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## Relationship Between Continuous Improvement and Organizational Performance in A European Bank: The Mediating Role of Organizational Learning

Jeli Mariz B. Calingo<sup>1\*</sup>

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### ABSTRACT

This study attempted to determine the relationship between continuous improvement and organizational performance, with organizational learning functioning as the mediating variable, among Data and Analytics professionals at a European Bank located in Manila. The descriptive-correlational research design was used to determine if there are existing relationship between continuous improvement and organizational performance as its independent and dependent variables, respectively. The components of continuous improvement were management empowerment and leadership and employee participation. The following were the parameters used for assessing organizational performance: cost-effectiveness, business objectives, customer satisfaction, employee satisfaction, and innovation. The survey containing Continuous Improvement Questionnaire, Dimensions of Learning Organization Questionnaire (DLOQ) and Organizational Performance Questionnaire were distributed among data and analytics professionals with the goal of gathering data. The study's findings indicated a significant relationship between continuous improvement and organizational performance. Furthermore, there was a significant mediation influence with organizational learning; however, on a partial level, as continuous improvement positively influences organizational performance. The study concluded with an understanding of an implication and the development of recommendations for the organization and future researchers that could be useful in the study of continuous improvement, organizational learning, and organizational performance.

### INTRODUCTION

With all the economic factors and massive disruptions happening in various industries, every company must maximize its resources while optimizing costs. The development of technologies and systems brought numerous efficiencies to several firms worldwide. Automation is becoming significant nowadays, and institutions are starting to invest in it. Improvements involving automated processes are helpful in day-to-day activities as they increase the efficiency to accomplish every workflow in a lesser number of times from its original working hours. With the skills and advancements that come into play, the Continuous Improvement culture has been a priority of the company.

Continuous improvement is described as individuals or teams knowing how to improve the work that they are doing on a day-to-day job. This initiative is growing beyond the manufacturing industry and supports several businesses' strategies in a different context. Organization Health Index (OHI) of McKinsey & Co. shows that 62 percent of companies are pursuing a culture of Continuous Improvement (Dewar *et al.*, 2019). This approach is helpful not just to the company in terms of cost reduction but also to teams in saving time and effort, which benefits the whole workforce (Pannell, 2022).

Enaohwo (2021) also described Continuous Improvement as a model for helping the company focus on growth and build an improvement culture. This states that everyone working in the organization must be involved. Adopting this initiative will be successful if there is proper support

for training, allocation of resources, and incentive systems.

Some European banks initiated a continuous improvement culture by investing in automation and process improvements. Automation is encouraged when the employees are asked to propose a modification to the current processes that should save at least 2 hours of processing time per month. This improvement could assist in helping the organization operate more effectively as a whole. Furthermore, the organization supports its employees with various learning opportunities so they may develop their competencies and take part in efforts for continuous improvement.

While the efficiency gained in implementing continuous improvement can benefit the organizational performance, this may also be a challenge for some individuals and teams as limited resources are available due to skills constraints and awareness of continuous improvement capability. More so, this efficiency may bring misconceptions among individuals as process improvements could have thought of replacing a headcount completely.

Previous studies have determined that a relationship exists between Continuous Improvement and Organizational Performance. Studies have also indicated that an existing relationship exists between Organizational Learning and Organizational Performance. However, a study is not yet available to determine if there is an existing relationship between Continuous Improvement, Organizational Learning, and Organizational Performance.

Hence, this study would like to determine the relationship

<sup>1</sup> San Beda University, Philippines

\* Corresponding author's e-mail: [jelicalingo@gmail.com](mailto:jelicalingo@gmail.com)

of continuous improvement initiative to the organizational performance in the Data and Analytics function in a European Bank based in Manila. The researcher wants to assess the relativeness between continuous improvement initiatives and organizational learning to fulfill a company's performance.

### Research Problem

The study attempts to find evidence of the relationship of Continuous Improvement to the Organizational Performance of a European Bank. Specifically, it seeks to find the answers to the below questions:

1. In the area of Continuous Improvement, to what degree do the Data and Analytics professional:
  - a. Believe that they are empowered by the leaders?
  - b. Able to participate in the policy-making and decision-making that would involve their tasks.
2. Are the Dimensions of Learning Organization sufficiently present in the Data and Analytics department?
3. Do the Data and Analytics department or the company organizationally perform well in terms of:
  - a. Cost-Effectiveness
  - b. Business Objectives
  - c. Customer Satisfaction
  - d. Employee Satisfaction
  - e. Innovation
4. Are there any relationships existing between Continuous Improvement, Dimensions of Learning Organizations, and Organizational Performance?

### Research Objectives

Moreover, the objective of the study is to determine how organizational performance across the different Data and Analytics teams is related to continuous improvement. Specifically:

1. Determine how Continuous Improvement influences Organizational Performance through management empowerment and leadership and employee participation as its drivers.
2. Determine how the organization performs through its drivers namely: customer satisfaction, employee satisfaction, innovation and business objectives which are measures of organizational performance.
3. Determine the mediating role of organizational learning to continuous improvement and organizational performance.
4. To be able to come up with a framework to understand the relationship between Continuous Improvement, Organizational Learning, and Organizational Performance that will be useful to the Workforce in Data and Analytics function, Managers and Leaders in Data and Analytics, Organization, Regulatory Agencies, and Academe.
5. Propose a strategic action to implement continuous improvement and organizational learning to develop organizational performance further.

### Scope and Delimitations of the Study

This study covers only the relationship of continuous

improvement in organizational performance and its assessment of the mediating role of organizational learning. The selection is delimited for individual contributors working in the Data and Analytics function of a European Bank based in Manila. Data and Analytics should be covered as a particular unit of analysis rather than in terms of organizational scope. Data Collection and Assessment will be done through the utilization of survey questionnaires.

Moreover, the study is limited to the dimensions and descriptors identified for continuous improvement, organizational learning, and organizational performance. As the study's main objective is to determine how continuous improvement influences organizational learning and organizational performance through management empowerment and leadership and employee participation, other variables such as streamlining of processes, and new technologies and softwares are out of scope for the study.

### LITERATURE REVIEW

#### Continuous Improvement

A culture of continuous improvement that aims at eliminating waste in every aspect of systems and procedures has been described as continuous improvement. Management, group, and individual organizational levels could have knowledge of Continuous Improvement (CI). The strategy of the organization is influenced by CI at the management level. This is being practiced today in several organizations. Their research followed the development of CI from its beginnings in early manufacturing to the complex methodology it has evolved into today. The study shows how Continuous Improvement is still evolving up to this day. Achieving the CI programs up to this date is challenging as it requires organizational changes (Bhuiyan & Baghel, 2005). Chung (2018) described Continuous Improvement as a synonym for Kaizen as it meant to be a ceaseless renovation and endless learning. Moreover, Kaizen philosophy requires a mentality of removing old ways of doing business and thinking. The research study by Chung (2018) further stated that everybody in the organization should be engaged in the initiative and the organizational activities should be aligned with CI.

Fonseca & Domingues (2018) stated that the sample of the organizations that are certified with the International Organization of Standardization or ISO 9001 (2015) have adopted CI methodologies (Lean, Kaizen, & others) with higher median levels than those certified with ISO 9001 (2008). International Organization of Standardization or ISO 9001 certified organizations that the managers handling quality and excellence should master CI methodologies such as Lean and Kaizen.

Vinodh *et al.* (2020) have emphasized, through a literature review of 93 existing articles, that implementing Continuous Improvement (CI) strategies streamlines processes, promotes flexibility, and increases product and process development. Moreover, the motivation for implementing CI is needed to improve the quality of a

product or service and eliminate waste.

As Continuous Improvement is driven through group and individual levels, the following subsections describe the role of the following actors in implementing CI: (a) Management Commitment, Empowerment, and Leadership, and (b) Employee Involvement and Participation.

### Management Empowerment and Leadership

Top Management Commitment and Leadership are determined to be the leading causes of all Critical Success Factors that could influence the implementation of Lean and Continuous Improvement, wherein they influence one another. This directly impacts Employee Engagement. In addition to this, management must be committed to actively encourage and motivate workers to get involved in the Lean and Continuous Improvement journey, and to ensure that every employee has access to the right resources and training to support the adoption of Continuous Improvement (Costa *et al.*, 2019).

Van Assen (2020) added that committed leadership to continuous improvement has a good link with empowered leadership. A participative decision-making environment where employees can communicate and learn to perform better is developed by empowering leaders. This ensures that employees feel empowered through empowering leadership to improve their processes and learn to innovate. This statement is supported by the of Khattak *et al.* (2020), wherein transformational leadership contributes to motivating employees to exert more effort for the improvement in the organization, and transformational leaders should put importance on developing trust to achieve continuous improvement.

Furthermore, Van Elp *et al.* (2022) have determined in their study, through interviews, observations, and documentation, that a balance of both transactional and transformational leadership is an essential factor in fostering Continuous Improvement (CI) capability as this will become effective towards organizational change.

The study by Lleo *et al.* (2020) investigated behavioral aspect of middle managers and has identified four dimensions, namely: (1) human qualities wherein the supervisors and middle managers have shown politeness, approachability, and consistency; (2) training and development wherein the middle managers invest in training and people development; (3) technical and managerial competence where supervisors have awareness in managing continuous improvement activities; and (4) teamwork which means that the middle managers and supervisors give a steering mechanism to the team. The study shows that these four dimensions of behavior are essential in building employee participation in continuous improvement and can be used to evaluate managers' managerial style.

### Employee Participation

Jurburg *et al.* (2017) stated in their study that employee participation in Continuous Improvement should be an

objective by managers. Experts who participated in the survey gave relevant comments, some of which are the following: "CI should not be felt like a burden by the employees. Instead, it should be viewed as a responsibility that would help people accomplish both organizational and individual goals." More so, the study states that the employees should receive the information they need to participate in continuous improvement. After a three-round Delphi Study, a model was able to assess the elements that could aid in determining the employees' intent to participate in CI activities.

The study's limitations include the fact that it only involved Spanish experts and that it can only be theoretically presented. Van Assen (2021) confirmed in his study that training, on the other hand, has a significant relationship to continuous improvement, with employee involvement as a mediating variable. The study's findings show that by utilizing a common improvement methodology, training for continuous improvement is capable of making it easier for employees to participate in continuous improvement. Another argument is that collaborative goal-setting has a strong relationship with ongoing development. However, because this does not increase employee involvement, the results did not show a relationship between participative goal setting and employee involvement.

According to the findings of a study by Jurburg *et al.* (2018), organizations with a mature CI system were seen as having more substantial employee participation in Continuous Improvement (CI) leaders, which were identified as organizations. Jurburg *et al.* (2019) further emphasized that organizations depend upon employees' behavior and proactiveness in participating in making significant improvements in their processes. Moreover, Jurburg *et al.* (2019) found that two Technology Acceptance Model (TAM) variables—usefulness of participating in Continuous Improvement activities and ease of participation—were found to be predictive of employee engagement in CI activities. TAM was first introduced by Davis (1989) and originated in the theories of reasoned action and planned behavior wherein helps understand predictors of human behavior towards acceptance or rejection of technology that could improve their day-to-day work.

However, achieving this required a better understanding of employee willingness to participate. Results showed that the employees' intention to participate in Continuous Improvement is based on their perception of how convenient and easy it is for them to participate.

Costa *et al.* (2019) state that employees proactively participate and contribute their ideas to the improvement process through constant guidance from the top management and leaders. This shows that Employee Engagement is affected by all the other critical success factors identified in the study directly and indirectly. The study also determines that communication substantially impacts employees, primarily when it is used in sharing best practices.

Another study that found a connection between

operational performance and employee participation provides additional evidence for this. This demonstrates that as CI develops, employee participation becomes more important. According to the study's authors, employee involvement and the extent to which Continuous Improvement is implemented should go hand in hand (Galeazzo *et al.*, 2021). Employee involvement influences organizational effects, both directly and indirectly, through Just In Time and Total Quality Management (Beraldin *et al.*, 2022).

Employee participation in continuous improvement has four antecedents, according to Ruiz-Pérez *et al.* (2021), organizational drivers, organizational enablers, individual enablers, and individual results. The model that includes the classification has linked the organizational level to each of the stated individual variables using the theory of planned behavior. According to the survey, managers need to understand the value of systems and consider how they foster employee engagement. Furthermore, empowerment should strengthen employee commitment to continuous improvement.

### **Organizational Learning**

#### **Organizational Learning to Management Empowerment and Leadership**

Pham & Hoang (2019) identified that organizational learning has a positive relationship with business performance. Management Commitment, part of the four dimensions of organizational learning, is the most essential factor and effect on business performance. This emphasizes to the managers that organizational learning plays a vital role in every organization, and they should strive for better performance.

The observation that organizational learning culture (OLC) plays a mediating function between empowered leadership and inward open innovation was further substantiated by a study written by Naqshbandi & Tabche (2018). Their study has been put to the test utilizing information from managers in various Indian industries. It has been shown that empowering leaders help to foster a culture of learning that is impactful by fostering a setting that encourages the generation and use of ideas.

#### **Organizational Learning and Employee Participation**

Organizational learning could encourage individuals to become more involved with their jobs, according to a study by Ogueyungbo *et al.* (2020). The employee will be more effective while working with other workers as a result.

Further studies conducted by Joel *et al.* (2023) wherein organizational learning and employee engagement have a significant relationship with moderation of supervisory support. Results show that employees agree that their managers provided substantial help and advice to do their tasks more efficiently, which enables organizational growth.

### **Organizational Learning and Organizational Performance**

Learning within the organization demonstrates a commitment to maintaining efficient operations for consumers and stakeholders. This proves that organizational learning is essential to ensure that customer service is extended. Organizational learning has been determined to relate to employee productivity and management performance significantly (Tan & Olaore, 2022).

According to Tripathi and Kalia (2022), Organizational Learning Culture has been demonstrated to have a mediating effect on Organizational Performance and is crucial for OP enhancement through organizational innovation and learning agility.

The findings of previous research by Zgrzywa-Ziemak (2015), whereas many studies have demonstrated the link between organizational learning and performance are still insufficient to offer a comprehensive solution and have not yet established how the organizational learning principles relate to performance.

Successive studies; however, have created a measurement to determine how organizational learning and performance are related. As an illustration, the structure created by Watkins and Marsick (1993) was utilized in a survey by Pokharel and Ok Choi (2015) to determine the learning dimensions to organizational success. Results show a consistency between the conclusions of previous studies considered in the research. The research also shows that organizational performance and a learning organization's facets are related. Oh and Han (2020) state that organizational learning enhances organizational performance. This implies that management should develop learning tools to foster clan and adhocracy cultures as these directly relate to organizational learning. It has been suggested in the study that an organization that is committed to education should understand the environment where their industry is. As a result of the previous statements that were made by Bolaji Bello and Adeoye (2018) that there is a substantial connection between organizational learning and organizational performance. Managers ought to encourage learning throughout their team members further.

#### **Organizational Performance**

Hussein *et al.* (2014) defined Organizational Performance as the outcomes of several organizational processes that occur in the daily operations of organizations. This becomes an indicator for organizations to attain their objectives in big organizations. Furthermore, the study focused on financial and non-financial indicators as a measurement (Rehman *et al.*, 2019).

Research written by Eriksson and Garvare (2005) states that the organizations have initiated numerous activities based on their participation in the quality award process, with the intention of improving their performance. Results shown in the study that the following core values were

considered to be most strengthened due to the activities performed by the organization: customer orientation, committed, leadership, participation by everyone, process orientation, and continuous improvement. Cauchick Miguel (2015) stated that top management support, shared values, and comprehensive strategic planning are the main attributes towards increased organizational performance and played a role in obtaining a quality award.

Furthermore, Jimoh *et al.* (2019) state that continuous improvement strategies and total quality management (TQM) are determinants of organizational performance. According to the study's outcomes, organizational performance—which encompasses financial performance, employee performance, and customer outcomes, to name a few—is strongly influenced by continuous improvement. This indicates that increasing the employees performance and productivity will result of having an effective continuous improvement plan.

Amin *et al.* (2023) highlighted that organizations that build an avenue for learning can improve organizational performance, as measured by 38 employees of MSMEs. Employees who are given opportunities to learn in the organization are motivated to do their work to improve organizational performance. A culture of Innovation should also be considered and created for the employees as this will enable them to think innovatively and boost organizational performance. Chan *et al.* (2023) conducted the same study to identify the relationship between organizational learning, organizational innovation, and organizational performance through the help of the Delphi Survey Technique. Results were confirmed from previous studies wherein organizational learning significantly impacts organizational performance. The achievement of organizational goals, profitability, job satisfaction and employee efficiency, and business innovation were used to quantify this.

### Synthesis and Research Gap

Numerous studies have emphasized the connection

between organizational learning and continuous improvement in terms of managerial empowerment and employee participation. The leadership and measures that upper and intermediate managers exhibit could motivate their employees to contribute part in continuous improvement, based on several studies. Employee participation is crucial for the efficient implementation of continuous improvement since their willingness to contribute directly affects the organization's performance in terms of operational effectiveness.

Organizational learning, on the other hand, is directly and significantly related to organizational performance. Studies have recommended that employees who have an avenue to learn will feel more motivated to do their work and contribute to improving organizational performance. Numerous measurements and concepts were used in the study on Organizational Learning. However, most of it used the Dimension of Learning Organization concept by Watkins and Marsick (1993) to further measure OL and OP. With that, the researcher has chosen to adapt this study to determine the results of the previous studies.

Studies on continuous improvement, organizational learning, and organizational performance may have been established in different industries (banks, construction, and others). However, these studies do not directly answer the statement of the problem mentioned in the previous chapter. If established, the research studies are limited to presentations of the relationship between continuous improvement and organizational learning, relationship between continuous improvement and organizational performance, and relationship between organizational learning and performance.

### Conceptual Framework

According to Yang *et al.* (2004), organizational learning is a type of group learning that is used to build knowledge and skills. The author emphasized the importance of reflecting a learning organization's qualities at the person, team, and system levels.

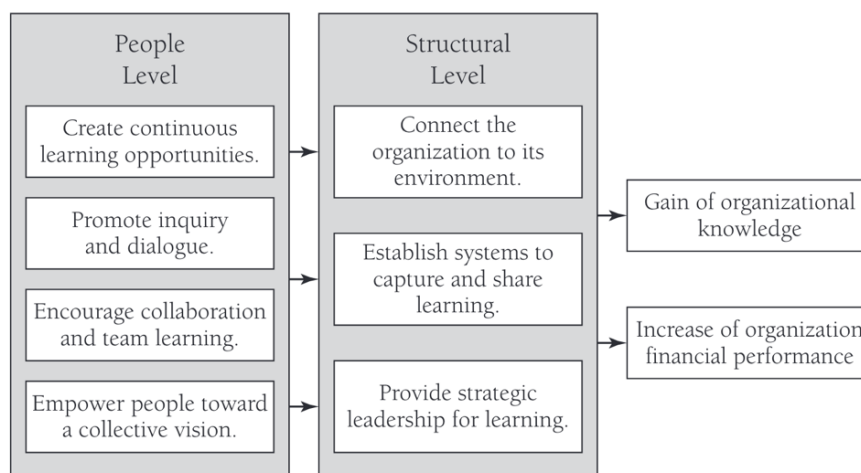
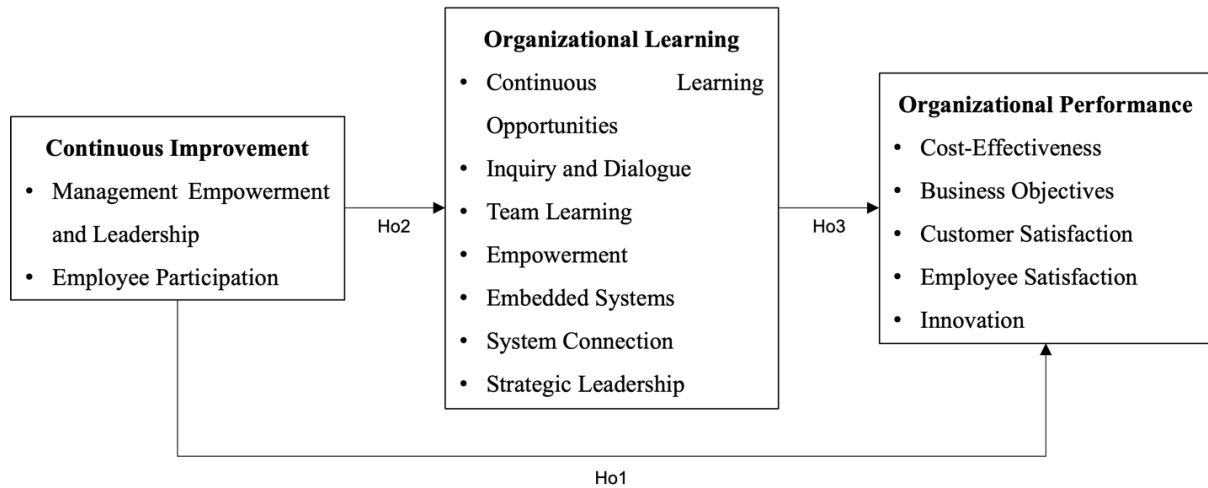


Figure 1: Network of Dimensions of Learning Organization (Yang *et al.*, 2004)

Watkins and Marsick (1993) framework on learning organization has a characteristic wherein it has a construction on an organizational culture and can be measured at all levels within the organization. Yang *et al.* (2004) stated that all approaches to learning organizations have assumed that organizations can learn and be a sustainable competitive advantage in the long term. The former tackled the framework by Watkins

and Marsick (1993) on Learning Organization wherein the framework clearly defined and constructed learning organization, considered the organizational culture perspective, and included dimensions of a learning organization.

**Operational Framework**



**Figure 2:** Proposed Operational Framework

The illustration above consists of Continuous Improvement, as an independent variable, and Organizational Performance (dependent variable), with Organizational Learning as the mediating variable. This is aligned with the study’s theoretical framework and also in consideration of the realities of how the bank works. The research should consider the factors affecting both variables to see the relationship between the two further. With that, there are factors in every variable stated based on the previous studies on what is yet to be investigated on the function within the European Bank. For continuous improvement, the measures were determined to be management commitment and empowerment and employee involvement and participation. This measures how continuous improvement is being implemented based on the actors and behaviors contributing to it. The measures for organizational learning were determined based on the seven dimensions of a learning organization proposed by Watkins and Marsick (1993). The actions could indicate how organizational learning is performing in terms of individual, group, and organizational levels. Organizational Performance is measured through cost-effectiveness, business goals and objectives, customer and employee satisfaction, and innovation to see how the organization performs in the five (5) components mentioned.

**MATERIALS AND METHODS**

**Research Design and Approach**

A descriptive-correlational research design will be used to prove the study’s objectives and further assess

the problem statement. This design determines the relationship between different variables and the extent of that relationship. This research design can describe and measure the relationship between Continuous Improvement, Organizational Learning, and Organizational Performance.

The quantitative data that will be used in the study were gathered using three (3) instruments, namely: a continuous improvement questionnaire that is based on the behavioral indicators in the actors that contribute towards continuous improvement, a dimension of learning organization questionnaire (DLOQ), and an organizational performance questionnaire.

**Research Participants/Respondents and Sampling Design**

One hundred twenty-six (126) individual contributors working in the Data and Analytics function participated in this study, and one (1) withdrew its participation in the study. This contained employees with six months to more than five years of tenure in the company and holding positions namely: Entry Levels or Trainees, Junior Officers or Specialists, and Officers. On average, the term of these employees was 3-5 years in the company. The sample size was determined using the Slovin’s formula wherein the population size is at one hundred eighty-five (185) and the margin of error was at 0.05. The formula to determine the sample size is as follows:

$$n = \frac{N}{1 + (Ne^2)}$$

Purposive sampling was used as a sampling design in the study. As the population is accessible to the researcher, the chosen participants were determined to assess further the relationship of continuous improvement in their day-to-day activities.

**Measurement and Instrumentation**

Management Empowerment and Leadership Questionnaire was adapted to the instrument used by Van Assen (2020). This contains a total of 5-item questionnaire using a 5-point Likert scale. The Cronbach’s alpha for this

**Table 1:** Management Empowerment and Leadership Behaviors Questionnaire

Management Leadership Behaviors	Questions
Empowering Leadership (Van Dierendonck & Nuijten, 2011)	I get the knowledge I need from managers to complete my work efficiently. My management allows me the liberty to decide for myself, which makes my job easier to manage. My manager supports the creative abilities of their direct reports.
Committed Leadership (Cua <i>et al.</i> , 2001)	My manager works towards encouraging continuous improvement. My manager is fully committed to continuous improvement.

questionnaire based on the results of the pilot testing was **0.8877**, which shows to be acceptable.

The Employee Participation Questionnaire was adapted to the instrument used in the study by Van Assen (2021)

with a Likert scale of 5 points. The Cronbach’s alpha for this questionnaire based on the results of the pilot testing was 0.7891, which shows to be acceptable. Sample questions are as follows:

**Table 2:** Employee Participation Questionnaire

Employee Involvement (Cua <i>et al.</i> , 2001; Van Assen & De Mast, 2019)	My team is engaged in continuous improvement. We draw on the knowledge and insights of everyone present during planning discussions. Several colleagues engage in planning discussions.
Participative Goal Setting for Continuous Improvement (Arnold <i>et al.</i> , 2000)	When deciding on improvement objectives, managers engage with their employees. Managers involve employees in establishing objectives for improvement. Together with their employees, managers evaluate opportunities for improvement.

Dimensions of Learning Organization Questionnaire by Watkins & Marsick (1993) was used in the study. The researcher used the 21-item with a 6-point Likert scale as

this covers all dimensions. The Cronbach alpha for this instrument ranged from 0.72 to 0.93.

**Table 3:** Dimensions of Learning Organization Questionnaire

Dimensions	Questions
Continuous Learning	In my workplace, employees assist each other in learning. In my workplace, time is provided for employees to foster learning. In my workplace, colleagues receive benefits for their learning.
Dialogue and Inquiry	In my workplace, colleagues provide each other with genuine and honest feedback. In my workplace, when employees express their opinions, they also inquire as to what others may think. In my workplace, colleagues take the time to get to know one another.
Team Learning and Collaboration	In my workplace, teams have the liberty to adapt their objectives as appropriate. In my workplace, teams change their perspective as a result of group conversations or data gathered. In my workplace, Teams have certainty that their recommendations will be adopted by the organization.
Embedded Systems	Systems are developed at the workplace to measure performance gaps between present performance and goals. Every employee at my workplace has access to the lessons learned. The effectiveness of the time and money spent on training is evaluated at my workplace.

Empowerment	In my workplace, initiative-taking is rewarded. My workplace gives employees autonomy over the tools they need to do their jobs. My workplace encourages workers who take reasonable risks.
Systems Connections	People are encouraged to view the world from a global perspective at my workplace. In order to fulfill shared requirements, my workplace collaborates with the community. People are encouraged at my workplace to seek solutions from all areas of the company when resolving issues.
Strategic Leadership	At my workplace, managers coach and mentor the people they are in charge of. Managers in my company are always looking for ways to learn. Managers in my company make sure that the organization's activities align with its ideals.

The Organizational Performance Questionnaire used in the study was the instrument created by Chan *et al.* (2023), where the researcher adapted some of the items. The Cronbach's alpha for this questionnaire based on the results of the pilot testing was 0.7724, which shows to be acceptable. Sample questions were as follows:

1. Our company occasionally must reach a certain level of cost effectiveness through cost and efficiency reductions utilizing continuous improvement.
2. Performance is satisfactory if the company meets the goals specified.
3. The company has come a long way in achieving client and consumer satisfaction.
4. At our company, employee satisfaction is at a satisfactory rate.
5. The areas of our process are where innovation is practiced.

**Research Procedures of Data Collections**

To proceed with the data gathering, the researcher followed through the necessary steps to ensure that the data collection will run smoothly:

1. Approval from Department Head and Data Protection Officer.
2. Dissemination of Survey Questionnaires
  - a. Sending of questionnaires to team leads and managers: during the initial run of the data gathering right after the approvals were obtained, survey questionnaires were sent to the team leads and managers. The intention of the email was to seek support by reaching out to their team members in answering the survey questionnaire which was provided in the email.
  - b. Sending of questionnaires to participants: due to the low turnout of response rate, on the remaining days of data gathering, survey questionnaires were cascaded to participants through emails. Participants could access the

questionnaire through Microsoft Forms, an allowable site in the firm.

**Research Ethics Approaches**

The researcher made sure that the organization's ethical standards and policies were upheld. Participants received information on the study's objectives, their rights, and the confidentiality of their data. They were informed that their involvement in the research was entirely voluntary and that they may leave at any time if they were no longer interested.

Approvals were obtained from the department head and data protection officer from the regulatory compliance team to ensure the research process aligned with the organization's.

The researcher confirms that no conflict of interest is identified in the research. Furthermore, no Artificial Intelligence (AI) was utilized in the research.

**Data Analysis**

The researcher utilized simple and multiple linear regression to further examine the relationship of Continuous Improvement, Organizational Learning, and Organizational Performance through its survey instruments that were given out to the employees to capture its outcome. Sobel Test was also used to test the mediating effect of Organizational Learning to the independent and dependent variables of the study. Abu-Bader and Jones (2021) defined the statistic test to be a tool that examines the hypothesis in which the relationship between the independent and dependent variable is mediated by another variable.

The statistical used in the study is MedCalc Statistical Software which was first used in conducting Cronbach's alpha reliability test prior to the actual data gathering.

**Table 4:** Cronbach Alpha Reliability Test Results

	Cronbach's Alpha	95% Lower Confidence Limit	Interpretation
<b>Continuous Improvement</b>			
Management Empowerment and Leadership	0.8877	0.7668	Acceptable
Employee Participation	0.7891	0.5726	Acceptable
<b>Organizational Learning (DLOQ)</b>			
Continuous Learning	0.7266	0.09059	Acceptable

Dialogue and Inquiry	0.8626	0.6774	Acceptable
Team Learning and Collaboration	0.8952	0.7540	Acceptable
Embedded System	0.8485	0.6443	Acceptable
Empowerment	0.8600	0.6713	Acceptable
Systems Connections	0.8172	0.5707	Acceptable
Strategic Leadership	0.9375	0.8533	Acceptable
Organizational Performance	0.7724	0.5273	Acceptable

**RESULTS AND DISCUSSION**

The analysis of the study’s outcomes is presented in the subsequent sections of this chapter. The results of the

survey questionnaire that were carried out during the investigation are the underlying basis of the information presented in this chapter.

**Table 5:** Demographic Profile of the Respondents

	Frequency	Percent
<b>Highest Degree of Education</b>		
Vocational	1	0.8
Undergraduate	91	72.2
Graduate (MBA, MA, PhD)	34	27.0
<b>Grand Total</b>	<b>126</b>	<b>100.00</b>
<b>Job Rank</b>		
Entry Level / Trainee	30	23.8
Junior Officer	77	61.1
Officer	19	15.1
<b>Grand Total</b>	<b>126</b>	<b>100.00</b>
<b>Length of tenure in their current position</b>		
0 to 2 years	91	72.2
3 to 5 years	30	23.8
Six years and above	5	4.0
<b>Grand Total</b>	<b>126</b>	<b>100.00</b>
<b>Does my organization have a continuous improvement initiative in place?</b>		
Yes	104	82.5
Unsure	18	14.3
No	4	3.2
<b>Grand Total</b>	<b>126</b>	<b>100.00</b>

**Profile of Respondents**

Respondents numbering 126 or the Individual Contributors within Data and Analytics completed the survey questionnaire, with one (1) respondent who withdrew its participation in the study. Sixty-one (61) percent were identified to be Junior Officers in their respective teams which showed that they occupy the Subject Matter Expertise (SME) position, while 24 percent were from the entry level and trainee positions. Remaining 15% were from the officers who assumed the role of Senior Expert or Consultant position in their respective teams.

Majority of the employees have 0 to 2 years tenure in the company, representing 72 percent, followed by almost 24 percent who have a tenure of 3 to 5 years, and 4 percent have already been working in the company for six years

and above. This shows that this organization is young and still expanding in terms of their scope and services.

In terms of academic background, 72% of the employees within Data and Analytics department have obtained a Bachelor’s Degree undergraduates, while 27% have obtained Master’s Degree (Graduate), and only less than 1 percent of the population has taken vocational courses. On to the awareness of having a Continuous Improvement initiative in place, approximately 83% are aware of this. While 14% are unsure about this implementation and three (3) percent answer that there is no continuous improvement initiative that was being implemented. This shows that the continuous improvement implementation varied on team’s drive and commitment in contributing to such initiatives.

**Findings and Interpretations of the Results**

Results presented in the succeeding parts of this section aims to justify and support further the Statement of the Problem mentioned in the previous chapters. Regression Analysis was utilized to determine and assess the relationship between Continuous Improvement, Organizational Learning, and Organizational Performance using the numerical results that were obtained.

**Continuous Improvement Management Empowerment and Leadership**

The results presented for Continuous Improvement is based on the responses of Data and Analytics professionals

from the Management Empowerment and Leadership section of Continuous Improvement Questionnaire. As stated, this measures how the management empowers their employees in the implementation of Continuous Improvement. This section will provide insights on Management Empowerment and Leadership which could further support the mentioned Statement of the Problem.

**Statement of the Problem 1a: In the area of Continuous Improvement, to what degree do the Data and Analytics Professional believe that they are empowered by their leaders?**

**Table 6:** Management Empowerment and Leadership Tabular Results

Variables	Mean	SD	Interpretation	Rank
<b>Management Empowerment and Leadership</b>				
My manager gives me the information I need to do my work well.	4.01	0.83	Agree	4
My manager gives me the authority to make decisions, making work more accessible.	4.15	0.83	Agree	3
My manager encourages his/her direct reports to develop new ideas.	4.19	0.86	Agree	2
My manager works towards encouraging continuous improvement.	4.25	0.82	Strongly agree	1
My manager is fully committed to continuous improvement.	4.15	0.85	Agree	3
Overall Mean – Management Empowerment and Leadership	4.15		Agree	

*Legend: Strongly Agree: 4.21 to 5.00; Agree: 3.41 to 4.2; Neutral: 2.61 to 3.4; Disagree: 1.821 to 2.6; Strongly Disagree: 1.00 to 1.80*

Results on Continuous Improvement showed interesting results. In terms of Management Empowerment and Leadership, colleagues from Data and Analytics department reported an agreeable stance. This illustrated how the manager’s role influences the empowerment of employees to implement Continuous Improvement. It implied that employees were more inclined to participate in Continuous Improvement initiatives when managers displayed strong commitment towards its implementation. It is noteworthy that the phrase “My manager works towards encouraging continuous improvement” responded to with “strongly agree”. This shows that the managers in Data and Analytics department are recognized by its employees in encouraging the impact and purpose of Continuous Improvement in their functions.

**Continuous Improvement: Employee Participation**

The results presented for Continuous Improvement is based on the responses of Data and Analytics professionals from the Employee Participation section of Continuous Improvement Questionnaire. As stated, this measures the perception of the employees in their participation towards the implementation of Continuous Improvement. This section will provide insights on Employee Participation which could further support the mentioned Statement of the Problem.

**Statement of the Problem 1b: In the area of Continuous Improvement, to what degree do the Data and Analytics professionals able to participate in the policy-making and decision-making that would involve their tasks?**

**Table 7:** Employee Participation Tabular Results

Employee Participation	Mean	SD	Interpretation	Rank
Colleagues are involved in continuous improvement.	4.06	0.71	Agree	2
During planning sessions, we use everyone’s insights and knowledge.	4.06	0.84	Agree	2
We involve different colleagues during planning sessions.	3.90	0.92	Agree	4

Managers listen to employees in determining improvement objectives.	4.07	0.94	Agree	1
Managers involve employees in setting improvement objectives.	4.02	0.96	Agree	3
Managers determine together with the employees where to improve.	4.02	0.94	Agree	3
<b>Overall Mean – Employee Participation</b>	<b>4.02</b>		<b>Agree</b>	

Legend: Strongly Agree: 4.21 to 5.00; Agree: 3.41 to 4.2; Neutral: 2.61 to 3.4; Disagree: 1.821 to 2.6; Strongly Disagree: 1.00 to 1.80

In terms of Employee Participation, colleagues from Data and Analytics department report an equally agreeable stance. This shows that the role of the team through its colleagues has an impact on the implementation of Continuous Improvement. The results say that the more that a team is involved in continuous improvement and has equal contributions in terms of knowledge, the more that it is possible to implement a successful Continuous Improvement activity.

More so, the role of the managers in encouraging employee participation is significant by means of listening and involving employees in setting objectives towards the implementation of Continuous Improvement. Managers who seek for inputs from their subordinates or employees do bring a positive impression from employees that their feedback is being heard.

Overall, the quantitative results for this study on Continuous Improvement portion of the questionnaire indicated an agreeable result on the statements mentioned which means that managers and colleagues are equally

contributing towards continuous improvement.

### Dimensions of Learning Organization

The results presented for Dimensions of Learning Organization is based on the responses of Data and Analytics professionals from Dimensions of Learning Organization Questionnaire (DLOQ). As stated, this measures on the awareness of the employees if the following dimensions are sufficiently present in the organization namely: Continuously Learning, Dialogue and Inquiry, Team Learning and Collaboration, Embedded Systems, Empowerment, Systems Connection, and Strategic Leadership. This section will provide insights which could further support the mentioned Statement of the Problem.

### Statement of the Problem 2: Are the Dimensions of Learning Organization sufficiently present in the Data and Analytics department?

**Table 8:** Dimensions of Learning Organization Questionnaire (DLOQ) Tabular Results

Dimensions of Learning Organizations	Overall Mean	SD	Interpretation	Rank
Continuous Learning	4.733	0.973	Very Frequently	1
Dialogue and Inquiry	4.585	0.919	Very Frequently	2
Team Learning and Collaboration	4.511	0.983	Very Frequently	5
Embedded Systems	4.513	1.038	Very Frequently	4
Empowerment	4.553	1.03	Very Frequently	3
Systems Connection	4.500	1.00	Very Frequently	7
Strategic Leadership	4.508	1.111	Very Frequently	6

Legend: Almost Always: 5.170 to 6.000; Very Frequently: 4.336 to 5.169; Often: 3.502 to 4.335; Sometimes: 2.668 to 3.501; Rarely: 1.834 to 2.667; Never: 1.000 to 1.833

Results on Dimensions of Learning Organization Questionnaire (DLOQ) showed consistent results. In terms of Continuous Learning, employees reported a result of “Very Frequently.” This showed that in the organization, colleagues thrive towards helping each other to learn to work effectively in their respective functions. Dialogue and Inquiry reported a result of “Very Frequently.” This implied that the colleagues had built relationships with each other and had provided honest feedback and constructive criticisms especially on where to improve in the way of working and dynamics of the team.

Team Learning and Collaboration resulted to a “Very Frequently” stance. This showed that the teams in the organization were given liberty to adapt to the goals they set in order to fulfill their objectives while considering their capacity on day-to-day support. Moreover, the teams showed resourcefulness in changing their fixed thinking based on the outcomes of the group discussions and in raising their concerns to the organizations through their managers as needed.

Embedded Systems showed “Very Frequently” stance from the employees. This implied that the organization has measures in order to see the team and individual

performances in terms of the actual versus the expected along with the results of the trainings taken by their employees. The employees also recognized that the lessons and trainings given to them have their corresponding materials provided by the organization.

Empowerment resulted to a “Very Frequently” stance. This showed that the organization recognizes the employees who are proactive in taking projects and initiatives as they showed confidence on the capabilities of their employees. The employees recognized that the organizations are giving them liberty to seek for resources and any other decisions they will consider in order to implement a project.

Systems Connections showed a “Very Frequently” stance. This implied that the organization is putting importance that the services provided have an impact on a global perspective, as an organization whose Head Office is situated in a European country. Moreover, as an organization which puts emphasis on employee empowerment, the organization encourages people to collaborate with colleagues especially when searching for problems. This is certainly being attested to by the employees based on their census.

Strategic Leadership resulted to a “Very Frequently” stance in this area. The employees recognized that the managers ensure within their team that the organization’s goals and objectives are consistent with its values as these are also indicated in their Key Performance Indicator

(KPI) targets. Moreover, they recognized that the managers continue in looking for opportunities to learn by having a checkpoint activity with the team members. This showed that the relationship between managers and team members were interactive when it comes to learning. Overall, the findings show that the company is progressing in terms of organizational learning through continuously investing through their managers and employees while upholding their values, by reflecting the result of “Very Frequently” in all aspects of the instrument.

**Organizational Performance**

The results presented in this section is based on the responses of Data and Analytics professionals from Organizational Performance Questionnaire. As stated, this measure provides an insight if the organization performs well based on the measures namely: Cost-Effectiveness, Business Objectives, Customer Satisfaction, Employee Satisfaction, and Innovation. This section will provide insights which could further support the mentioned Statement of the Problem.

**Statement of the Problem 3: Do the Data and Analytics department or the company organizationally perform well in terms of: Cost-Effectiveness, Business Objectives, Customer Satisfaction, Employee Satisfaction, and Innovation?**

**Table 9:** Organizational Performance Tabular Results

Variables	Mean	SD	Interpretation	Rank
During times, our organization must accomplish a specific level of cost-effectiveness through having cost and efficiency savings using continuous improvement.	4.04	0.73	Agree	2
If the business meets the objectives set, the performance is adequate.	4.06	0.69	Agree	1
The business has made a significant move in attaining clients’ and customers’ satisfaction.	3.98	0.78	Agree	3
Employee satisfaction at our organization is at its highest level.	3.66	1.01	Agree	5
Innovation is carried out in the areas of our processes.	3.94	0.76	Agree	4
<b>Overall Mean – Organizational Performance</b>	<b>3.94</b>		<b>Agree</b>	

Legend: Strongly Agree: 4.21 to 5.00; Agree: 3.41 to 4.2; Neutral: 2.61 to 3.4; Disagree: 1.821 to 2.6; Strongly Disagree: 1.00 to 1.80

Results in the Organizational Performance showed an “agreeable” stance. In terms of Cost -Effectiveness, employees reported to agree on this statement. It showed that the employees have an understanding that the organization must be able to implement and promote Continuous Improvement for them to fulfill their business objective on cost and efficiency savings.

Business Objectives reported to be on agree stance. It is implied that the employees have a better understanding that when the business objectives set by the organization are fulfilled means that the Organizational Performance

is evidently successful.

Customer Satisfaction is reported to be agreed on by the employees. This implied that when every service provided by the organization to its customers or stakeholders, once trust and feedback has been given to the organization, the more that the business will grow. This is shown the situation is significant in having a good organizational performance.

Employee Satisfaction reported to be on an “agree” stance though this is reportedly to have a lowest mean among the rest of the statements mentioned for the

organizational performance. This implied that when the employees have a sense of fulfillment and belongingness in the organization, the more will they contribute to the business objectives set by the organizational performance which could also have an impact on the organizational performance.

In terms of Innovation, this is shown to be agreed upon by the employees. Continuous implementation of innovation areas of the organization could bring benefits in terms of costs and process efficiency. This implied that when innovation is promoted within the organization, there is likelihood to have a lesser time to work on the processes and could have a capacity to expand and take on new initiatives.

Overall, the findings show that the employees have agreed that in order to have a good organizational performance, the organization should consider the following areas: cost-effectiveness, business objectives, customer satisfaction, employee satisfaction, and innovation.

**Relationship between Continuous Improvement, Dimensions of Learning Organization, and Organizational Performance**

The results presented in this section is based on the responses of Data and Analytics professionals from the survey questionnaire cascaded to them. As stated, this provides insights if there are existing relationship between Continuous Improvement, Dimensions of Learning Organization, and Organizational Performance. Moreover, this section provides insights based on the hypothesis testing which could further support the mentioned Statement of the Problem.

**Statement of the Problem 4: Are there any relationships existing between Continuous Improvement, Dimensions of Learning Organization, and Organizational Performance?**

**Table 10:** Summary of Hypothesis Testing Results

		Beta Coefficient	p value	Decision	Conclusion
<b>A</b>	Continuous Improvement -> Organizational Performance	0.712	0.001	Reject null hypothesis	Significant
<b>B</b>	Continuous Improvement -> Organizational Learning	1.134	0.001	Reject null hypothesis	Significant
<b>C</b>	Organizational Learning -> Organizational Performance	0.624	0.001	Reject null hypothesis	Significant
<b>D</b>	Mediating Role of Organizational Learning on the Relationship between Continuous Improvement to Organizational Performance <b>via Sobel test</b>	0.708	0.001	Reject null hypothesis	Significant Partial Mediation

A.  $H_{01}$ : Continuous Improvement and Organizational Performance do not have any significant relationship.

The coefficient between Continuous Improvement and Organizational Performance is 0.712, with a p value of 0.001 which denotes that continuous improvement is significantly affecting organizational performance. This suggests that a higher Continuous Improvement will result to better organizational performance.

Moreover, organizational performance is strongly influenced by the implementation of Continuous Improvement through Management Empowerment and Leadership, as well as the participation of the employees. Managers who actively engage their employees in Continuous Improvement initiatives will foster a sense of relevance and belonging within the organization.

B.  $H_{02}$ : Continuous Improvement and Organizational Learning do not have any significant relationship.

The coefficient between Continuous Improvement and Organizational Learning is 1.134, with a p value of 0.001 which denotes that this has a significant relationship. Continuous improvement is significantly affecting organizational learning, where beta coefficient of 1.134 denotes its positive impact. The results implied that through continuous improvement and fostering an

organizational learning environment works together as this builds an environment where employees could leverage on their line of expertise and identify potential wastes in their current way of working or processes and determine on the areas that need to be omitted and focus the time allotted in the remaining tasks that need further attention.

C.  $H_{03}$ : Organizational Learning and Organizational Performance do not have any significant relationship

The coefficient between Organizational Learning and Organizational Performance is 0.0624, with a p value of 0.001 which denotes that this has a significant relationship. This results showed that through having an environment that fosters learning in the organization by working on the area, the employees can continuously contribute towards meeting company's goals and objectives.

D.  $H_{04}$ : Organizational Learning does not have any mediating role with Continuous Improvement and Organizational Performance. The mediating role of organizational learning between the relationship of continuous improvement and organizational performance was tested through a Sobel test wherein it is significant but only at partial level, as the Continuous Improvement can directly significantly affect Organizational Performance.

The analysis shows that even though Continuous Improvement could influence directly the organizational performance, organizational learning could be an added factor in order for the performance of the organization to be better as there is learning in place during the implementation of Continuous Improvement activities. Thus, the indirect effect of Continuous Improvement to Organizational Performance through Organizational Learning is positive and significant.

### Discussion

The study aims to determine if there are existing relationships between Continuous Improvement, Organizational Learning, and Organizational Performance. The results presented in the previous section states that the variables have a significant relationship, with Organizational Learning has a significant mediating relationship to CI and OP but only on a partial level.

The relationships identified for Continuous Improvement and Organizational Learning within Data and Analytics department were supported to the previous study by Naqshbandi & Tabche (2018) where it states that empowering leaders help in fostering a culture of learning that could foster an environment that could encourage in generating ideas. Moreover, the study's findings were supported conducted by Joel et. Al. (2023) where it indicates that employees agree that their managers provide substantial support to do their tasks more efficiently.

Organizational Learning and Organizational Performance were supported to the previous study by Pham & Hoang (2019) that there is a positive relationship between the two variables. This emphasizes that Organizational Learning contributes to a better business performance to which answers the statement of the problem.

The operational framework developed by the researcher were based on the objectives stated in the research and theoretical framework presented in the study. Therefore, the research study contributes to the literature.

Considering the findings and results presented, Objectives of the Study were attained. Dimensions of Learning Organization Questionnaire (DLOQ) by Watkins and Marsick (1993) is confirmed to have a reliable framework and tool in determining the relationships among the variables and the ability of the organization to foster a learning environment to sustain a good organizational performance. Furthermore, the relationships identified between Continuous Improvement, Organizational Learning, and Organizational Performance could contribute in the decision making of the organizations and leaders towards attaining goals for the company.

### CONCLUSIONS

Previous studies have shown that the continuous improvement and organizational learning are significant towards a better organizational performance. Despite having several studies where continuous improvement interacts organizational learning or where organizational learning interacts with organizational performance, there

was no direct framework to see how these 3 variables to test its relationship. This gap has been addressed with the operational framework developed in the study to determine its relationship.

The analysis of employees' perceptions regarding the role of managers in the implementation of Continuous Improvement, as well as their participation, shows to be in an "agreeable" stance. This implied that the role of managers and employee participation is of the same importance for continuous improvement to be implemented accordingly in the organization.

Organizational Learning aspect of the study shows that the organization gives importance to the employee in providing areas to learn and provide constructive feedback to continuously improve their way of working. Organizational Performance implied that the following measures set by an organization: cost-effectiveness, business objectives, customer satisfaction, employee satisfaction, and innovation, should be communicated to the employees through annual company targets and objectives for them to have a visibility on where they can improve more.

In conclusion, the results presented in the study can bring insights to the organization in determining how the organizationally performs through Continuous Improvement and Organizational Learning. This emphasizes that by putting importance on the implementation of Continuous Improvement and Organizational Learning, the organization will be able to perform better.

### Recommendation

As the results and findings are presented in the previous sections, the researcher recommends the following to the specified proponents:

a. Workforce in Data and Analytics Function – request for a refresher activities to see the importance of the CI in their day-to-day activities and to have a one-on-one session with their managers on their career aspirations.

b. Managers and Leaders and Data and Analytics – be on top of the discussions involving Continuous Improvement during the start of the year and continuously conduct a catch-up session with the employees on its implementation in their day-to-day activities.

c. Organizations – weigh in the resources to be used in the organization and see if it is cost-efficient and the skills are readily available.

d. Regulatory Agencies - look into the data and improving their control and governance aspect for it to become fit for purpose for the organization.

e. Academe and Future Researchers – further investigate on the relationship between Continuous Improvement, Organizational Learning, and Organizational Performance by conducting a research study on other different industries such as manufacturing industries and other business processing outsource (BPO) to further prove its results. Consider other variables and methodologies on Quality Awards, Kaizen, and ISO

9001 in determining Continuous Improvement and Organizational Performance.

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