the Malay language was translated as verbatim; then, it was translated to English with minimal amendment. The Microsoft Excel software was used to process the data, generating three main themes.

4.0 Result and Findings

This study applied a qualitative approach to explore the significance of QM implementation in Malaysian printing companies. The issue is how Malaysian commercial printers develop their understanding of implementing QM for their business. Currently, there are much research done regarding the implementation of quality management in the business. Still, it is quite a few focusing on the printing industry and especially in the Malaysian context.

The interview data gathered have shown the perception of Malaysian commercial printing companies. The discussion of findings is based on the three (3) primary themes below.
[1] The Advantages of Quality Management Implementation;
[2] The Challenges Faced in Implementing Quality Management;
[3] The Strategies Adopted in Sustaining Quality Management.
The themes from this study are described based on the diagram (refer to Figure 1).
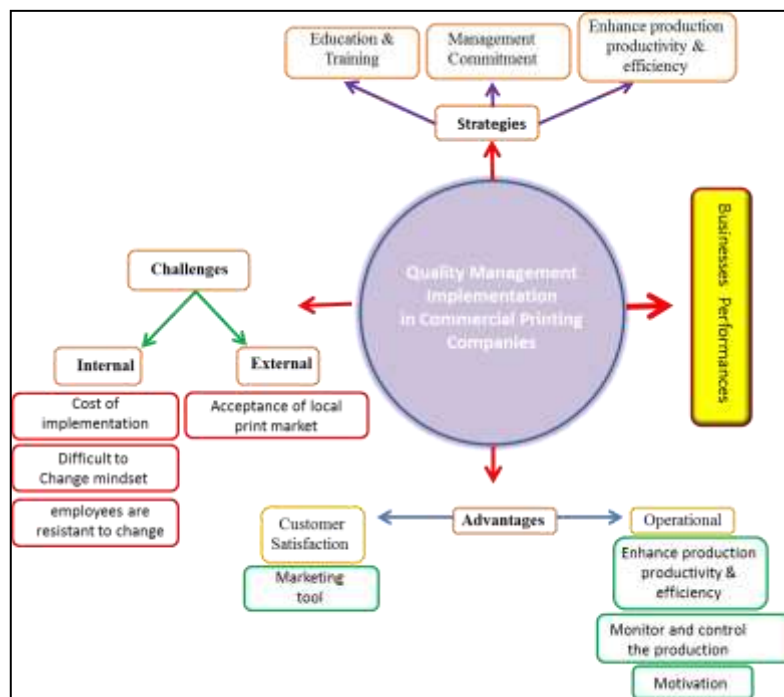

Fig. 1: The themes that emerged from the study conducted.

4.1 Advantages of Quality Management Implementation

The advantages of quality management implementation that emerged from this study were classified into three sub-themes: achieved customer satisfaction improved productivity, and encouraging employee motivation.

Achieved Customer Satisfaction

Most of the respondents in this study have believed that implementing QM and having the international standards certification can bring confidence and trust to customers. Also, the main goal of the QM implementation is to achieve customer satisfaction through quality products and services. They have put customer satisfaction as a priority. The printers understand the customers will be more emphasized and select the company that has the certification to do business with them. The printing companies allocate their resources effectively to meet and improve customer satisfaction. They venture to prove their capability to produce quality printing works based on quality practices. Several comments from the respondents;

"why a customer chooses our company as their supplier… it is because of our quality. Our company emphasizes on quality products and meeting customer demand. The management has highlighted the concept of cost, quality, and delivery (CQD). Before this, the quality is the most important, followed by the cost and delivery and now has changed based on the current business scenario where the cost is paramount in the context of current business." (Senior production manager, Company A)

"… the customers from overseas are more emphasis on quality and give high-profit margins compared to domestic customers. Now, the company is trying to focus on the international market. The reasons are a high profit, the large quantity print order, and consistency in monthly orders." (Senior production manager, Company B)

Improve productivity

The benefit of quality programs can improve productivity. It is shown the positive impact on the quality management practice improve company performance. According to one respondent, has explained the advantages was obtained by the company after implementing the quality program,

"before certification, in terms of record, there are many job rejections. When we have certification, he (production employee) becomes more concerned, even though there were various work formats and we handle many printing works but rejection is manageable". (Senior production manager, Company C)

A similar view is also shared by another respondent, who mentioned that;

"apart from that image (company's image), the quality management will enhance our quality and productivity and confidence of our customers. People said that the most important part is, we involve everybody." (Senior production manager, Company D)

No doubt, adopting and implementing a quality program would gain benefits for the company and its employees. Thus, it can make printing companies more competitive in the print market.

Encourage Employee Motivation

Employees who are aware of and understand the concept and advantages of the quality program will show positive attributes. They will give cooperate, comply with work procedures, be involved with quality activities, and continuous improvement in work activities. Employees feel comfortable in a systematic working environment and influence on the output produced. Elements of motivation arise when they exhibit a sense of pride in the emissions produced according to the standard. Several respondents commented:

"No problem, indeed the procedure or SOP here we will follow, we understand then we will follow the procedure." (Head of Department (HOD), Company A)

"I can say… the system in this company is the best ... The quality system is effective and systematic ... compare to other companies, we are good... everything is in place." (production supervisor, Company D)

4.2 The Challenges Faced in Implementing Quality Management

The philosophy of TQM implementation is to integrate all the resources of the organization towards customer satisfaction. Customer satisfaction can be achieved and maintained through the continuous improvement of the organization's approach to any event in operation. Continue to consolidate the strength and experience of the top management and workers to ensure the production of high-quality products for customers.

Cost of QM Implementation

The quality assurance department and senior management have been trying to make the top management understand the importance of quality. The effort to implement quality programs requires extensive capital investment such as consultant fees, purchase of equipment, additional training, and education programs. Therefore, support from top management is critically needed.

Difficult to change the mind-set

The venture of quality management in any organization is required involvement from all staff. It is not easy to change the working culture of a company that has long been practiced based on a short-term decision basis to a new culture of continuous quality improvement and customer satisfaction. Thus, there should be a change of mindset and adhere to the proper work ethics among members of the organization.

Manager as a leader in the organization, is always finding ways to face the challenges of the implementation of the quality program in their organization. The matter is visible from the views of the respondents in this study.

"Our company has been awarded ISO 9001. However, the process to obtain it is very challenging. This is because it involves the question of changing the mindset of people. The willingness of people to change from the old system to a new system that is more organized and systematic. Our company has been a long time in the government working culture… where it will take time to change." (Senior production manager, Company D)

Employee resistance to participate or change

The success of the QM implementation carried out in the organization is much dependent on the acceptance and involvement of employees. Workers are an essential asset in the organization. Employees are required to make visible their commitment to the quality policies established by the organization as well as be involved in the quality activities conducted. The organization needs total support and

commitment from everybody to engage in any quality programs and quality activities conducted. The approaches and plans made by the management must be carried out by the workers and every department in the organization. The QM is a management style that focuses on providing an environment in which everyone in the company or organization works to please the customers. An employee's resistance to change is one of the themes found in this study.

"…senior employees quite difficult to accept (program quality), they have much experience; he does not want to accept new things ..." (QA Manager, Company E)

"deliberately being cynical… so there were some people who would counter this...I had printed thousands of printing jobs, but there are no issues." (QA Manager, Company C)

One respondent also added the level of acceptance between senior employees and new employees on quality management programs.

"Between the senior employees and new employees are ... new employees more receptive to change..." (QA Manager, Company B)

The failure of employees to get clearly understands the mission of quality execution will affect the smoothness of QM implementation. Therefore, communication between management and employees must always be built and designed systematically to minimize or eliminate the communication gap. Proper channels are needed and defining well on communication within the organization and better communication between management and employees. Senior managers need to give trust in their employees. Therefore, the ideas and information that would reach to target department and employees are clear and compelling. The employees will work according to the procedure, finding solutions to the problems that occurred and making continued efforts to improve product and service quality.

The low-quality awareness of the Malaysia printing market

Most of the Malaysian printing firms have focused and put their efforts on the domestic markets. Today, Malaysian printing firms are gradually embarking on the international market. However, there are still not many Malaysian printers involved in penetrating the international market compared to neighbouring countries like Singapore and Thailand, which are higher in terms of their print export. The printing company involved with overseas markets is confident of huge profits and a consistent market supported by one of the participants:

"…the customers from overseas are more emphasis on quality and give high-profit margins compared to domestic customers. Now, the company is trying to focus on the international market. The reasons are a high profit, the large quantity print order as well as consistency in monthly orders." (Senior production manager, Company B)

Unfortunately, the local market still does not show priority to quality and international standards. Priority is to price aspect rather than quality. Hence, local printing is still able to survive in business in meeting the level of quality required by the local demand. One quotation from the respondent:

"…there are not many printing companies having ISO certification. They do not emphasize the international standards that are associated with the nature and practices of printing in the context of Malaysia. In addition, the local market was also felt that the international standard is not very important in Malaysia." (Managing Director, Company C)

4.3 The Strategies Adopted in Sustaining Quality Management

The printing companies should always be alert to the latest developments. The failure to analyze the situation and be prepared to change may cause lagging in the printing business. Seeking the best strategies for implementing QM as well as winning the heart of customers in terms of obtaining the jobs is essential. Despite identifying the advantages and challenges is the main focus for each printer toward QM implementation.

Support from top management

Top management involvement is one of the important themes found in this study. Senior management must have a clear understanding of the concept and strategic plan for the implementation of quality programs. Therefore, be able to ensure that the strategic plan can be delivered to all staff of the organization with clear and accurate. Top management is the most crucial level in the organization that drives the company towards a quality management culture. Additionally, the presentation and communication methods used must be accurate. The direct involvement of the top management is needed and visible in the implementation quality program. For example, involved in the quality review meetings, frequent face-to-face interaction with employees, and involved in any quality activities. The respondent commented:

"First of all, we managed to obtain ISO 9001 certification in January 2005, so we created this initiative, we have made it within six months, then the top management has trusted on us". (QA manager, Company B)

Continuous training and education

From the managerial perspective, to obtain optimum results of the QM implementation, the management needs to formulate for the preparation of QM training. The failure of management, including training and knowledge in the company's strategic planning, would retard the implementation of the quality program being carried out. It is vital to provide training and to give awareness to each individual in the organization to achieve the maximum impact on QM implementation. Here it is understood that the involvement of all employees is crucial. There are several comments from the respondents;

"awareness… understanding of quality is important…need to tell the staff. Staff must understand about the knowledge of quality, if not ... there is no benefits can be obtained from the certification." (Senior production manager, Company E)

"Awareness among staff is vital, without support from them, the things (quality program) will not happen" (QA manager, Company B)

Investment for new equipment

By having an international certification, it would become a stepping stone for a company to move ahead and penetrate the overseas market. Global jobs required specific requirements to get the job. However, to get the international certification, the company needs to invest in terms of equipment, training, and consultation. Some respondents gave a statement based on their practices:

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"To get Process Standard Offset (PSO) certification will involve costs, need some investment. Therefore, the company tries to get the printing jobs that require high-quality printing. The customers are willing to pay more." (Senior Production manager, Company B)

"The challenge now… the customers want better services… need to produce high print-quality products and fast delivery. The company must be willing and brave enough to do the investment for new equipment. Thus, need to bear the burden of debt and a new liability to survive in business." (Managing Director, Company F)

On the other hand, nowadays, customers need a solution from the printing company with innovative ideas, high value, cost-effectiveness, and concern of environmental issues. Nevertheless, the factors of price, quality, and faster delivery are still the primary consideration of customers. The rapid technological change influences changes to customer demand trends in the printing industry. For example, the rapid development of the digital printing process cannot be denied and has become the forefront of the technological movement in the printing world. Digital printing offers on-demand printing and personalized that leads to satisfying customers demand. For instance, it has become a trend where commercial printing company has invested in new technology. The printing company strengthens its businesses by offering print-based offset printing and digital printing application to survive in the long term. The comment from a respondent:

"The company's strategy to win the attention and gain customers confidence… we are offering print quality products through the use of high technology equipment and practice good services." (Managing Director, Company F)

5.0 Summary

Quality is something that is very valuable or has become a vital role in doing business or in surviving. It can only be realized through the efforts undertaken. It is not by accident, but it comes through the proper planning and effort in earnest. The process of developing toward the quality will require long terms planning. They strive to integrate all organization resources, whether capital, human resources, top management, and investors, technology, and a team of suppliers. Also, efforts were undertaken to be based on honesty and adherence to implement on any quality program that was planned. The positive results will be felt, and it can give good motivation and pride to all members of the company. The success of the implementation of quality programs is influenced by the understanding, knowledge, and skills possessed by the executor.

The use of international printing standards has become a trend in printing industries worldwide. Therefore, it is essential to the printing industry in Malaysia to understand the role and importance in implementing of international printing standards. Printing companies should make an international standard and quality management as a business strategy to ensure the survival and performance of the business. This situation will be able to contribute to the improvement of business performance in competing in local and international. The weakness and failure of the printing company to change their mindset in business can make them lagging behind and not competitive that cause of global impact and rapid changes in the world of printing.

Also, printing is a business that provides products and services. Providing experienced and skilled people at all levels in the printing business are essential elements to build a business model that can help business performance towards global standards. The exposure to the knowledge will enable more companies and individuals who are involved directly or indirectly benefit through increased awareness of international standards and enhance the professional and skilled workers in the printing industry.

However, in some cases, when local printing companies are to have business with the international market, they are required to be certified to be eligible to get the printing jobs or contracts. This regulatory has impacted the local small and medium-sized enterprises compared to large companies. The large-sized printing companies have clients from abroad and perform for high-quality printing works. Usually, the best quality management practices consistently implemented by large companies compared to small and medium enterprises (SMEs). Generally, large companies have realized that they will gain internal and external benefits for the organization through the adoption of international standards. The international standard works as a marketing tool for the company. In addition, the companies will be able to increase productivity and profitability, motivation for employees, production under control, and efficient quality management. With the strong capital lead, the large printing companies are able towards ISO certification and quality management practices.

Meanwhile, the local SMEs are more focused on the local market instead of international markets. QM has become one of the most popular strategies for companies to focus on quality and customer satisfaction. The local or international companies put an effort to try to penetrate or dominate the market as well as improve organizational performances.

The adoption of quality management among commercial printing companies gives space to strengthen the business and improve the businesses' performances. It is the reason why this study was conducted to help commercial printing companies to be aware of the opportunities and barriers faced towards an effective business performance through adopting and implementing quality management. Furthermore, by understanding the variability in the implementation of quality management as the advantages and challenges to be faced, and also highlighted a common strategy to help the implementation of quality management more successful.

Besides that, through this researchable to fill the gap by exploring the implementation of quality management in the Malaysian commercial printing industry setting, which also contributed to providing research sources from the developing country. In addition, this study likely helps commercial printing companies in the Malaysia printing industry understand the important implementing QM in print production and their readiness to adopt QM.

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