

TQM IMPLEMENTATION IN NORTHERN MINDANAO, PHILIPPINES: THE CASE OF LIVESTOCK AND POULTRY AGRIBUSINESS FIRMS

¹Hazel E. Soliven*

Abstract

This study assessed the level of Total Quality Management (TQM) implementation among livestock and poultry agribusiness firms in Northern Mindanao, Philippines. Specifically, this aimed to present the company profile regarding organizational size and determine the extent of TQM implementation: leadership, information and analysis, process management, human resource management, customer focus, and strategic quality planning. The study employed complete enumeration and used the responses of 307 farm workers in Bukidnon, Misamis Oriental, Misamis Occidental, and Camiguin Island. A descriptive research design was employed to accomplish the research objectives. Primary data was gathered from livestock and poultry agribusiness firms through a personal interview using the pre-tested survey instrument. Quantitative analysis was conducted through frequency counts, percentages, and means. In general, it is observed that leadership ($M=4.33$) is a top priority, followed by customer focus ($M=4.29$), strategic quality planning ($M=4.23$), human resource management ($M=4.10$), and information and analysis ($M=4.07$). The least preferred implemented practice is process management ($M=3.96$). The overall implementation of these firms concerning total quality management practices is categorized as very much implemented, with a mean average of 4.16. This implies that Northern Mindanao still needs to implement total quality management fully. In conclusion, the majority of the livestock and poultry agribusiness firms are small, with farm workers ranging from 10-99 and the extent of TQM implementation is very much implemented throughout Northern Mindanao.

Keywords: total quality management, agribusiness firms, livestock, poultry farms

Corresponding Author: Hazel E. Soliven, hazelesoliven109@gmail.com

1.0 Introduction

The economy of today is a dynamic, fast-paced, and competitive environment. Governments and companies must develop and implement new competitive strategies or utilize existing systems, processes, techniques, and methods to achieve a competitive advantage in today's global market. One such means of doing so is the application of Total Quality Management (TQM). TQM as a concept originates in Japan owing to the high standards of quality in products made by Japanese manufacturers. It is a unified management philosophy that aims for unceasing improvement in the quality of products delivered by effectively incorporating all members within an organization. TQM adoption by senior management in any organization necessitates a comprehensive methodology that follows a set of principles that highlight what individuals expect as an employee, the ongoing focus of continuous development, improvement of operations/production activities, and finally, the involvement of employees in the creation and execution of plans and objectives of TQM initiatives (Soliven, 2010).

Sadikoglu and Olcay (2014) postulate that TQM is an organization-wide way of life that incessantly improves product quality by meeting customers' needs and expectations to boost customer fulfillment and organizational performance. The link connecting total quality management to organizational performance is a frequent theme in almost numerous management divisions that ignites the profound interests of both academic researchers and practitioners. Empirical studies show that TQM implementation positively influences organizational performance (Hassan *et al.*, 2012; Tadesse & Osada, 2010; Prajogo & Hong, 2008). Most research outputs highlighted TQM implementation benefits, including higher performance, better quality, reduced cost, enhanced customer satisfaction, and improved delivery of products and services (Prajogo & Hong, 2008).

The adoption of TQM by organizations in diverse areas and sectors became widespread. TQM's ability to engage individuals and groups in a philosophy of continuous improvement is considered its mantra of success. It brings about the reduction or eradication of quality problems, in so doing, creating a positive impression on the performance of the organization, be it customer satisfaction,

innovation, or financial or non-financial performance. The flexibility and adaptability of TQM signifies the availability of tools and procedures relevant and beneficial for all departments and operations in a given business enterprise. Thus, TQM provides an overall approach to performance excellence.

The role of agribusiness is crucial for agriculture to flourish. Income will only be realized if agricultural commodities are produced and sold in the market. Ordonez (2018) suggests that agribusiness is all about establishing a well-coordinated supply chain from farm to fork for agriculture to be profitable and sustainable. The contribution of Agribusiness to the development of the Philippines cannot be questioned. In 2017, the Philippine labor force accounted for 42.78 million persons and about 94.27 percent or 40.33 million persons were employed. The agriculture sector uses 25.44 percent of the national employment representing 10.26 million persons (PSA, 2018). Despite the 3.96% expansion of the gross output in agriculture in 2017, the GRDP of Northern Mindanao has a slow growth rate.

In the Philippines, only a little research has been directed on the country's experience on TQM, much less on the expertise of agribusiness firms in Northern Mindanao, which significantly contributes to the bulk of agricultural exports of the country. Because foreign and local companies alike now understand the benefits gained from TQM implementation, it would be instructive to learn how most of our agricultural firms in Northern Mindanao have adopted the practice, hence this research. Furthermore, this paper provided empirical evidence on TQM concepts to enhance agribusiness firms' knowledge, attitude, skills, and insight to reinforce their practices and processes and emphasize the crucial predictors of organizational performance. With these, agribusiness firms can maximize their potential and attain sustainable competitive advantage.

2.0 Methodology

The study employed a descriptive design using a TQM Assessment questionnaire adapted with some degree of modification from the survey of Sadikoglu and Olcay (2014), where interval data

was used to measure the extent of TQM implementation among livestock and poultry agribusiness firms in Northern Mindanao, Philippines. The questionnaire was pilot tested on 30 respondents to ascertain the reliability and validity with an overall Cronbach alpha of 0.986. A total of 307 farm workers as respondents were personally interviewed without asking their names for confidentiality and accuracy of responses. The 6 TQM factors (leadership, information and analysis, process management, human resource management, customer focus, and strategic quality planning) used for this study using the Likert Scale as follows:

Rating Scale	Response Anchor	Verbal Interpretation
1	Strongly Disagree (StrD)	TQM item is never implemented
2	Disagree	TQM item is not implemented at the moment
3	Somewhat Agree (SA)	TQM item is moderately implemented
4	Agree (A)	TQM item is very much implemented
5	Strongly Agree (StrA)	TQM item is completely implemented

Quantitative analysis was conducted through frequency counts, percentages, and means. Interpretation of weighted means utilized the following scales:

Range of Means	Qualitative Description
1.0 -1.49	Not Implemented
1.5 - 2.49	Slightly Implemented
2.5 - 3.49	Moderately Implemented
3.5 - 4.49	Very Much Implemented
4.5 - 5.00	Completely Implemented

3.0 Results and Discussion

Profile of Respondents

The demographic profile of the respondents includes sex, age, civil status, and title of position or designation. There were 307 respondents in this research undertaking, as reflected in Table 1.

Table 1. Demographic profile of the respondents employed in the livestock and poultry agribusiness firms in Northern Mindanao.

Profile	Indicator	Frequency	Percentage (%)
Sex	Male	267	87
	Female	40	13
	Total	307	100
Age Bracket	20-30	104	34
	31-40	116	38
	41-50	66	22
	Above 50	21	7
	Total	307	100
Civil Status	Single	93	30
	Married	202	66
	Separated	6	2
	Widow	6	2
	Total	307	100
Position/ Designation	Owner	28	9
	Operations Manager	33	11
	Laborer	246	80
	Total	307	100

Most of those who worked in the livestock and poultry agribusiness firms are male (87%), while females are only about 13%. The results also revealed that most of the respondents (38%)

are within the range of 31-40 years old, while those who fall 20-30 years old are about 34%. Middle-aged respondents within the range of 41-50 years old comprise 22%, while 7% are represented by older respondents aged 50 years and above. Moreover, most or 66% of the respondents are married, while only 30% are single or unmarried. Two (2%) of the respondents are separated, and another 2% are widows. Furthermore, farm laborers comprise about 80% while operations managers are 11% and farm owners are 9% of the total respondents.

Company Profile

The respective company profiles of the 40 Livestock and poultry agribusiness firms include the livestock and poultry sub-sector category, number of years in operation, and organizational size measured in terms of the number of employees in the firm regardless of employment status.

Table 2. Company profile of livestock and poultry agribusiness firms in Northern Mindanao.

Indicators	Frequency	Percentage(%)
Livestock and Poultry Category		
Livestock	4	10
Hog	11	28
Poultry	25	63
Total	40	100
Years of Operation		
10 or less	1	3
11 - 15	18	45
16 - 20	15	38
21 or above	6	15
Total	40	100
Organizational Size (Number of Employees)		
1- 9 micro	21	53
10 - 99 small	18	45
100 - 199 medium	1	3
Total	40	100

Table 2 shows that the majority of the livestock and poultry agribusiness firms represented by the respondents is that of the poultry farms with 63%. In comparison, hog farms represent 28%, and the least represented is Livestock farms, four out of forty firms with only 10%.

The study also reveals that 45% of the region's livestock and poultry agribusiness firms operated for 11-15 years. Firms with 16-20 years in existence comprise 38% while 15% comes from Livestock and poultry agribusiness firms with more than 21 years in operation. The least or 3% of the total respondents is represented by firms with less than ten years in operation. The region's Livestock and poultry agribusiness firms produce products based on customer requirements; thus, total quality management implementation becomes necessary. Comprehensive quality management is, in fact, more popularly known as the "customer-driven approach" among the Livestock and poultry agribusiness firms in Northern Mindanao. This approach enhances the quality of products since customer satisfaction is given the highest priority. This implies bringing more sales and profits to the firms. In this respect, the length of operation does not matter regarding TQM implementation. This implies that whether the firms are in process for more or less years, TQM is embedded in the management portfolio among the livestock and

poultry agribusiness firms (Soliven, 2010).

Also shown in Table 2 is the organizational size of the Livestock and poultry agribusiness firms considered in the study, measured in terms of the number of employees working within the firm regardless of employment status. The study reveals that 53% of the Livestock and poultry agribusiness firms are considered micro with employees ranging from 1-9, while 45% are classified as small with 1-9 employees. Only one out of 40 or 3% is considered medium size Livestock and poultry agribusiness firms.

The Extent of Total Quality Management Implementation

The six individual total quality management practices implemented with qualitative descriptions are shown in the succeeding tables (Tables 3-8). This was based on the computed mean from the 307 respondents included in the study. This is purposely done to fully understand the meaning of each indicator in the six total quality management practices considered under investigation.

1. Leadership

Table 3 reveals how the employees in the livestock and poultry agribusiness firms assess the extent of implementation of their total quality management in terms of leadership. The employees rated leadership as among the variables in the comprehensive quality management as very much implemented ($\mu=4.33$). Examining the values per item, it is noteworthy that among those that highly contributed to the high overall rating is that organizational top management has objectives for quality performance. This indicator was viewed as very much implemented ($\mu=4.35$). Another indicator that contributed to the high overall rating is the evaluation of organizational top management for quality performance ($\mu=4.34$). The item rated lowest in corporate top management (senior executives and supervisors) views improvement in quality as a way to increase profits ($\mu=4.31$).

Table 3. Extent of TQM implementation for leadership

Practices	Mean	Qualitative Description
Organizational top management (senior executives and supervisors) views improvement in quality as a way to increase profits	4.31	Very Much Implemented
Organizational top management has objectives for quality performance	4.35	Very Much Implemented
Organizational top management is evaluated for quality performance	4.34	Very Much Implemented
Mean	4.33	Very Much Implemented

Legend: 4.5 – 5.00 Completely Implemented; 3.5 – 4.49 Very Much Implemented; 2.5 – 3.49 Moderately Implemented; 1.5 – 2.49 Slightly Implemented; 1.0 – 1.49 Not Implemented

The results reveal that total quality management implementation among Livestock and poultry agribusiness firms in Northern Mindanao is perceived as “very much implemented.” Leadership received the highest rating among all the variables of TQM. Specifically, respondents view that organizational top management has objectives for quality performance, and they are evaluated for quality performance with very much implementation. This result is congruent with the empirical studies predicting leadership as an essential factor (Kaynak & Hartley, 2008; Phan *et al.*, 2011; Xiong *et al.*, 2017). This is also related to the contention

of Delic *et al.* (2013) that top management views quality as more important than production. Top management leadership is actively involved in communicating and planning organizational goals. They provide significant resources to improve and maintain quality.

2. Information and Analysis

As depicted in table 4, information and information and analysis are regarded as very much implemented ($\mu=4.07$). However, it would be of interest to note that among the variables of TQM, this received the second to the last lowest rating. It is observed that on a per-item basis, employees identify that their firm has an effective performance measurement system to track overall organizational performance as a driving force in the overall rating of this variable ($\mu=4.10$). This supported that quality data are available in their respective Livestock and poultry agribusiness firms. The lowest indicator rated is the timely firm performance data that are always available ($\mu=4.04$), although still considered very much implemented.

Table 4. Extent of TQM Implementation for Information and Analysis.

Practices	Mean	Qualitative Description
Our firm has an effective performance measurement system to tract overall organizational performance	4.10	Very Much Implemented
Quality data are available	4.07	Very Much Implemented
Timely firm performance data are always available	4.04	Very Much Implemented
Mean	4.07	Very Much Implemented

Legend: 4.5 – 5.00 Completely Implemented; 3.5 – 4.49 Very Much Implemented; 2.5 – 3.49 Moderately Implemented; 1.5 – 2.49 Slightly Implemented; 1.0 – 1.49 Not Implemented

As to information and analysis, it was rated very much implemented. The highest relative rating is observed that livestock and poultry agribusiness firms have an effective performance measurement system to track overall non-financial performance. This is further supplemented by the fact that firms’ quality data are available, and timely firm performance data are always available. It is worth noting that Samawi *et al.* (2018) posit that data and information are essential in a competitive marketplace. Livestock and poultry agribusiness firms need to gain access to information resources and collect valuable data. Teh *et al.* (2009) confirmed this and postulated that timely, accurate, and reliable information could minimize employee conflict and reduce ambiguity. Likewise, the study of Tan *et al.* (2010) identified a high-level correlation between quality and knowledge sharing between employees.

Additionally, farm managers must learn to use the tools and processes of total quality in their decision-making. They must know how to query team members about their use of the tools and how to base their actions and decisions. The data identified as the root cause of a problem or the root source of a continuous improvement opportunity must be dealt with accordingly. Quality managers must learn to base their actions on intuition and quantifiable evidence. Hence, a good data and reporting system can timely and correctly reflect the actual circumstance/situation to the management level. It can provide management level adequate information to make timely decisions. Quality management can be effectively implemented if quality data are collected and shared throughout the organization promptly. It will propel workers to deal with problems or changes and to further examine the results with the improvements made.

3. Process Management

Organizational excellence is linked to good process management to ensure that processes are aligned with the organization's strategic quality goals. Good process management is a starting point for good performance. Projected in Table 5 is the extent of total quality management implementation for process management. In summary, this indicator is rated by farm workers as very much implemented ($\mu=3.96$). It is worth noting that this indicator received the lowest rating among all the variables of total quality management.

Table 5. Extent of TQM implementation for process management

Practices	Mean	Qualitative Description
We design processes in our firm to be "mistake-proof" to minimize the chances of errors.	4.08	Very Much Implemented
We make use of statistical techniques to reduce variation in processes	4.04	Very Much Implemented
We give clear, comprehensive, and standardized documentation about work methods and process instructions to employees.	4.16	Very Much Implemented
A large amount of the equipment on the production site is currently under statistical process control	3.09	Moderately Implemented
	Mean	3.96 Very Much Implemented

Legend: 4.5 – 5.00 Completely Implemented; 3.5 – 4.49 Very Much Implemented; 2.5 – 3.49 Moderately Implemented; 1.5 – 2.49 Slightly Implemented; 1.0 – 1.49 Not Implemented

A per-item analysis would suggest that the very much implemented item pertains to the firm's clear, comprehensive, and standardized documentation about work methods and process instructions to employees ($\mu=4.16$). Further, the design processes of firms to be "mistake-proof" to minimize the chances of errors were also observed to be very much implemented ($\mu=4.08$). On the other hand, farm workers rated lowest that a large amount of the equipment on the production site is currently under statistical process control ($\mu=3.09$).

As to process management, it is rated very much implemented. It is important to note that this variable is rated lowest among other total quality management implementation variables. The highest relative rating was pointed to the practice of the livestock and poultry agribusiness firms to give clear, comprehensive, and standardized documentation about work methods and process instructions to their farm workers. This is supported by the firm's ability to design mistake-proof processes to minimize the chances of errors. This result parallels the claim of Movahedi *et al.* (2016) that good process management is the starting point for good performance, and improving business process management is highly adjacent to quality management practices such as TQM. Although considered very much implemented, the item labeled "a large amount of equipment on the production site is currently under statistical process control" has the lowest rating. On-farm visits, the researcher ascertained that most, if not all, of the livestock and poultry agribusiness firms in the region are still conventional. High investment costs for updating and mechanizing farm operations hinder these firms from using statistical process control. What is present in the farms is considered essential equipment only for farms to operate, and the majority is manually labored by the farm workers.

4. Human Resource Management

Reflected in Table 6 is the extent of total quality management implementation for human resource management. Overall, this indicator is seen by farm workers as very much implemented ($\mu=4.10$). On a per-item analysis, managers and supervisors participating in specialist training were rated highest ($\mu=4.19$) by farm workers, followed by firms' employees understanding the processes used to make their products/services ($\mu=4.14$). On the other hand, the lowest rating was observed in the item that has to do with employees possessing sufficient knowledge of the fundamental aspects of our sector ($\mu=3.99$). This could be since only farm managers are the only recipients for specialized training. As such, farm workers lack the necessary knowledge about the Livestock and poultry agribusiness sector unless otherwise a re-echo seminar is conducted.

Table 6. Extent of TQM Implementation for Human Resource Management

Practices	Mean	Qualitative Description
Training in advanced statistical techniques is given to employees who need training	4.11	Very Much Implemented
Our employees possess sufficient knowledge of the basic aspects of our sector	3.99	Moderately Implemented
Our employees understand the processes used to make our products/services	4.14	Very Much Implemented
Managers and supervisors participate in specialist training	4.19	Very Much Implemented
Resources are available for employee quality training in our firm	4.06	Very Much Implemented
	Mean	4.10 Very Much Implemented

Legend: 4.5 – 5.00 Completely Implemented; 3.5 – 4.49 Very Much Implemented; 2.5 – 3.49 Moderately Implemented; 1.5 – 2.49 Slightly Implemented; 1.0 – 1.49 Not Implemented

The results reveal that the TQM implementation regarding human resource management was highly implemented. Farm managers participate in specialist training, and farm workers understand the fundamental processes to make their products. Due to limited resources, only farm managers can attend training with the clear understanding that they must share the learnings and knowledge gained with their farm workers. As a result, not all farm workers possess enough knowledge of the fundamental aspects of the livestock and poultry agribusiness sector. With these in mind, livestock and poultry agribusiness firms must allocate a budget for workers' training to keep them updated. It will also enhance their skills to deliver quality products to achieve customer satisfaction.

This claim agrees with Terouhid and Ries (2016), who argued that organizational excellence can be achieved through human resource development and training that enhances organizational capability. In this vein, farm workers must be well trained to improve their proficiencies because practical training will augment workers' knowledge and ability to learn, thus strengthening their loyalty to the firm, their motivation, and their work performance which will enhance non-financial performance and boost customer satisfaction.

5. Customer Focus

The first rule in business is to know the customer, and everything else will follow. One of the objectives of total quality management is to satisfy the customer's requirements because customers make or break a business. Customer satisfaction is seen as the firm's highest

priority. Table 7 highlights the extent of total quality management implementation for customer focus. Very much implementation is seen as an overall rating for this indicator ($\mu=4.29$). Individually, the item labeled “we frequently are in close contact with our customers” is rated highest ($\mu=4.44$), followed by the item marked “our customer gives us feedback on quality and delivery performance” ($\mu=4.30$). The item “We measure customer satisfaction systematically and regularly” garnered the lowest rating ($\mu=4.15$).

Table 7. Extent of TQM implementation for customer focus.

Practices	Mean	Qualitative Description
We frequently are in close contact with our customers	4.44	Very Much Implemented
We actively and regularly seek customer inputs to identify their needs and expectations	4.27	Moderately Implemented
We inform customers’ current and future needs and expectations to our employees effectively	4.29	Very Much Implemented
Our customer gives us feedback on quality and delivery performance	4.30	Very Much Implemented
Customer complaints are used as input to improve our processes	4.27	Very Much Implemented
We measure customer satisfaction systematically and regularly	4.15	Very Much Implemented
Mean	4.29	Very Much Implemented

Legend: 4.5 – 5.00 Completely Implemented; 3.5 – 4.49 Very Much Implemented; 2.5 – 3.49 Moderately Implemented; 1.5 – 2.49 Slightly Implemented; 1.0 – 1.49 Not Implemented

Detailed analysis by variables would reveal that customer focus was given the second overall highest rating among the TQM variables. The highest rating is observed in the livestock and poultry agribusiness firms’ ability to frequently be in close contact with their customers, where customers can give feedback on quality and delivery performance. Further, customers’ current and future needs and expectations will be communicated effectively to farm workers. Likewise, livestock and poultry agribusiness firms regularly seek customer complaints and use them as input to improve their processes. These practices placed the customers’ interest on top priority and addressed their concerns right away. With successful customer-focus efforts, production can be arranged concerning the customers’ requirements, encouraging firms to produce high-quality and reliable products on time with increased efficiency and productivity. Although still considered very much implemented, having been rated the lowest item implies more exploration. It would be advantageous to livestock and poultry agribusiness firms to measure customer satisfaction systematically and regularly. As advocated by Flint *et al.* (2011) and Huttinger *et al.* (2012), customer loyalty and customer value are mediated by customer satisfaction. Since the ultimate measure of company performance is customer satisfaction, firms should try to conduct customer satisfaction measures more systematically and regularly. Because when customer expectations are met, their happiness will be increased, and the firm’s sales and market share will increase (Sadikoglu & Olcay, 2014).

6. Strategic Quality Planning

Farm workers must be made to feel that they are responsible for customer satisfaction. Thus, they must not be excluded from

developing visions, missions, strategies, and plans. Highlighted in Table 8 below is the extent of total quality management implementation for strategic quality planning. Emphasis on strategic quality planning is regarded as very much implemented ($\mu=4.23$). On a per-item basis, farm workers believed that they have a mission statement communicated throughout the firm and is supported by all employees ($\mu=4.30$). This is supported by the firm’s practice that management communicates its strategy and objectives to the staff ($\mu=4.29$). On the contrary, the indicator that the farm workers rated lowest has to do with customers’ needs is considered when establishing objectives ($\mu=4.17$).

Table 8. Extent of TQM implementation for strategic quality planning.

Practices	Mean	Qualitative Description
We have a mission statement which has been communicated throughout the firm and is supported by our employees	4.30	Very Much Implemented
We develop and implement our strategies and plans based on data concerning customers’ requirements and the firm’s capabilities	4.19	Very Much Implemented
The management communicates its strategy and objectives to the staff	4.29	Very Much Implemented
Customers’ needs are taken into account when establishing objectives	4.17	Very Much Implemented
Our quality strategies affect all organizational areas and managerial activities	4.19	Very Much Implemented
Mean	4.23	Very Much Implemented

Legend: 4.5 – 5.00 Completely Implemented; 3.5 – 4.49 Very Much Implemented; 2.5 – 3.49 Moderately Implemented; 1.5 – 2.49 Slightly Implemented; 1.0 – 1.49 Not Implemented

Strategic quality planning as a variable is rated very much implemented by the respondents of this research endeavor. Livestock and poultry agribusiness firms in the region have mission statements communicated throughout the firm and supported by farm workers. Consequently, farm management communicates its strategy and objectives to all farm workers. Of equal importance is the practice of firms to develop and implement their strategy and plans based on data concerning customers’ requirements and the firm’s capabilities, and the firm’s quality strategies affect all organizational areas and managerial activities. These recall that a strategic plan helps an enterprise to survive and strengthen its position in the market and regard it as an appropriate technique for attaining business excellence (Athonidis & Tsiotras, 2014). Further, if workers’ opinions are considered, the development of the firm’s mission, strategy, and objectives will be fully supported. As a result, workers will feel that they belong to the firm and work hard with a high motivation to achieve organizational objectives.

6. Total Quality Management Implementation

Table 4 summarizes the extent of total quality management implementation of the six significant practices rated as very much implemented. In general, it is observed that leadership ($M=4.33$) is a top priority, followed by customer focus ($M=4.29$), strategic quality planning ($M=4.23$), human resource management ($M=4.10$), and information and analysis ($M=4.07$). The least preferred implemented practice is process management ($M=3.96$). The overall implementation of these firms concerning total quality management

practices is categorized as very much implemented, with a mean average of 4.16. This implies that Northern Mindanao still needs to implement total quality management fully. Livestock and Poultry Agribusiness Firms are moving up the adoption curve. However, limited resources to fully equip the production process and the lack of training for farm laborers that would somehow abreast them of the latest technology and enhance their skills hinder the complete implementation of total quality management practices.

Table 9. Summary of the extent of TQM Implementation among Livestock and Poultry Agribusiness Firms in Region X

Practices	Mean	Qualitative Description
Leadership	4.33	Very Much Implemented
Information and Analysis	4.07	Very Much Implemented
Process Management	3.96	Very Much Implemented
Human Resource Management	4.10	Very Much Implemented
Customer Focus	4.29	Very Much Implemented
Strategic Quality Planning	4.23	Very Much Implemented
Total	4.16	Very Much Implemented

The assessments derived from this present study provide support to the theoretical understanding that total quality management is a firm-wide management philosophy of continuously improving the quality of the products/processes by focusing on the customers' needs and expectations to enhance customer satisfaction and firm's performance (Sadikoglu & Olcay, 2014). All of the total quality management practices (leadership, information and analysis, process management, human resource management, customer focus, and strategic quality planning) are very much implemented among the Livestock and poultry agribusiness firms in Region X. This implies that total quality management is a collective, interlinked system of quality practices closely associated with organizational performance and customer satisfaction. Total quality management aims to help improve a business enterprise's effectiveness and flexibility (Oakland, 2013).

The results of this research undertaking provide valuable knowledge regarding TQM implementation from Northern Mindanao's Livestock and Poultry Agribusiness sector perspective. It can be deduced based on the descriptive results about the implementation of total quality management that livestock and poultry agribusiness firms in the region have implemented different mechanisms that allow them to exhibit appropriate leadership, information and analysis, process management, human resource management, customer focus, and strategic quality planning. This further implies that management practices, procedures, and processes they adopt and implement allow them to carry quality management that improves the quality of their products, processes, and services to satisfy the needs and expectations of their customers. Because when customer expectations are met, their satisfaction will be increased, and the firm's sales and market share will increase (Sadikoglu & Olcay, 2014). In turn, it helps the livestock and poultry agribusiness firms to survive and strengthen their position in the market and is regarded as an appropriate technique for attaining business excellence (Athonidis & Tsiotras, 2014).

4.0 Conclusion

Significant findings have manifested themselves as a result of this study. Firstly, livestock and poultry agribusiness firms operated

in Northern Mindanao are considered small ranging from 10-99 farm workers. Secondly, the extent of total quality management implementation among these Livestock and Poultry Agribusiness Firms is considered very much implemented, specifically: (i) leadership is very much implemented; (ii) information and analysis are very much implemented; (iii) process management is very much implemented; (iv) human resource management is very much implemented; (v) customer focus is very much implemented; and, (vi) strategic quality planning is very much implemented.

Acknowledgement

Profound thanks and sincere gratitude to all the Livestock and Poultry Agribusiness Firms and their farm workers who served as respondents of this study. Special mention to the Department of Agriculture Regional Office Region Office X Bureau of Animal Industry and to her research enumerators who helped her hurdle the difficulties of data gathering.

References

- Athonidis, E., & Tsiotras, G.D. (2014). Strategies for business excellence under an economic crisis. *The TQM Journal*, 26(6), 610-624. <https://doi.org/10.1108/TQM-10-2012-0078>.
- Delic, M., Radlovacki, V., Kamberovic, B., Maksimovic, R., & Pecujlija, M. (2014). Examining relationships between quality management and organizational performance in transitional economies. *Total Quality Management & Business Excellence* 25 (3), 367-382. <https://doi.org/10.1080/14783363.2013.799331>.
- Flint, D.J., Blocker, C.P., & Boutin Jr, P.J. (2011). Customer value anticipation, customer satisfaction and loyalty: An empirical examination. *Industrial Marketing Management*, 40(2), 219-230. <https://doi.org/10.1016/j.indmarman.2010.06.034>.
- Hassan, M., Mukhtar, A., Qureshi, S.U., & Sharif, S. (2012). Impact of TQM practices on firm's performance of Pakistan's manufacturing organizations. *International Journal of Academic Research in Business and Social Sciences*, 2(10), 232-258. https://hrmars.com/papers_submitted/9312/impact-of-tqm-practices-on-firms-performance-of-pakistans-manufacturing-organizations.pdf.
- Huttinger, L., Schiele, H., & Veldman, J. (2012). The drivers of customer attractiveness, supplier satisfaction, and preferred customer status: A literature review. *Industrial Marketing Management*, 41 (8), 1194-1205. <https://doi.org/10.1016/j.indmarman.2012.10.004>.
- Kaynak, H., & Hartley, J.L. (2008). A replication and extension of quality management into the supply chain. *Journal of Operations Management*, 26(4), 468-489. <https://doi.org/10.1016/j.jom.2007.06.002>.
- Movahedi, B., Miri-Lavassani, K., & Kumar, U. (2016). Operational excellence through business process orientation: An intra- and inter-organizational analysis. *The TQM Journal*, 28(3). <https://doi.org/10.1108/TQM-12-2013-0147>.

- Oakland, J. (2013). *Total quality management: The route to improving performance*. London: Butterworth-Heinemann.
- Ordonez, E. M. (2018, February 1). *Making agriculture profitable and sustainable once again*. Agriculture/Agribusiness Commentary. Philippine Daily Inquirer. <https://business.inquirer.net/245098/making-agriculture-profitable-sustainable>.
- Phan, A.C., Abdallah, A.B., & Matsui, Y. (2011). Quality management practices and competitive performance: Empirical evidence from Japanese manufacturing companies. *International Journal of Production Economics*, 133(2), 518-529. <https://doi.org/10.1016/j.ijpe.2011.01.024>.
- Prajogo, D.I., & Hong, S.W. (2008). The effect of TQM on performance in R & D environment: A perspective from South Korean Firms. *Technovations*, 28(12), 855-863. <https://doi.org/10.1016/j.technovation.2008.06.001>.
- PSA. (2018). *Selected statistics on agriculture*. Philippine Statistics Authority.
- Sadikoglu, E., & Olcay, H. (2014). The effects of total quality management practices on performance and the reasons of and the barriers to TQM practices in Turkey. *Advances in Decision Sciences*, 1-17. 537605 <https://doi.org/10.1155/2014/537605>.
- Samawi, G.A., Abu-Tayeh, B.K., Yosef, F., Madanat, M., & Al-Qatawneh, M.I. (2018). Relation between Total Quality Management practices and business excellence: Evidence from private service firms in Jordan. *International Review of Management and Marketing*, 8(1), 28-35. <https://www.econjournals.com/index.php/irmm/article/view/5819>.
- Soliven, H.E. (2010). *Total Quality Management implementation and financial performance of agribusiness firms in Bukidnon, Philippines*. [Unpublished thesis]. Central Mindanao University, Musuan, Bukidnon.
- Tadesse, F., & Osada, H. (2010). Context of TQM application for NDP in developing countries: An empirical study on Deming Prize Winners from India and Thailand. *Portland of International Center for Management of Engineering and Technology*, 1647-1654.
- Tan, B., Wong, C., Lam, C., Ooi, K., & Ng, F. (2010). Assessing the link between service quality dimensions and knowledge sharing: Student perspective. *African Journal of Business Management*, 4(6), 1014-1022. <https://doi.org/10.5897/AJBM.9000102>.
- Teh, P., Yong, C., Arumugam, V.O., & Ooi, K. (2009). Role conflict in information systems personnel: A TQM perspective. *Journal of Applied Sciences* 9(15), 2701-2713. <https://doi.org/10.3923/jas.2009.2701.2713>.
- Terouhid, S., & Ries, R. (2016). People capability: A strategic capability for enhancing organizational excellence of construction firms. *Journal of Modelling in Management*, 11(3), 811-841. <https://doi.org/10.1108/JM2-04-2014-0028>.
- Xiong, J., He, Z., Deng, Y., Zhang, M., & Zhang, Z. (2017). Quality management practices and their effects on the performance of public hospitals. *International Journal of Quality Service Sciences* 9(3/4), 383-401. <https://doi.org/10.1108/IJQSS-02-2017-0019>.