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Research Paper

Quality Control Management Practices in a Semiconductor Company in Laguna, Philippines and its Impact on Customer Satisfaction

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Abstract

Quality control management practices (QCMP) are a driving force in augmenting organizational quality performance. This study determined the QCMP of a semiconductor company in Laguna, Philippines and assessed its perceived impact on customer satisfaction. A researcher-made survey instrument was validated and pilot-tested, establishing a Cronbach Alpha of 0.892. The surveyed respondents are 150 employees of the subject-semiconductor company who consented to participate in the study. The collected data were analyzed utilizing frequency, percentage, weighted mean, and ANOVA. The study found that employees were aware of the implementation of company-wide QCMP, and they likewise perceived that the quality system was appropriately set in place. The study proved that the company's dedication to continuous improvement and employee engagement leading to customer satisfaction is evident. Moreover, the study also proved that profile indicators employed in the study are not varying factors for the company's QCMP implementation. To continue reaping the highest implementation, it is recommended that the company sustain the commitment to maintain its QCMP through continuous training, employee feedback, exploring opportunities, better customer relations, and enhancing cross-functional processes.

Keywords: *Customer Satisfaction; Quality Control Management Practices; QCMP Frameworks; Quality Management System; Semiconductor Company*

INTRODUCTION

Effective quality control management practices (QCMP) are recognized to impact the operational performance of any company. Several studies have indicated that QCMP has a positive relationship with operational performance (Khan et al., 2019; Chelangat, 2022; Zehir & Zehir, 2023; Singh et al., 2018; Acquah et al., 2023; Niyi Anifowose et al., 2022; Shafiq et al., 2019). In the same manner, researchers have also indicated that QCMP has a positive significant relationship with customer satisfaction (Lepistö et al., 2022; Noori, 2020; Sheikholeslam & Emamian, 2016). Therefore, it is unsurprising that QCMP, regardless of industry sector, has shown its relevance in making any company's operations agile and competitive. In the manufacturing sector, it plays an essential role in preventing the risk of primary product recalls, thus protecting the customers and increasing customer satisfaction. According to Mitra (2016), there is no end to the quality control process; there is always room for improvement. A company that adopts this philosophy and uses a quality control system to help meet the objective will stay competitive.

Like any manufacturing company, semiconductor companies face challenges in their operations to ensure that high-quality products are produced consistently and efficiently. Relative to the experiences of the subject-semiconductor company, a sub-contractor assembly that manufactures complicated and complex products such as niche, discrete, and power modules, slight variations from the product standards have resulted in customer complaints. The role of QCMP is crucial to avoid product recalls that ultimately lead to customer dissatisfaction. In the context of the semiconductor company, this study contributes theoretically and practically by reviewing its

operations to identify the bottlenecks causing the variations to product standards being an urgent concern so that appropriate measures can be recommended to improve the current practices.

There are empirical studies on QCMP in several countries, including the Philippines. However these are focused on different industry sectors: Bangladesh, on manufacturing (Bhuiyan et al., 2014); Portugal, on textiles and garment sector (Truong et al., 2014); Pakistan, on automotive vendor (Ali & Mimeche, 2014); India, on electronic supply chain (Sinha, 2020); China, on manufacturing (Tran, 2020); and Philippines, on manufacturing (Agotilla & Agustin, 2022). To the researcher's knowledge, no international and local setting studies were conducted for QCMP in a semiconductor company. Thus, it is timely and relevant to conduct a study along the six dimensions of QCMP: clear and defined procedures, process improvement, audit and inspection, rewards and recognition, continuous training, and management support. This study determined which of the six dimensions need to be enhanced by the organization and how QCMP impacted customer satisfaction.

LITERATURE REVIEW
QCMP Framework

The QCMP is the process of ensuring that products and services meet customer satisfaction. It is a critical business component, regardless of size or industry. This study focuses on the six dimensions of QCMP, as shown in Figure 1.
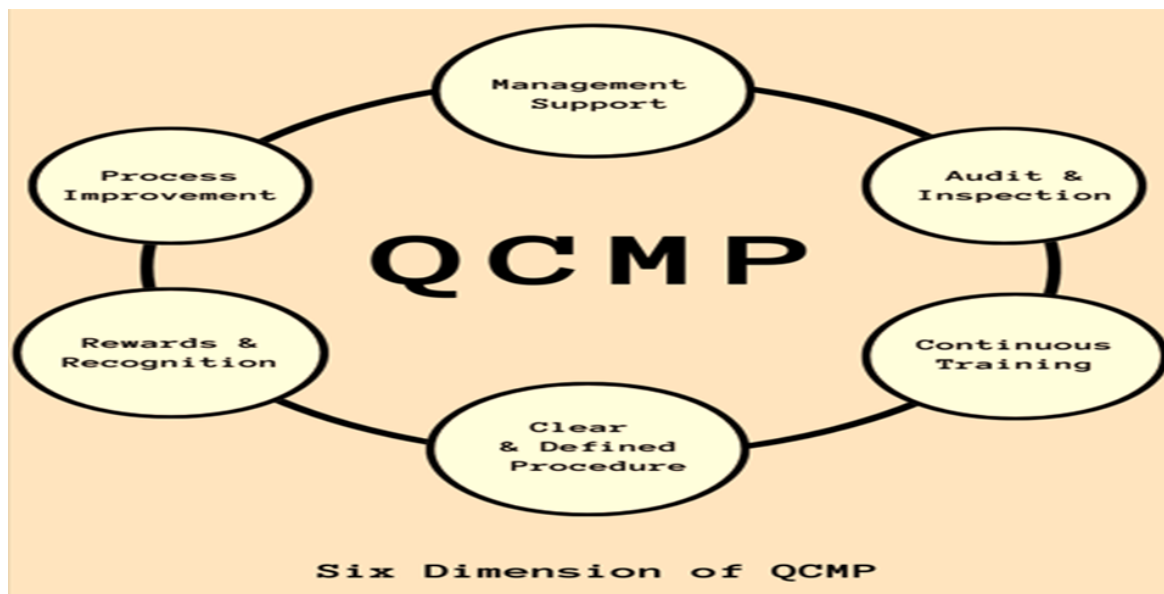

Figure 1. Six dimensions of QCMP

The first dimension is clear and defined procedures, which help to ensure that jobs are carried out consistently. This can also improve quality and efficiency, as well as eliminate errors. According to Santos and David (2021), quality assurance management should give a thorough orientation to all the persons in charge, such as document control officers, coordinators, and all program heads. Orientation should end not only with information dissemination but also with the preparation of required documents and processes. During the implementation, it is also recommended to have capacity building for all persons in charge to take responsibility with full acceptance of the changes happening, especially when encountering difficulties or problems.

The process improvement dimension is the second dimension of the framework. Process improvement is a significant tool that can help organizations streamline their workflows and eliminate the cost of non-quality products. As emphasized by Costa et al. (2019), the isolated use of

tools such as 5S (sort, sweep, systematize, standardize, self-discipline), SMED (single minute exchange of die), JIT (just in time) and other techniques, could bring a significant improvement on the process that cannot be sustained over time if the company is not able to change the organizational culture.

Audits and inspections are the third dimension in the QCMP framework. An audit and inspection study aims to identify areas where the organization's quality management system (QMS) does not meet the standard's requirements. Once these areas have been identified, the organization can take corrective action to improve its QMS. Motiwalla (2022) states that quality auditing brings significant value to organizations. It is necessary for optimizing growth, evaluating how efficient a business is, and helping management identify current strategies to deliver adequate results. In addition, quality audits and inspections identify the root causes of deficiencies so an organization can quickly take corrective actions.

The fourth dimension of the QCMP framework is rewards and recognition. This dimension will help create a positive and supportive work environment, improving quality performance. According to Ullah et al. (2014), employees' contribution to any organization is the key to success. Employees who feel valued and appreciated will be more likely to be engaged in their work and take pride in their accomplishments. Based on the study of Madhani (2020), rewards and recognition are essential resources that can motivate employees to accomplish organizational goals and play a key role in employee retention.

The fifth dimension in the QCMP framework is continuous training. It is the ongoing process of acquiring new knowledge, skills, and abilities. It is significant for both individuals and organizations to stay updated with the latest issues, practices, and technologies to improve their performance. As such, Ilander et al. (2016) consider the knowledge and skills of the workforce as essential elements in achieving organizational goals. The focus on employee skills has increased, and it is a must to have organizational programs and initiatives to ensure that the training to develop those skills is not sporadic but rather part of a continuous effort toward keeping employee skills up to date.

The sixth dimension in the QCMP framework is management support. This is essential for the success of any QC, Mas provides the necessary resources, leadership, and training to create a quality culture within the organization. This can lead to several benefits, including improved product and service quality, reduced costs, increased customer satisfaction, and improved employee morale and engagement. According to the study of Al Shaar et al. (2015), the role of top management is crucial in achieving synergy between the activities and operations in the organization because top management is a vital source of achieving organizational goals.

QCMP Implementation

QCMPs are considered a driving force in augmenting quality performance across different types of organizations. Their practices may vary, but the outcome would always be an improvement in the company's processes and products to achieve the long-term success that stems from customer satisfaction. In the study conducted by Al-Shdaifat (2015), he found that the extent of implementation of total quality management practices and the socio-demographic variables of the employees in a hospital setting has no relationship. Thus, in consideration of the objectives of the study, the researchers developed the hypothesis:

Ho: There is no significant difference in the perceived QCMP when respondents are grouped according to the profile indicators employed in the study.

QCMP Impact on Customer Satisfaction

Relevant and appropriate QCMP benefit the organization because it will help ensure that the quality of the products and services meet or exceed customer expectations. If customers are

satisfied, they are more likely to recommend the business to others. This can lead to an increase in sales and revenues. According to Lone and Bhat (2023), ensuring quality products is the top priority of all organizations as it plays a significant role in achieving customer satisfaction, which is the ultimate objective of all marketing efforts. In the study by Uzir et al. (2021), on-time delivery, better service, generating cheerful customer perceived value, and trust towards service providers are influential factors that contribute to customer satisfaction.

Challenges in QCMP can impact customer satisfaction, such as inconsistent product quality, defect detection, compliance with standards, training and skills, and customer feedback. As such, in the study of Osoko and Habsah (2021), experts believe that a customer is dissatisfied with corporate organizations and establishments due to the ineffectiveness of QCMP.

METHODOLOGY

The study used a descriptive quantitative research approach to collect data using a questionnaire. According to McCombes (2023), this method aims to describe a population, situation, or phenomenon accurately and systematically. The target population for the survey was 150 randomly sampled respondents or 25% of 600 personnel directly involved in the company-wide QCMP implementation.

The researcher-made questionnaire comprises three sections: demographic profile, evaluation of QCMP implementation, and impact of QCMP on customer satisfaction. The evaluation of the six dimensions of QCMP and its impact on customer satisfaction was measured using a five-point Likert scale as follows: 1=1.00-149 (None at all/ Strongly disagree); 2=1.50-2.49 (Low level of implementation/ Disagree); 3=2.50-3.49 (Medium level of implementation/ Neutral); 4=3.50-4.49 (High level of implementation/ Agree); and 5=4.50-5.00 (Advanced level of implementation/ Strongly agree). To ensure the content validity of the instrument, the questionnaire was assessed by three experts on quality programs in a semiconductor company setting. Some questions were modified relative to their recommendations. A pilot test was carried out on 15 employees who were not included as study samples where Cronbach Alpha of 0.892 was established. During the survey, a confidentiality note was indicated in the questionnaire to assure the privacy of the respondents and to ensure that the obtained data was to be used only for the study. The questionnaires were distributed in person to sample respondents of the subject company's production, quality assurance, process engineering, planning, and business support departments.

The collected data considered sufficient for data analysis were tallied, tabulated, and analyzed utilizing frequency, percentage, weighted mean, and ANOVA.

FINDINGS AND DISCUSSION

Table 1 shows that out of the 150 respondents, most employees are from the production department under Job Level 1, either QA or production operators. Moreover, as can be gleaned from the table, most respondents are regular employees. The data proves the respondents have enough qualifications, experience, and involvement in the company's QCMP.

Table 1. Profile of respondents

Indicator		Frequency	Percentage
Department			
Production		59	39.33
Quality Assurance		29	19.33
Process Engineering		30	20.00
Planning		11	7.33
Business Support		21	14.00
	Total	150	100.00
Nature of Employment			

Daily /Casual		4	2.67
Probationary		10	6.67
Regular		136	90.67
	Total	150	100.00
Job level			
Level 1: QA Operators / Production Operators		49	32.67
Level 2: Clerk / Production In-charge / Production Assistant / Certified QA Operators		24	16.00
Level 3: Technician clerk / QA Technician / LM Technician		16	10.67
Level 4: Junior Supervisors / Technical Engineers DCC specialist / Jr. Engineers / Training Engineer		40	26.67
Level 5: Supervisors / Sr. Process Engineers / Sr. Supervisors		19	12.67
Level 6: Management		2	1.33
	Total	150	100.00

QCMP of the Subject - Semiconductor Company

The researchers' assessment was based on the six dimensions of the QCMP of the subject - a semiconductor company. QCMP is a critical aspect of ensuring products and services meet the standards and expectations of customers. Organizations constantly seek ways to enhance their quality contribution in today's competitive economic context. To achieve this, it is essential to explore the various dimensions of QCMP.

Clear and Defined Procedures

This dimension refers to the clear and defined work instructions assessments ensuring tasks are performed consistently. This also considers that the review of procedures and updates are correctly carried out in the workplace. Table 2 shows the QCMP implementation of the subject-semiconductor company in terms of clear and defined procedures dimension.

Table 2. Clear and defined procedures dimension of QCMP

No.	Statement	Weighted Mean	Std. Deviation	Descriptive Rating
1	The work instructions/procedures determined are suitable and accessible in the workplace.	4.1267	.70755	High level of implementation
2	The review of work instructions/procedures and control plan is carried out promptly.	3.9467	.75784	High level of implementation
3	The changes in workmanship procedures are disseminated to all concerned personnel.	3.9200	.88629	High level of implementation
4	The work instructions are updated, and no obsolete copies are found in the workplace.	3.9467	.87306	High level of implementation
Average Weighted Mean		3.9850	.8061	High level of implementation

As can be seen from the table, the highest rated indicator is "The work instructions/procedures determined are suitable and accessible in the workplace", with a weighted mean of 4.1267, interpreted as "high level of implementation". The table also shows that there is homogeneity in the perceptions of respondents. This implies that the company's work instructions

and procedures were in place, as this is important to lessen the risk of errors in workmanship. The employees adhere to organizational policies, indicating that the organization operates efficiently and effectively. This finding supports the study of Black and Khoser (2017) that in the absence of a clear and defined system, manufacturing can be very complex, complicated to define, and have conflicting goals. In a company without transparent systems and controls in place, it is more likely that mistakes will be made and defects will occur. This can increase costs because of inferior product quality, customer dissatisfaction, and even product recall.

Process Improvement
This is an essential instrument for helping organizations to embrace change successfully. Organizations can anticipate the competition and meet customers' needs by continuously improving processes. Table 3 shows the assessment of QCMP in terms of the process improvement dimension.

Table 3. Process improvement dimension of QCMP

No.	Statement	Weighted Mean	Std. Deviation	Descriptive Rating
1	The current process flow is aligned with ergonomics, with no unnecessary steps.	3.9200	.79866	High level of implementation
2	The man, machine, method, materials, environment, and safety are considered in the process improvement.	4.2533	.70651	High level of implementation
	A cross-functional team resolves the quality issues or quality excursions.	4.0067	.76410	High level of implementation
4	The established inspection criteria are defined in critical areas.	4.1200	.74112	High level of implementation
Average Weighted Mean		4.0750	.75250	High level of implementation

Table 3 shows the highest rated indicator is "The man, machine, method, materials, environment, and safety are considered in the process improvement", with a weighted mean of 4.2533, interpreted as "high level of implementation". The table also shows homogeneity in respondents' perceptions that the process improvement activities are generally practised to a high level of implementation. This implies that the company operations are systematic and structured. It also indicates that the organization has a culture of continuous improvement, which is often associated with better performance and innovation.

Process improvement in QCMP is significant because it can lead to several benefits, including increased productivity and efficiency, improved quality of work, reduced maintenance cost, reduced materials cost, increased flexibility, and reduced energy consumption. In the study of Sharma et al. (2021), to help identify defects and increase production efficiency, the workers, operators, and supervisors on the production line need to be trained regularly to identify the areas of improvement.

Audit and Inspections
These are vital for quality management practice, as they help organizations identify and address potential problems, improve processes and products, and demonstrate compliance with requirements. Table 4 presents the audit and inspection dimensions of QCMP.

Table 4. Audit and inspection dimension of QCMP

No.	Statement	Weighted Mean	Std. Deviation	Descriptive Rating
1	The Quality System Department audit plan is executed as scheduled.	4.1133	.72849	High level of implementation
2	The inspection process control is performed within the required frequency.	4.0467	.74489	High level of implementation
3	A daily housekeeping audit is conducted, and violations are reported to top management.	4.0133	.77708	High level of implementation
Average Weighted Mean		4.0577	.75020	High level of implementation

Table 4 shows the highest rated indicator is "The Quality System Department audit plan is executed as scheduled", with a weighted mean of 4.1133, interpreted as "high level of implementation". In general, the respondents perceived a high level of implementation in the QCMP in terms of audit and inspection dimension. This indicates that the employees of the subject-semiconductor company are complying with established audit and inspection procedures set by the company. This further implies that the company has a proactive approach to reducing defective products through inspection.

A company with a well-planned, executed audit and inspection is more likely to identify and address potential risks or problems effectively. This is because the auditor will have enough time to review the organization's quality system thoroughly. The study's findings jibe with the study of Sallis (2014) that quality control and inspection ensure only products that meet a pre-determined specification leave the factory gate. As such, inspection and quality control is designed to detect defective products. It means that it is essential for a company to have an audit and inspection in place to avoid customer complaints.

Rewards and Recognition

Rewards and recognition play an essential role in QCMP by consistently motivating employees to produce high-quality products. Recognition helps to improve employee engagement by showing that the contributions made are valued and appreciated. Key technical employees were given equal opportunities to develop problem-solving skills to improve their work areas. Table 5 shows the implementation of QCPM in terms of the rewards and recognition dimension.

Table 5. Rewards and recognition dimension of QCMP

No.	Statement	Weighted Mean	Std. Deviation	Descriptive Rating
1	The individual who can detect potential quality issues is recognized and rewarded.	4.0200	.88591	High level of implementation
2	The quality best performer awards are given to deserving individuals every month.	3.800	1.05551	High level of implementation
3	The Top management supports the existing recognition and rewards system.	4.0867	.81047	High level of implementation

No.	Statement	Weighted Mean	Std. Deviation	Descriptive Rating
4	The critical technical employee community is given opportunities to develop a process improvement in their area of assignment, and appropriate rewards are given to deserving employees.	4.1333	.81650	High level of implementation
	Average Weighted Mean	4.0100	.8921	High level of implementation

Table 5 shows the highest rated indicator is "The key technical employee community are given opportunities to develop a process improvement in their area of assignment and appropriate rewards given to deserving employees" with a weighted mean of 4.1333, interpreted as "high level of implementation". Data in the table also revealed that respondents considered a high level of implementation on how the company rewards and recognizes the employees. This indicates that the presence of rewards and recognition systems in the company has a positive impact on employee performance. It also shows that the employees are valued and appreciated for their work and given the opportunities to showcase their talents.

When employees see their co-workers rewarded and recognized for their achievements, they are more likely to strive for superior performance. This can lead to a company-wide culture of excellence. Companies that offer high incentives or compensation are more likely to attract and retain top talent because employees are looking for companies that value their contributions and offer them the opportunity to advance their careers. The study correlates with Amoatemaa and Kyeremeh's (2016) finding that effective recognition occurs in organizations with a strong supportive culture, understanding the psychology of praising employees for their excellent work, and applying the principles of employee recognition. In another related study by Okon et al. (2023), employees are known to be an essential asset of an organization. Hence, caring for employees' well-being in terms of recognition is imperative for the organization. Failure to recognize employees could diminish their loyalty and morale.

Continuous Training
It refers to the ongoing learning and development process designed to help individuals stay updated on their knowledge and skills. If employees are trained in producing reliable and high-quality products and services, their full participation in the production stage will be more fruitful. Table 6 shows the assessment of respondents on QCMP in terms of the continuous training dimension.

Table 6. Continuous training dimension of QCMP

No.	Statement	Weighted Mean	Std. Deviation	Descriptive Rating
1	The content of the training is presented in a logical, organized, and transparent manner.	4.1333	.70155	High level of implementation
2	The training qualification and certification process of each individual is carried out periodically.	4.1333	.72698	High level of implementation
3	The persons working under the organization are aware of quality policy, quality objectives, and QMS requirements.	4.1800	72418	High level of implementation

No.	Statement	Weighted Mean	Std. Deviation	Descriptive Rating
	Average Weighted Mean	4.1489	.7184	High level of implementation

Table 6 shows the highest rated indicator is "The persons doing work under the organization are aware of quality policy, quality objectives & QMS requirements", with a weighted mean of 4.1800, interpreted as "high level of implementation". In general, the respondents perceived a high level of implementation of QCMP in terms of continuous training. It implies that the employees are likely to have gained valuable skills and knowledge through continuous training given by the company, which contributes to improved job performance and efficiency.

Companies can develop and deliver their training programs on QCMP topics, and they can be done either through classroom training or online training workshops. According to Sadikoglu and Olcay (2014), with practical training, employees would know the industry and the firm's structure. In addition, effective training will improve employees' loyalty to the firm, motivation, and work performance while ensuring organizational competitiveness (Pembi et al., 2023). Thus, customer satisfaction will increase, and customer complaints will reduce. The study of Bashir and Long (2015) revealed that the best predictor of affective commitment is co-worker support for training followed by availability of training. For normative commitment, the best predictor was the availability of training.

Management Support

Providing resources and assistance to employees is essential for success in any organization, as it helps to create a positive and productive work environment, motivate employees, and achieve organizational goals. Table 7 presents the management support dimension of QCMP.

Table 7. Management support dimension of QCMP

No.	Statement	Weighted Mean	Std. Deviation	Descriptive Rating
1	The management provides adequate resources for QCMP activities.	4.1333	.70155	High level of implementation
2	The Quality Assurance Department is given the authority by the management to make decisions for the execution of quality activities.	4.1333	.72968	High level of implementation
3	The top management supports the celebration of honouring the employees with outstanding quality performance.	4.1800	.72418	High level of implementation
4	Continuous training of employees is promoted and supported by the management.	4.1533	.67293	High level of implementation
	Average Weighted Mean	4.1499	.7071	High level of implementation

Table 7 shows the highest rated indicator is "The celebration of honouring the employees with outstanding quality performance is supported by the top management", with a weighted mean of 4.1800, interpreted as "high level of implementation". In general, the respondents perceived that there is indeed a high level of implementation of how the management supports the company-wide QCMP. The finding indicates that employees are receiving the support and guidance needed from

their managers or top management in implementing the QCMP in the company. This indicates positive leadership that can profoundly impact employee satisfaction, performance, and the organisation's overall success (Saputro & Bangun, 2022). The finding also jibes with the statement of Briones et al. (2023) that transformational leadership is necessary for entrepreneurial development and creating an innovative culture in the organization.

Moreover, management support can come in different forms, such as providing employees with resources and training to perform their job functions or giving opportunities for career growth. In the study of Caday and Mallillin (2023), good leadership requires skills, knowledge, and understanding of the organization. Leaders manage time and need, solve complex issues, address conflict tactfully, and delegate tasks efficiently. It keeps an effective team moving forward, progressing, and succeeding. The success of a good leader depends on how they handle responsibilities. Outstanding leadership means managing daily activities required in the organization to move forward and achieve better success. It means creating and leading the ideal condition and team of committed employees to work toward the goals.

In summary, Table 8 shows that of the six dimensions, "management support" has the highest weighted mean rating of 4.1499, interpreted with "high level of implementation". At the same time, "clear and defined procedures" got the lowest weighted mean rating of 3.9850, interpreted with "high level of implementation". The average weighted mean of the six dimensions is 4.0710, interpreted with a "high level of implementation". Overall, employees' responses to the survey with a high level of implementation indicate the company's commitment to delivering high-quality products and services, which can result in improved customer satisfaction. It also encourages a culture of continuous improvement and employee engagement. This supports the study of Paais and Pattiruhu (2020) that the organizational environment and social relations at work also become the main reasons employees are satisfied or unsatisfied. A precise, measured, and planned training and reward system improves employee satisfaction. This study also shows that leadership positively and significantly affects employee satisfaction and performance. Leadership factors become essential for organizations to realize the anticipated job satisfaction of their employees.

Table 8. Summary of QCMP dimensions

	Dimensions	Average Weighted Mean	*Descriptive Rating*
1	A clear and defined procedure	3.9850	High level of implementation
2	Process Improvement	4.0750	High level of implementation
3	Audit and Inspection	4.0577	High level of implementation
4	Recognition and Rewards	4.0100	High level of implementation
5	Continuous Training	4.1489	High level of implementation
6	Management Support	4.1499	High level of implementation
	Over-all Mean	4.0710	High level of implementation

QCMP Impact on Customer Satisfaction

QCMP plays a crucial role in creating customer satisfaction in semiconductor companies. Table 9 presents how the QCMP of the subject-semiconductor company directly impact customer satisfaction.

Table 9. QCMP impact on customer satisfaction

No.	Statement	Weighted Mean	Std. Deviation	Descriptive Rating
1	Quality control practices help to identify and correct defects and errors before they reach a customer.	4.1533	.67293	Agree
2	The quality control practices help to ensure that quality products and services are consistently delivered to a high standard.	4.2067	.64814	Agree
3	The customers are confident that they can rely on the business to provide them with the quality they expect	4.2133	.61945	Agree
4	The customers know and feel that they are valued and respected.	4.3267	.60752	Agree
5	The Quality Assurance Department responds to customer complaints immediately and within the agreed time frame.	4.3267	.60752	Agree
	Average Weighted Mean	4.2453	.6311	Agree

Table 9 shows the highest rated indicators are "The customer knows and feels that they are valued and respected" and "The company through the Quality Assurance Department responds to customer complaints immediately and on the agreed time frame", both with a weighted mean of 4.3267 interpreted as "Agree". In general, the respondents agreed that implementing company-wide QCMP positively impacts customer satisfaction. It indicates that employees' engagements were aligned with the company policy, values, and objectives, and their commitment to maintaining quality can lead to better customer interactions and satisfaction. Employees' engagement with quality control practices has promoted better organisational communication and collaboration, leading to more efficient problem-solving and improved customer service.

By implementing effective QCMP, companies must enhance customer experience through customer feedback and build strong customer relationships. In the study of Achieng et al. (2020), customer satisfaction is always accorded priority. The study proved that process management, quality planning, and customer focus positively affected customer satisfaction. This also corresponds with the study of Liu (2023), which shows that in semiconductor manufacturing companies, it is essential to focus on the quality assurance process to avoid significant scrap events and higher costs.

Profile Moderated QCMP

This section presents whether the respondents' profile indicators influence factors in implementing QCMP. Tables 10, 11, and 12, based on the analysis of variance or ANOVA, revealed that the computed p-values are more significant than the 0.05 significance level. Therefore, the perceived QCMP is similar when respondents are grouped according to their departments, nature of employment, and position in the company. This implies that all sub-dimensions of QCMP are similarly viewed by respondents regardless of profile. However, it is essential to note that there may be variations in how respondents from different profiles view the essential practices. For example, respondents from manufacturing organizations may place a greater emphasis on quality control practices, while respondents from service organizations may place a greater emphasis on customer service practices. In the findings of the study of Psomas and Jaca (2016), the factors describing total quality management (TQM) implementation in service companies were primarily

concerned with the quality practices of top management, employee quality management, process management, employee knowledge and education, and customer focus.

Similarly, the performance dimensions revealed the following concerns: financial performance, operational performance, customer satisfaction, and product/service quality performance. They also noted that TQM factors concerning customers, employees, and top management significantly affect performance. In essence, the practices of quality management are the responsibility and commitment of everyone in the organization.

Table 10. Significant Differences in the QCMP when responses are grouped according to departments

Dimensions of QCMPs	p-value	Decision (α = 0.05)	Conclusion
A clear and defined procedure	.053	Accept Ho	NS
Process Improvement	.597	Accept Ho	NS
Audit and Inspection	.823	Accept Ho	NS
Rewards and Recognition	.168	Accept Ho	NS
Continuous Training	.327	Accept Ho	NS
Management Support	.209	Accept Ho	NS

Legend: NS = Not Significant

Table 11. Significant Differences in the QCMP when responses are grouped according to the nature of employment

Dimensions of QCMP	p-value	Decision (α = 0.05)	Conclusion
A clear and defined procedure	.883	Accept Ho	NS
Process Improvement	.743	Accept Ho	NS
Audit and Inspection	.278	Accept Ho	NS
Rewards and Recognition	.316	Accept Ho	NS
Continuous Training	.401	Accept Ho	NS
Management Support	.533	Accept Ho	NS

Legend: NS = Not Significant

Table 12. Significant Differences in the QCMP when responses are grouped according to position in the company

Dimensions of QCMP	p-value	Decision (α = 0.05)	Conclusion
A clear and defined procedure	.817	Accept Ho	NS
Process Improvement	.862	Accept Ho	NS
Audit and Inspection	.892	Accept Ho	NS
Rewards and Recognition	.187	Accept Ho	NS
Continuous Training	.491	Accept Ho	NS
Management Support	.501	Accept Ho	NS

Legend: NS = Not Significant

CONCLUSIONS

The study concluded that the company's overall high implementation rating for QCMP is a testament to its mission of providing high-quality products and services, which can result in customer satisfaction. The company is also intensely dedicated to continuous improvement and encourages employee engagement. The company's dedication to valuing both the customers and employees is the reason behind the organisation's success. The employees' engagement towards QCMP has promoted a commitment to providing excellent customer service. On the other hand, respondents' perception of QCMP is similar when grouped according to their department, nature

of employment, and position in the company.

It is recommended that the company sustain the commitment to maintain its QCMP through continuous training, performance monitoring, employee feedback, exploring opportunities, and enhancing cross-functional processes.

LIMITATION & FURTHER RESEARCH

The researchers suggested that future research should include a more diverse representation of semiconductor companies operating in the country to widen its scope. Likewise, to reduce self-report bias, some methods other than surveys can be employed to collect data, such as interviews, focus group discussions, or observations.

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