

2022

## Total Quality Management Strategies to Sustain Business Beyond 5 Years

Nida Guzon Palmore  
*Walden University*

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# Walden University

College of Management and Technology

This is to certify that the doctoral study by

Nida Guzon Palmore

has been found to be complete and satisfactory in all respects,  
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the review committee have been made.

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Walden University  
2022

Abstract

Total Quality Management Strategies Used to Sustain Business Beyond 5 Years

by

Nida Guzon Palmore

MBA, Pamantasan ng Lungsod ng Maynila, 1979

BSBA, Philippine School of Business Administration, 1976

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Business Administration

Walden University

November 2022

## Abstract

Some small business leaders lack total quality management strategies to sustain their business beyond 5 years. Small business leaders are concerned that their businesses will not survive beyond 5 years without total quality management strategies. Grounded in the Deming 14 points model, the purpose of this qualitative multiple case study was to explore strategies small business leaders use to sustain their business beyond 5 years of operation. The participants were five small business leaders from Central Valley, California, who sustained their businesses for more than 5 years. Data were collected through semi-structured interviews and a review of company documents. Thematic analysis was used to analyze the data. Three themes emerged: institute leadership; improve the system of production, service, and communication; and institute a program of education and retraining. A key recommendation is for small business leaders to establish, adopt, and maintain a quality management framework based on Deming's 14 points to implement quality and productivity improvements to sustain their business beyond 5 years. The implications for positive social change include the potential to sustain small businesses beyond the 5-year mark, contributing to economic growth, employee well-being, and the local economy.

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## Dedication

I dedicate this doctoral study, firstly, to God Almighty, who is full of grace and mercy, and forever faithful. He sustained me through this challenging journey to reach a new height in my career. Secondly, I dedicate this study to my parents, Macario and Sara Guzon, who have inspired and encouraged me through their love for the LORD, selfless love, hard work, persistence, and dedication to give their children the best in life that they could offer that neither one of them got to experience. Although they are no longer physically with me, I can still feel their presence in my life, and they both are rejoicing in me and cheering me on. Thank you, Tatay and Inay. I will never forget the words from Inay (mother): "We do not have a lot, but all we can give you is education. That will be your passport to a better future that no one else could ever take away from you." I love them so dearly and miss them both a lot. They would have been so happy to see me accomplish this doctoral degree. Last but not least, I dedicate this study to my three children, who have been the apple of my eye for many years and have unknowingly given their mom the strength, motivation, and inspiration to pursue this doctoral degree. "I love you, David, Sarah, and Ruby." God is truly good.

Lastly, I would be remiss if I did not include all of the world's small business leaders, especially my awe-inspiring five participants. You all are the major players in a country's economy. Your entrepreneurial spirit and innovative abilities foster competitiveness and employment, alleviating poverty in the communities where you operate (Toke & Kalpande, 2020). Thank you for all that you do! God bless you all!

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## Section 1: Foundation of the Study

### **Background of the Problem**

Over half of all new small business leaders will not cross the 5-year benchmark and will close the doors of their business for good (U.S. Small Business Administration [SBA], 2020). Small business leaders of all U.S. employer firms capture the most significant share as the country's job creators, representing 99.9%, employing 48% of the private sector employees, and providing 41.2% of the total U.S. private payroll (Turner & Endres, 2017). The trend of small business failures is a cause for concern considering their importance to job creation and gross domestic product (GDP) growth (SBA, 2020). Small business entities' average share in the U.S. GDP exceeds 50% employing 60% average share of the population employed (Skuratovych et al., 2021). Small and medium enterprises with fewer than 250 employees are engines of economic growth for most countries with advanced economies (Gamidullaeva et al., 2020). Small- and medium-size enterprises are influential elements of a nation's economy due to their agility (Rabiatul Adawiyah et al., 2020). They are the lifeblood of a country's economy, spearheading entrepreneurial activities and innovation, providing jobs, and alleviating poverty (Toke & Kalpande, 2020) to the local community in which the business operates (Deming, 1982a; Park & Campbell, 2018).

To explore business strategies small business leaders used that enabled them to sustain their business beyond 5 years, I chose total quality management as a business strategy to mitigate the morbidity rates of small businesses allowing them to operate in the long term. Total quality management is a companywide continuous process

improvement (Kanji & Asher, 1996) grounded in the philosophies of Deming and Juran toward quality improvement encompassing participative organization and work culture, customer focus, supplier quality improvement, and integration of the quality system with business goals and other companywide functions (Luburić, 2014; Montgomery, 2005). The findings from the current study may help new small business leaders operate their businesses beyond the first 5 years, creating opportunities for new jobs, reducing unemployment, alleviating poverty, improving people's lives, increasing tax revenues, and contributing to positive social change.

### **Problem Statement**

Total quality management is a "strategy for implementing and managing quality improvement activities on an organizational-wide basis" (Montgomery, 2005, p. 19) and continues to be a predominant management strategy (Arokiasamy & Krishnaswamy, 2021; Sahoo, 2021) as an approach to success that significantly influences organizations' performance (Sahoo, 2020; 2021). Total quality management is "a philosophy, an approach, a set of processes, a strategy, and/or even a policy of the organization that is broader than product quality, as it also refers to meeting customer needs" (Paraschivescu, 2020, p. 37). About half of all businesses survive 5 years or longer (SBA, 2020). From 2010 to 2020, survival ranged from a low of 45.4% for establishments started in 2006 and a high of 51.1% for those started in 2010 (SBA, 2020). Total quality management is focused on developing a culture focused on the market and implementing total quality management enhances firm performance and competitive advantage (Deming, 1982b; Santos-Vijande & Álvarez-González, 2009). Because no single theory that can explain

the cause of small business leaders' failures after venturing into the business (Lussier & Halabi, 2010), investigating small business leaders' strategies for sustaining their businesses beyond 5 years, which was the purpose of the current study, could provide insights that could help small business leaders' continued growth (Turner & Endres, 2017). The general business problem was that small businesses lack total quality management support resulting in a high rate of business failure. The specific business problem was that some small business leaders lack total quality management strategies to sustain their business beyond 5 years.

### **Purpose Statement**

In this qualitative multiple case study, I explored the total quality management strategies of small business leaders to sustain their business beyond 5 years. The target population consisted of five small business leaders in Central Valley, California, who had used total quality management strategies to sustain their business beyond 5 years. The results of this study may contribute to social change through increased job opportunities that could improve the quality of life for residents of local communities.

### **Nature of the Study**

The three research methods are qualitative, quantitative, and mixed (Saunders et al., 2016). Yin (2018) suggested using a qualitative approach to collect nonnumerical data. Qualitative researchers use open-ended questions to discover what is occurring or has occurred (Ahmad et al., 2019; Jamali, 2018; Malva et al., 2020). Based on Yin's recommendation, I selected the qualitative method for this study because nonnumerical data from open-ended questions were needed to answer the research question.

Quantitative researchers use numerical and statistical measurements to test hypotheses about the phenomenon (Moe & Enmarker, 2020). Mixed-methods research includes qualitative and quantitative elements (Saunders et al., 2016). I did not test hypotheses about small business leaders' lack of total quality management strategies to sustain their business beyond 5 years; therefore, the quantitative method was not appropriate for this study. The mixed-methods approach was also not appropriate due to its quantitative component.

For this qualitative study, I considered three research designs to explore the total quality management strategies that small business leaders use to sustain their business beyond 5 years: ethnography, phenomenology, and case study. Ethnography is a design that researchers use to describe and understand one or more groups' cultures (Fernandez, 2020). The current study did not address group cultures; therefore, ethnography was not appropriate for the study. Phenomenology is a design that focuses on the meanings of the individuals' personal experiences with the phenomenon (Jamali, 2018); phenomenology did not suit the current study because I was not exploring the common meanings of individuals experiencing a phenomenon. A single case study design was not chosen because I did not intend to gather information about a specific event or activity from one case as a single unit of analysis (see Saunders et al., 2016). Instead, a multiple case study design was chosen because I intended to investigate multiple cases to compare and verify findings across cases (see Saunders et al., 2016; Yin, 2018).

### **Research Question**

How do small business leaders sustain their business beyond 5 years using total quality management principles?

### **Interview Questions**

1. What total quality management strategies were most helpful and effective that helped sustain your business beyond 5 years?
2. What total quality management strategy have you used to measure quality?
3. What, if any, benchmarking strategy do you use to sustain your business beyond 5 years?
4. How do you judge the effectiveness of these total quality management strategies?
5. How often do you evaluate the effectiveness of these total quality management strategies?
6. What key challenges have you had in implementing these total quality management strategies?
7. How did you address the key challenges when implementing these total quality management strategies?
8. What else can you share with me about your organization's total quality management implementation strategies and how they helped sustain your business beyond 5 years?

## **Conceptual Framework**

Total quality management, also known as Deming's 14 points model and Deming's 14 principles of management (George & Weimerskirch, 1998), was the conceptual framework of the current study. The Deming 14 points model provided insight into the transformation method of organizations for continuous improvement of the quality of products and services by minimizing or eliminating non-value-added activities such as scrap, rework, and conflicts enhancing organizational performance to achieve competitive advantage and more significant market share due to increase in customers' loyalty (see Deming, 1982a; Rabiatal Adawiyah et al., 2020). The Deming 14 points model is a holistic company-wide management approach that enables the company to anticipate and meet customer needs and expectations through a better understanding of the process; by engaging every employee, unit, and supplier in the improvement effort (Gabor, 1990); and by identifying the critical factors for any organization to survive and be competitive in its respective arena (Scholtes et al., 2020). The Deming 14 points model indicates that quality is the critical criterion for market competition differentiation and the primary factor of a company's success (Luburić, 2014).

## **Operational Definitions**

These operational definitions are provided to ensure that the readers understand this study's essential terms and phrases:

*Control chart*: A run chart with statistically determined upper and lower limits drawn on either side of the process average (Deming, 1982b; Montgomery, 2005), which is used to monitor the process performance and helps signal a deviation in the process,

enabling the quick identification of the root cause of the deviation so that corrective measures can be made, thereby preventing worse performance (Tan et al., 2019).

*Quality*: Judgment on the product or service features that meet or exceed customer needs and expectations that customers are willing to pay (Deming, 1982a; Solomon Akpoviroro et al., 2019; Walton, 1986); quality also means the management's decision on specifications for the parts, final product, performance, and service (Deming, 1982b).

*Small business*: An independent business having fewer than 500 employees (SBA, 2021).

*Small business failure*: An independent business that does not survive beyond 5 years (SBA, 2020).

*Small business success*: An independent business that survives 5 years or longer (SBA, 2020).

*Statistical process control or statistical quality control*: A method of applying statistical analysis to the problems of process control that could help minimize variation and control the quality and consistency of the manufacturing output (Gabor, 1990; Juran, 1992), which generally refers to the use of control charts (Walton, 1986).

*Sustainability*: The ability of a small business to sustain its current profitability and grow a viable business entity into future periods (Turner & Endres, 2017).

*Total quality control*: The Japanese way of a totally integrated effort toward improving performance at every level, which is quality of work; quality of service; quality of people, including workers, engineers, managers, and executives; quality of company; and quality of objectives (Imai, 1986; Walton, 1986).

*Variation*: Points outside the control limits that are part of any process (Deming, 1982b; Juran, 1992), which causes problems in production and affects the quality (Deming, 1982b; Walton, 1986).

### **Assumptions, Limitations, and Delimitations**

Researchers need to be aware of and address assumptions, limitations, and delimitations early in the research process to improve the quality of their findings and the interpretation of the evidence presented (Theofanidis & Fountouki, 2018). Ellis and Levy (2009) noted that assumptions, limitations, and delimitations are inherent in any research project, which the researcher must address and articulate so the study can withstand scrutiny. I documented my assumptions, limitations, and delimitations to assist readers in understanding the problems I might have encountered while conducting this study.

#### **Assumptions**

Research assumptions are issues, ideas, or positions critical to conducting a research investigation, which are considered true but are not verifiable by the researcher (Denzin & Lincoln, 2011). There were two assumptions in the current study. The first assumption was that the interview responses would be unbiased, while the second assumption was that the company documents would provide relevant and unbiased information; hence, both sources of data substantiating the findings of this current study.

#### **Limitations**

Theofanidis and Fountouki (2018) claimed that ethical concerns restrict the scientist's research scope and offered Mill's harm principle as one of the pillars to establish limitations to the research. The first limitation was that the five business leader

participants may not have been a sufficient sample to provide critical information to answer the research question. The second limitation was the participants may not have responded honestly to my interview questions.

### **Delimitations**

Delimitations refer to the boundaries regarding what the researcher intends not to do or the factors, constructs, or variables not included in the study (Ellis & Levy, 2009). The first delimitation was only small business leaders who had used total quality management strategies to sustain their business beyond 5 years were included in this study. Second, the business leaders selected were from organizations located in California.

### **Significance of the Study**

Total quality management remains popular among researchers as a critical element in achieving competitive advantage (Amin et al., 2017; Bouranta et al., 2017). Total quality management strategies (Carmona-Márquez et al., 2016) can help small business leaders improve firm performance, stay competitive, and sustain their business beyond 5 years. With small business leaders' contribution to strengthening the U.S. economy by increasing employment opportunities (Turner & Endres, 2017) while faced with high failure rates (SBA, 2020), Cowley, former general manager of American Telephone and Telegraph, proclaimed, "that's the importance of Deming's Fourteen Points—staying in business" (Walton, 1986, p. 183).

### **Contribution to Business Practice**

Business leaders' lack of planning and strategies contributes to business failure (Harrin, 2018; Marshall & Schrank, 2020; Nyemba & Mbohwa, 2018). Continuous improvement is fundamental in total quality management strategy for improving business performance (Fawzy & Olson, 2018; Luburić, 2014) and "long-term survival" (Roberts & Sergesketter, 1993, p. 1). Total quality management strategies may enhance efficiencies in providing products and services and improve customer services and processes, which may enhance business growth for achieving a competitive advantage and sustainability beyond 5 years (Talib & Faisal, 2020). The results of the current study may contribute to business practice by sharing total quality management strategies with small businesses to sustain their business beyond 5 years by improving key business processes.

### **Implications for Social Change**

Successful businesses provide social contributions to their communities through job creation, tax revenue generation, charitable giving, products and services, and technological advances (Williams et al., 2020). Deming (1982a) pointed out that quality produces reliable products and services; hence, consumers do not have to pay for delays and mistakes, reducing their living standards. In time, management will not be judged by the quarterly dividends but by purposeful planning for the long term and by engaging in innovation to stay in business, protect investments, ensure future dividends, and provide more jobs through constant improvement in the products and services for years to come (Deming, 1982a). The results of the current study may improve customer satisfaction and

the quality of employee performance leading to improved economic stability, economic growth, and quality of life within communities.

### **A Review of the Professional and Academic Literature**

In this qualitative multiple case study, I explored the total quality management strategies of small business leaders to sustain their business beyond 5 years. This literature review includes recent literature and historical research conducted on total quality management. I focused on identifying the similarities, differences, and pros and cons of total quality management implementation. To conduct the literature review, I retrieved peer-reviewed articles from sources published in databases found in the Walden Library, including Business Source Complete, ABI/INFORM Collection, Emerald Insight, SAGE Journals, ScienceDirect, Google scholar, and ERIC. The literature review contains articles from peer-reviewed journals, seminal references, and relevant government websites.

My strategy for searching the literature included searching for keywords, including variations or combinations of *total quality management*, *quality management*, *Deming 14 Points*, *small business or SME*, *small business owner*, *small business leader*, *survival*, *success*, *failure*, and *business strategy*. Table 1 contains a summary of the sources used in this literature review. The review of multiple sources of records and evidence ensured scholarship, diligence, and accuracy.

**Table 1***Literature Review Sources by Year of Publication*

Type	Older than 5 years	2017	2018	2019	2020	2021	Total	Total %
Row 1	6	10	14	23	17	8	78	86%
Row 2	8	0	1	2	1	1	13	14%
Row 4	14	10	15	25	18	9	91	100%

**Deming 14 Points Total Quality Management Model**

Deming developed the 14-point model as a guide for effective and transformative management to cultivate an atmosphere that enables efficiency and increased productivity to survive and be competitive in a business arena (Fawzy & Olson, 2018; Montgomery, 2005; Peljhan & Marc, 2018). Deming's teachings and philosophy are deeply rooted in Deming's 14 points (Walton, 1986).

***Constancy of Purpose***

The first point is to create constancy of purpose for improving products and services to stay in business, become competitive, and provide jobs (Deming, 1982a). Deming's first point means that the company must engage in four critical tasks to stay in business, including continuous improvement of products and services, investing in research and education for the development of new products and services, improving products and services to meet customer needs and competition, and investing in equipment and machinery to replace outdated equipment and machinery (Deming, 1982a). Management must learn by rejecting poor workmanship, defective products, or

bad service and by understanding the enormous drain that the expenses attributable to scrap, rework, and other losses create on the company's resources (Montgomery, 2005).

### ***Adopt the New Philosophy***

According to Deming (1982a), we are in a new economic era. He noted that between 1950 and 1968, the American style of management remained unchallenged when American-made products captured the global market. He added that by 1968, the competition could no longer be ignored, challenging America's world dominance (Deming). Hence, management must awaken to the challenge by no longer tolerating poor quality, defective products, or bad service (Montgomery, 2005). Deming stressed that employees must receive adequate training to help improve their knowledge and skills to match the various changes in the industry so that everyone understands their job and is not afraid to ask for assistance when needed. These improvements will positively affect the productivity of workers, which can increase the profits and efficiency of an organization (Indeed Editorial Team, 2021).

### ***Cease Dependence on Mass Inspection to Achieve Quality***

Cease dependence on mass inspection means not relying on mass inspection to determine quality because quality is the result of preventing defects through the improvement of the production process and not inspection by building quality into the product or service as the first order of the day (Deming, 1982a; Montgomery, 2005; Roberts & Sergesketter, 1993; Walton, 1986). The measure of quality must not be dependent on cost alone because the lowest bidder frequently turns out to be the low-quality supplier (Montgomery, 2005). Shewhart (1931, as cited by Deming, 1982a)

claimed that “price has no meaning without a measure of the quality being purchased” (p. 32). Often the final product’s low quality can be traced back to defective materials, indicating that purchasing should be a team effort that includes key personnel involved with the product or service (Deming, 1982a). Deming encouraged building a long-term relationship of loyalty and trust with one supplier for any one item as an effective way to communicate quality standards and specifications that enables continuous improvement of processes (Deming, 1982a; Roberts & Sergesketter, 1993).

***End the Practice of Awarding Business on the Basis of Price Tag Alone***

This point refers to moving toward a single supplier for any one item for a long-term relationship of loyalty and trust (Deming, 1982a). Deming added that price and quality go hand in hand, and trying to drive down the price of anything purchased without regard to quality and service can drive good suppliers and good service out of business. The price tag is not the end-all, so it is best to consider other invisible costs, such as the hours spent by regular customer inspection, to ensure product quality and quantity (Elbo, 2018).

***Improve Constantly and Forever the System of Production and Service***

This point refers to continually improving quality in all aspects of the organization. All departments have a role to play in this process. This point is not a one-time effort but an ongoing commitment to continually improve and decrease costs (Deming, 1982a; Walton, 1986). Consistency is vital to the overall success of every business. Customers are assured of what to expect every time they purchase the products because the company provides consistent, high-quality products (Schaefer, 2018).

***Institute Training on the Job***

Management and employee training include all aspects of the organization to meet customer needs (Deming, 1982a). Employees must undergo on-the-job training, a program designed to help all employees gain hands-on knowledge in the workplace (Montgomery, 2005). This training involves employees using the resources available at their workplace, allowing them to learn while integrating into their everyday work environment (Deming, 1982a). Properly trained managers and experienced coworkers provide the internal training, as improper training is difficult to erase, noted Dr. Deming (as cited by Walton, 1986, p. 68).

***Institute Leadership***

Management aims not to supervise but to lead and help people do a better job (Deming, 1982a). Leaders understand the mission and vision of the organization, possessing qualities that empower them to attain significant influence among other employees to work toward company goals (Ferrell et al., 2019; Northouse, 2019). Leaders with a zeal for quality are the critical members of the organization that hold the key to achieving continuous improvement (George & Weimerskirch, 1998). Leaders are interested in their followers' needs and concerns (Deming, 1982a; Northouse, 2019). Having leaders around makes work more efficient and enjoyable (Kinsey, 2019).

***Drive Out Fear So That Everyone May Work Effectively for the Company***

Employees cannot achieve the best performance unless they feel secure and empowered (Deming 1982a). Employees should not be afraid to report problems, ask questions, or express their ideas regarding barriers to effective production and quality

processes (Montgomery, 2005). Recognizing the symptoms of fear in the workplace is the first step toward creating a healthy, harmonious workplace environment (Crampton, 2019). The organization suffers when managers and employees work in fear (Montgomery, 2005). Research has indicated that both parties hurt the organization with fear and trepidation (Cosby, 2018).

### ***Break Down Barriers Between Departments***

Eliminating barriers between the organization's functional areas is critical for effectively implementing quality and productivity processes (Montgomery, 2005). People in research, design, sales, and production must work as a team for the company (Deming 1982a). Departmental barriers lead to long-term harm to the organization by creating resentment and cynicism within the teams (Rahman, 2018).

### ***Eliminate Slogans, Exhortations, and Targets***

Slogans such as “take pride in your job” and “quality is a reflection of you” are examples of posters and slogans seen in the workplace workers consider ridiculous (Deming, 1982a). Dr. Deming noted that when used in the organization, these slogans and exhortations produce resentment and frustration reminding the workers that management is oblivious of the barriers to pride and workmanship. The slogans sound good, but they are not very effective. Deming (1982a, as cited in Leigh, 2020) noted that such sayings could be detrimental to performance and workplace morale because they are directed toward the wrong people.

### ***Eliminate Work Standards (Quotas) and Management by Objectives***

Work standards and quotas are manifestations of management's lack of understanding, which leads to inappropriate supervision. Pride of workmanship needs to be encouraged, while the quota system must be eliminated (Leigh, 2020). According to Deming (1982a), setting quotas blindly or using quotas as a way to improve productivity instead of focusing on improving the work systems that can produce quality products is a failed strategy.

Management by objectives (MBO) is a strategic management model that aims to improve the performance of an organization by clearly defining objectives that are agreed to by both management and employees. According to the model, having a say in goal setting and action plans encourages employee participation and commitment and aligns objectives across the organization (Hayes, 2021). Hayes noted that the reality is there is no right way to do MBO because MBO has been corrupted through a well-intentioned but poor understanding of the essential value of MBO. As typically understood, taught, and practiced, MBO destroys people and organizations, which is the opposite of what Drucker had hoped (A. Kelly, 2012).

### ***Remove Barriers That Rob Hourly Workers of Their Right to Pride of Workmanship***

The 12th principle proposed by Deming (1982a) suggested "permitting pride of workmanship" (p. 77). This principle's key message is empowering employees to control their work and influence its outcomes. In other words, employees should feel responsible for the organization process and can affect it meaningfully. Deming pointed out this problem is a low inclusion of employees in work-related operations. Deming assumed

that it is the fault of managers who do not encourage employees to participate in decision-making. Instead, managers limit their managerial activity to the quantitative assessment of the performance indicators. Managers should ensure that their subordinates have the knowledge to troubleshoot problems and perform prompt decision-making to act independently in most situations (Panda, 2021).

***Institute a Vigorous Program of Education and Self-Improvement***

Deming's Point 13 stresses continuous training of all employees within the organization. Deming supported self-improvement. It is not enough to have good people in the organization. They must acquire the knowledge and skills needed to deal with new materials and production methods. This point refers to the joy in learning and developing people's ability to take on new knowledge and skills by learning to learn. Education and training must fit people into new jobs and responsibilities (Hernandez, 2013), making everyone within the organization partners in the quality improvement initiative (Montgomery, 2005). Moreover, a vigorous program of education and self-improvement for the workforce prepares them for future leadership (Fawzy & Olson, 2018).

***Put Everyone in the Company to Work to Accomplish the Transformation***

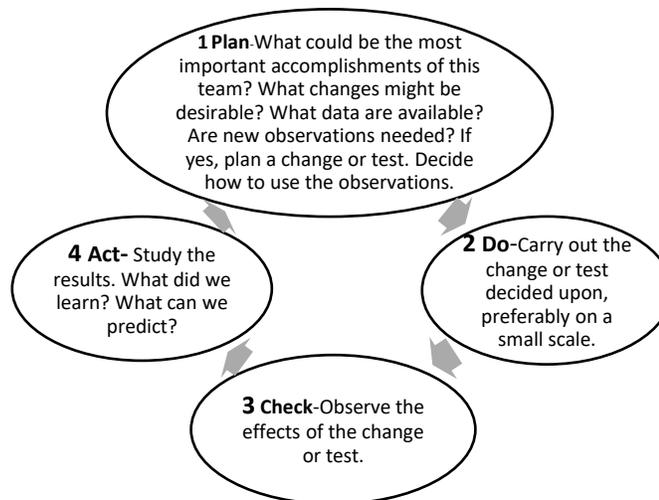
Management needs to take action to accomplish the organizational transformation. Transformation is everyone's job (Deming, 1982a; Roberts & Sergesketter, 1993), and management must create a vision and program to include and inspire every employee (Deming, 1982a). The overall organization is improved by having each person take a step toward quality (Hernandez, 2013). Managing an organizational transformation is like trying to change the wheels on a bike while riding it.

Organizational transformation is the process of transforming and changing the existing corporate culture to achieve a competitive advantage or address a significant challenge. Organizational transformation can be exciting for any organization (Wingston, 2016).

The 14 points serve as the foundation for quality and productivity improvement that requires a company-wide cultural transformation (Deming, 1982a; Ross & Neuteboom, 2021; Walton, 1986). Quality and productivity improvement is everyone's job within the organization (Deming, 1982a; Roberts & Sergesketter, 1993; Talib & Faisal, 2020; Walton, 1986). Abazid et al. (2021) argued that not applying total quality management concepts can negatively affect a project. Deming (1982a, as cited in Walton, 1986) stressed that management is responsible for 85% of the quality problems. In comparison, the workers are responsible for the remaining 15% because the system is the responsibility of management. Most quality problems are caused by poorly designed processes and are not the result of workmanship problems (Berk & Berk, 1993).

### **The Deming Cycle**

The company transformation begins with the Shewhart cycle, which has come to be known as the Deming cycle because it was Deming who introduced this cycle in Japan in early 1950 (Walton, 1986). The plan-do-check-action (PDCA) cycle is the fundamental element of the planning process (Walton, 1986), which is the basis for continuous improvement (Deming, 1982a; Imai, 1986; Kanji & Asher, 1996; Tigre-O et al., 2019). The Deming cycle is one of the essential quality control tools for ensuring continuous improvement (Imai, 1986). Figure 1 illustrates the Deming cycle.

**Figure 1***Deming PDCA Cycle or Deming Wheel (Shewhart Cycle)*

*Note.* Step 5 involves repeating Step 1 with knowledge accumulated. Step 6 involves repeating Step 2 and onward. Source: Deming (1982a), Imai (1986), Kanji and Asher (1996), Walton (1986).

The first step in the cycle is to study the current process and decide what change might improve it. Change agents organize the appropriate and capable team to conduct the study, including collecting and analyzing data and formulating an improvement plan. Change agents check if tests are necessary or if available data exist to institute the change. The Deming cycle evaluates every task within the organization to ensure that the tasks are accurately planned and implemented, to check and monitor the results, and to implement corrections if they do not meet the expected results (Mitreva et al., 2017). A big caveat is not to proceed without a plan (Imai, 1986; Walton, 1986).

The second step is undertaking a test or a small-scale run of the change that was decided by the team (Imai, 1986; Walton, 1986). Instead of deciding to institute a change

and overhauling all operations, it is vital to bring about change slowly and iteratively while testing hypotheses. The use of small-scale improvements for continuous process improvement and product development enables effective monitoring of the changes enacted to ensure desired results are achieved (Bereskie et al., 2017).

The third step is to observe and identify the results of the change or test (Walton, 1986) and check for errors or defects that need corrective actions (Imai, 1986; Mitreva et al., 2017). These corrective actions throw the evaluation back to the planning board. It is critical to follow the PDCA cycle, not skipping any step (Mitreva et al., 2017; Walton, 1986).

The fourth step entails analyzing the results for critical takeaways and determining whether the anticipated improvement was achieved. If necessary, the test is repeated using a different environment (Walton, 1986). The outcomes of the planning and implementation are shown in this stage. The outcomes are more significant than simply whether the process improved or not. The outcomes include whether the process improved for the reasons anticipated. The outcomes also include whether someone could predict the changed outcomes in advance (Bereskie et al., 2017). When the experiment is successful, new standards and guidelines are formulated and introduced to ensure that they are adopted and practiced continuously (Imai, 1986).

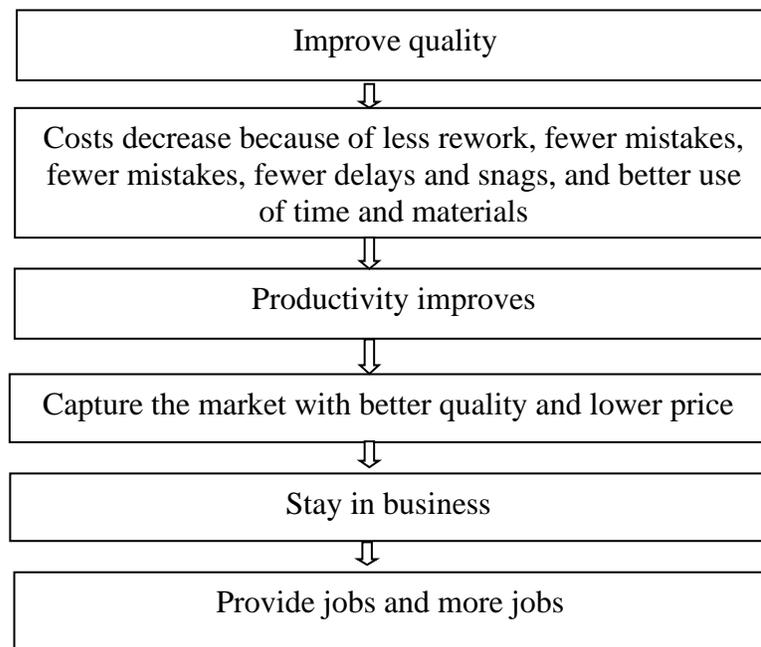
The Deming Cycle is a continuously rotating wheel that stresses the critical need for constant interaction among (a) research, (b) design, (c) production, and (d) sales, aimed at improving every managerial decision by carefully following and adopting the sequence (Imai, 1986). Deming believes that every activity is a process that can be

improved, and the use of the Cycle will result in the continual improvement of methods and procedures (Walton, 1986).

Dr. Deming's ideas on quality lie in the importance of variation (Management Thinkers, n.d.-b). He argues that higher quality leads to higher productivity resulting in less rework, fewer mistakes, fewer delays, better use of time and materials, and lower prices, affords the firm to achieve a more significant market share and thus stay in business, providing more and more jobs., which, in turn, leads to long-term competitive strength (Deming, 1982a, 1982b), better known as The Deming Chain Reaction (Deming, 1982a; M. Kelly & Williams, 2019; Walton, 1986), as illustrated in Figure 2 below.

**Figure 2**

*Deming Chain Reaction*



*Note.* Source: Deming (1982a), M. Kelly and Williams (2019), Walton (1986).

### **Total Quality Management and Industry 4.0**

Toke and Kalpande (2020) explored the key constructs involved in implementing total quality management in Indian manufacturing small and medium enterprises to enable firms' strategic advantage in the market and enhance competitive advantage. They conducted an extensive empirical study of the various works of prominent practitioners in the field of total quality management involving the seminal works of Deming, Juran, Gryna, Crosby, Feigenbaum, and Ishikawa—known to be the primary authorities of total quality management, or as what the Toke and Kalpande (2020) called them, “the founding fathers of TQM.” Toke and Kalpande (2020) also extensively reviewed numerous works of other leaders in the total quality management field, including the various international quality awards like the Deming Prize, European Quality Award, Malcolm Baldrige National Quality Award, and Rajiv Gandhi National Quality Award, which according to Toke and Kalpande (2020), these award models were based on the perceived model of total quality management.

Toke and Kalpande (2020) concluded that all the quality researchers they reviewed recommended the quality gurus, namely Deming, Crosby, Juran and Gryna, and Ishikawa, which proposes that the production process involves continuous planning, monitoring, and adjusting to enhance quality improvements. Toke and Kalpande (2019, 2020) stressed the critical success factors as embedded in quality philosophies, namely, (a) top management leadership and quality policies, (b) employee involvement and empowerment, (c) employee training, (d) quality data and reporting, (e) supplier quality management, and (f) management of the process for producing quality goods and

services. Given this and against the backdrop of the opportunities and challenges of Industry 4.0, Toke and Kalpande (2020) provided the total quality management constructs to provide higher quality manufactured products and services. Industry 4.0 describes the economic period of consumerism where consumers demand higher quality products and services, improved costs, and speed in delivery.

The total quality management constructs proposed by Toke and Kalpande (2020) through the lens of Industry 4.0 and after an extensive literature review of the seminal works of the acknowledged quality gurus in total quality management, including the works of various leaders in the field, include (a) customer focus, (b) leadership, (c) engagement of people through communication and collaboration of all players in the organization to stimulate innovation and encourage individual contributions, (d) process approach for optimization, (e) continuous improvement of products and services, (f) evidenced-based decision making, where Industry 4.0 and the new IT solutions such as big data would allow better decision-making process, and (g) relationship management, which involves total integration and effective communication between all stakeholders, including the suppliers.

Talib and Faisal's (2020) empirical study of 172 top and middle managers from service industries in India provided six total quality management constructs which were successfully implemented, achieving optimal benefits and advantages on business performance. The six total quality management constructs duplicated the total quality management constructs proposed by Toke and Kalpande (2020) through the lens of

Industry 4.0, namely, (a) customer focus, (b) top management or leadership, (c) communication, (d) process management, (e) teamwork, and (f) quality systems.

Rabiatul Adawiyah et al. (2020) studied 335 owners and managers of small and medium enterprises in Banyumas Central Java, Indonesia, to explore the respondents' understanding of the Deming 14 Points to remain competitive. Based on the number of employees, 69%, or 231 respondents, had less than 10 employees. In comparison, 24% or 81 respondents had employees between 10 to 25. Rabiatul Adawiyah et al. (2020) noted that the proliferation of small and medium businesses in Indonesia signaled the growth of the local economy in the Industrial Revolution 4.0. They also argued that the worldwide popularity of the Deming 14 Points on quality management was predominantly in larger organizations of developed countries and that small business practitioners believed that all western-originated management theories and practices were less applicable in their case.

Using descriptive analysis, Rabiatul Adawiyah et al. (2020) found that most respondents had an excellent understanding of the principles they implemented daily as a quality management practice, even though they did not recognize the 14 Points and who Dr. Deming was. The small and medium business owners and managers believed that their organizations were positively impacted while adopting them. The constructs that were implemented included (a) adopting a new philosophy of quality, (b) creating constancy of purpose for improvement of product and service, (c) improving constantly and forever the system of production and service, and (d) eliminating slogans, exhortations, and targets for the workforce. Rabiatul Adawiyah et al. (2020) claimed that the Deming system was easy to implement and enhanced organizational performance. Based on Deming's 14 points, total quality management mentions that we are in a new

economic age and stresses the need to adopt the new quality improvement philosophy to stay in business and be competitive (Deming, 1982a; Montgomery, 2005).

### **Total Quality Management Practices and Business Performance**

Business or firm performance defines the growth and progress of any enterprise. It shows whether the goals were met, losing, or making a profit. The primary purpose is to earn a profit, the financial reward generated from selling products and services that satisfy consumer needs (Ferrell et al., 2019; M. Kelly & Williams, 2019). Total quality management practices will improve quality performance, enhance business performance, increase customer orientation and satisfaction, build team relationships, and better use time and materials (Jimoh et al., 2019). Profit, or the lack of it, is a precursor to a business's demise or survival.

Total quality management is one of the leading management approaches for improving firm performance and customer satisfaction, loyalty, and activities to develop business strategies (Aquilani et al., 2017). Their systematic review of 103 articles published from 1993 to 2016 noted that leadership/top management commitment/top management role and customer focus are critical to achieving firm success and successful implementation of total quality management. Sahoo (2021) examined the impact of operational practices of lean, total quality management, and supply chain management within competitive clusters of cost leadership, differentiation, and focus strategy. Sahoo (2021) noted that total quality management significantly influenced the firm's performance from the three competitive strategy clusters, higher than the lean and supply chain management practices.

Moreover, Kaur et al.'s (2019) extensive literature review of published quality research papers on total quality management and supply chain management practices found a strong correlation between total quality management and supply chain management practices that enhanced the organization's business performance. Farhat et al. (2018) presented a longitudinal study of the Kauffman Foundation's Kauffman Firm Survey. Kauffman Foundation commissioned an eight-wave panel of businesses formed in 2004 and monitored annually for eight years. The findings revealed that the measure of business performance is the continuation of a new venture's ability to do business, often referred to as survival.

Keinan and Karugu (2018) asserted from their study of 42 management staff members of Bamburi Cement Limited in Kenya that customer focus, top management commitment, continuous improvement, and employee involvement positively influenced business performance. Similarly, Pambreni et al. (2019) studied 350 owners or managers of Selangor, Malaysia's small and medium enterprises service sector. They found that customer focus, continuous improvement, strategically based, and total employee involvement significantly positively affected business performance. Alawag et al. (2020) analyzed studies on practices and adoption of quality by implementing total quality management within Malaysia's construction industry and its suitable applications in the construction project's various phases. They found that the total quality management concept facilitated achieving continual performance improvements to sustain business excellence. They concluded the positive impacts and critical role total quality

management played in achieving business excellence in the construction and non-construction sectors.

Carmona-Márquez et al. (2016) argued that abundant literature covers significant features or factors leading to the successful implementation of total quality management. However, studies aimed at hierarchically evaluating the importance of the critical success factors of total quality management remain scant. To address this gap and to determine which group of factors, (a) strategic, (b) tactical, and (c) instrumental, has a predominant effect on business performance, Carmona-Márquez et al. (2016) conducted a study that was carried out in two phases. The first phase involved observing, noting, and evaluating the differences and similarities in the total quality management implementation within 27 prestigious Spanish firms and interviews with 39 senior managers involved in the implementation. The second phase engaged 113 respondents who were the CEOs or senior managers of Spanish firms who have implemented total quality management strategies to assess the relationships between the total quality management critical success factors and their hierarchical importance during the implementation of total quality management that would yield the most significant positive impact on business performance.

Carmona-Márquez et al. (2016) developed three constructs composed of enablers and drivers of total quality management initiatives that aligned with the sequential pattern of its implementation within the firm to assess the direct relationships between the critical success factors constructs and business success and the indirect relationship between

strategic and tactical factors and their impact on business performance via instrumental drivers. Table 2 provides a summary of the different factors composing each construct.

**Table 2**

*Total Quality Management Factor Classification*

Construct	Critical success factor
Strategic enablers	Top management commitment and leadership Total quality management philosophy adoption
Tactical drivers	Customer involvement Supplier involvement Open and flexible structure Employee education and training
Instrumental drivers	Empowerment Benchmarking Process improvements Zero-defects mentality

*Note.* Source: Carmona-Márquez et al. (2016).

The findings revealed that instrumental factors ranked first for the three critical success factor constructs, indicating a strong and direct positive causal effect between the total quality management drivers and business success. The findings also revealed that critical success factors, namely strategic and tactical factors, positively impacted business performance, but they did so indirectly.

From a study of manufacturing and supply chain managers of Ghana's 140 manufacturing firms, Agyabeng-Mensah et al. (2021) claimed that total quality management, green supply chain practices, and just in time positively impact operational performance and business performance. Combining green supply chain practices, just in time, and total quality management significantly enhances operational and business performance. On the other hand, the dyadic interplay between green supply chain

practices and total quality management produces more value for operational and business performance than the synergistic combination between green supply chain practices and just in time. Similarly, Bhaskar (2020) involved the participation of senior managers of 230 Indian manufacturing organizations and found: (a) total quality management's positive and significant effect on market orientation, (b) that market orientation had a positive and meaningful relationship with operational performance, and (c) that total quality management positively impacted operational performance.

In a study of 210 quality or production managers of All Pakistan Textile Mills Association members, Shafiq et al. (2019) assessed the effect of total quality management practices on organizational performance. The findings revealed that total quality management had a robust positive impact on organizational performance. On the other hand, Yu et al. (2020) investigated 565 Korean manufacturing companies to determine the different contexts where total quality management implementation is most and least effective (i.e., intensified or weakened). The findings showed the positive impact of total quality management on business performance as measured by sales and revenue. Total quality management showed a more substantial positive effect when the company adopted a proactive strategic stance, internally, in terms of its sales and revenue, and externally, in terms of the product lifecycle when the firm is in its growth stage. Both studies validated the divergent argument that the positive impact of total quality management on organizational performance could be fully achieved and implemented in any business globally, in developed and developing nations.

Another study conducted by Samadi et al. (2018) involving 180 respondents who were employees of Shileh Company revealed that entrepreneurial orientation positively impacted corporate performance, total quality management, and product innovation, where total quality management showed a positive and significant influence on firm performance. Similarly, Imran et al. (2018) investigated the mediating role of total quality management between entrepreneurial orientation and small and medium enterprise export performance in the manufacturing sector of Pakistan. The study involved 364 owners or managers of Pakistan's exporting small and medium enterprises. The findings revealed a significant relationship between entrepreneurial orientation and total quality management with the export performance of small and medium enterprises. The results showed the complementary mediating role of total quality management between entrepreneurial orientation and export performance of small and medium enterprises.

Honarpour et al. (2018) conducted an empirical study involving 190 research and development unit managers of Malaysian organizations participating in the 2011 Malaysian National Survey of Research and Development. As Malaysia transitioned from an efficiency-driven economy to an innovation-driven economy, the authors wanted to establish the relationship between total quality management and knowledge management and their impact on the process and product innovation. The results revealed a positive relationship between total quality and knowledge management. Furthermore, total quality management and knowledge management showed a positive relationship with process and product innovation. The study showed that research and development firms that

implemented total quality management and knowledge management simultaneously achieved efficiency in process improvement and innovation management.

Paraschivescu (2020) believed in the Deming principle of employee commitment, participation, and empowerment by allowing them to perform quality control independently. Paraschivescu's (2020) study focused on furthering the research on continuous quality improvement incorporating the (a) competitive global ecosystem demanding comprehensive performance, (b) integrated management consisting of quality, environment, and performance, (c) quality culture, and (d) need for training, motivating, and highlighting the knowledge of the entire workforce. Consistent with the Deming principle of effective implementation of total quality management principles, top management must lead the way to embrace and create a culture of quality. He concluded that implementing total quality control and self-assessment involves coordinating the company's various functions at all levels for continuous improvement to meet and satisfy customer expectations. He argued this initiative would include preparing for a new managerial vision and organizational change to achieve quality performance. Relatedly, Prashanth's (2017) assessment of 21 iron and steel firms in Ballari and Koppal districts of the Hyderabad-Karnataka region in India revealed that total quality management principles: (a) employee empowerment, (b) recognition and rewards, and (c) process management showed a positive relationship with quality management. Gupta's (2019) case study of three entities in the Indian automobile sector found that implementing and successfully following total quality management principles enhanced product and process

quality. Hence, confirming the positive impact of total quality principles on quality performance.

Talib and Faisal (2020) claimed that total quality management positively and significantly impacted industry performance. Their empirical study involving 172 top and middle managers of the Indian service industries confirmed this claim. The 17 total quality management practices investigated included (a) top management commitment, (b) customer focus, (c) training and education, (d) continuous improvement, (e) supplier management, (f) employee involvement, (g) information and analysis, (h) process management, (i) quality systems, (j) benchmarking, (k) quality culture, (l) human resource management, (m) strategic planning, (n) employee encouragement, (o) teamwork, (p) product and service design, and (q) communication. Although the findings showed that only six practices, (a) top-management commitment, (b) customer focus, (c) process management, (d) quality systems, (d) teamwork, and (e) communication, were implemented successfully across the Indian service industries, while the remaining 11 were partially implemented and considered in different categories of service industries, they concluded that implementing the total quality management program in Indian service industries or any service industries provides optimal benefits and advantages on business performance. Hassan et al. (2020) also claimed that total quality management significantly and positively affected firm performance. They validated this claim by investigating the relationship between financial performance and corporate entrepreneurship, with alliance formation and total quality management involving 347 Pakistani manufacturing firms listed on the Pakistan Stock Exchange.

Androniceanu (2017) investigated Romanian organizations to identify critical factors through which total quality management and its three-dimensional approach could attain business excellence. His study involved 280 managers from 56 Romanian companies with a turnover of less than the U.S. \$60 million (50 million euros) with less than 250 employees that had implemented total quality management for at least 5 years. He conducted scientific research on the extant total quality management literature and empirical study of the respondent companies. Building on his observations, Androniceanu (2017) identified the critical factors, namely, (a) quality-price report, (b) integrated approach of total quality management, and (c) the relationship of the organization with the customers. Furthermore, he identified the three dimensions as follows: (a) the social subsystem: customer focus, employee involvement, and mutually beneficial relationships with the suppliers; (b) the technical subsystem: process-based approach, system-based approach, and continuous improvement; and (c) the economic subsystem: leadership and decision-making approach based on indicators. Androniceanu confirmed that the organizations that implemented total quality gradually and significantly improved their ability to thwart competition, increasing turnover and profit. The companies that implemented economic indicators significantly improved business excellence, enhancing the quality of products and services and the total quality management constructs.

Permana et al. (2021) evaluated 50 articles. There were 35 papers published from 2015 to 2020 and 15 papers published for more than 5 years. The papers represented five continents: (a) Asia, (b) Africa, (c) America, (d) Australia, and (e) Europe. They covered

18 different industry sectors: (a) manufacturing, (b) construction, (c) oil and gas, (d) hotel, (e) education, and (f) down to small and medium enterprises, to assess the relationship between competitive advantage, customer satisfaction, and total quality management. The findings revealed that total quality management positively impacted the organizations' competitiveness, growth, and sustainability and enhanced employee morale. They underscored total quality management's popularity in five continents and the versatility of its applicability in many industry sectors, no matter the size, noting the small and medium enterprises included in the study. Fawzy and Olson's (2018) analysis confirmed that implementing total quality management principles improves management and operational aspects of the business, boosts competitiveness, enhances value to the customer, and provides a competitive edge for the organization.

Reinaldo et al. (2021) conducted a rigorous review of extant literature to identify critical success factors that affect the implementation of total quality management in the context of the Brazilian construction industry or a developing country. Subsequently, empirical research was conducted from a survey questionnaire involving 130 respondents with experience in the Brazilian construction industry consisting of company leaders, quality experts, and engineers that validated the 20 critical success factors. Reinaldo et al. (2021) confirmed a comprehensive theoretical framework that evaluates the critical factors in the literature and practice for the implementation of total quality management, which could enhance the construction professionals' knowledge of the 20 critical factors to total quality management implementation.

The 20 critical success factors were: (a) top management commitment and leadership to quality management, (b) focus on strategic quality management planning, (c) quality management based on process management, (d) integration of the quality plan with other organizational processes, (e) focus on continuous process improvement and results, (f) implementation of process measurement and monitoring through performance indicators, (g) project quality management, (h) quality management in the workplace, (i) investments in organizational infrastructure, (j) clear communication within and outside the organization, information and analysis system, use of information and communications technology to manage information, (k) organizational culture focused on quality management, (l) natural use of complete quality tools and techniques, (m) commitment to education, training and people development, (n) understanding quality management tools and techniques, (o) encouraging teamwork and human resource management, (p) employee satisfaction, involvement, encouragement and evaluation, (q) focus on meeting and meeting customer needs, (r) supplier management, long-term relationship and supplier evaluation procedure, (s) business performance required for quality management system implementation, and (t) quality management system implementation independent of certification.

Reinaldo et al. (2021) identified two latent factors, quality practices and the human factor, which could guide decision-makers in their total quality management strategic initiative. Reinaldo et al. (2021) believed that adopting total quality management was crucial if the Brazilian construction industry wanted to survive and maintain market competitiveness in the face of the crisis that crippled the industry in 2016.

## **Critical Success Factors for Effective Implementation of Total Quality Management**

Critical success factors are variables or practices that support the successful implementation of total quality management to achieve the organization's vision (Aquilani et al., 2017). The successful implementation of any quality management concept will define its success within the organization (Kulenović et al., 2021). Hence, critical success factors are crucial to accomplishing the total quality management system (Kumar & Sharma, 2017).

Warren and Szostek (2017) asserted that the following strategies helped the small business owners cross the 10-year benchmark: (a) building relationships or networking, (b) finding your passion, (c) enhancing business knowledge (i.e., lack of strategy, poor implementation, inadequate planning, poor decision-making, and risk management), and (d) ensuring sound financial management. They substantiated their assessment by conducting a qualitative multiple case study involving eight small business owners with less than 50 employees in Alabama and North Carolina. Five of the eight respondents expressed that enhancing business knowledge was the key to sustainability. Total quality management-Deming 14 points include instituting a vigorous program of education and retraining, breaking down barriers between staff areas, and fostering relationships with suppliers (Walton, 1986).

In a mixed study using an electronic survey methodology and extensive literature review on total quality management, Talib and Faisal (2020) examined the empirical data from a sample of 172 responses of the top and middle managers from four different service industries in India. Through their study, they were able to identify only six that

were fully and effectively implemented across Indian service industries out of the 17 total quality management practices, namely, (a) top-management commitment, (b) customer focus, (c) process management, (d) quality systems, (d) teamwork, and (e) communication. The 11 remaining total quality management practices that were not fully implemented were: (a) training and education, (b) continuous improvement and innovation, (c) supplier management, (d) employee involvement, (e) information and analysis, (f) benchmarking, (g) strategic planning, (h) employee encouragement, (i) quality culture, (j) human resource management, and (k) product and service design. Notwithstanding the differences in the degree of implementation, Talib and Faisal (2020) acknowledged that full implementation of the total quality management principles within the organization enhances business performance and competitive advantage.

In a quantitative study, Bouranta et al. (2019) investigated 352 service organizations: Greece, 131; Mexico, 70; and Spain, 151. They analyzed each country's total quality management practices and their effects on employee and customer satisfaction. The results identified the critical total quality management factors common among the three participating countries as follows, (a) quality practices of top management, (b) process management, (c) employee quality management, (d) customer focus, and (e) employee knowledge and education. The adoption level of these five critical total quality management factors varied across service organizations in different countries.

In a quantitative study of 260 top- and middle-level administrators/managers representing the large, medium, and small manufacturing organizations in India, Anil and

Satish (2019) investigated the relationship between 10 total quality management constructs and customer satisfaction in the Indian manufacturing context. The respondents had sufficient experience and qualifications and knew their respective manufacturing companies' total quality management practices. The 10 total quality management constructs tested were: (a) leadership and top management commitment, (b) customer focus, (c) supplier quality management, (d) continuous improvement, (e) employee empowerment, (f) education and training, (g) quality information analysis, (h) quality assurance, (i) process management, and (j) knowledge management. The findings indicated a positive and significant relationship between all 10 total quality management constructs and customer satisfaction levels. The study also revealed that knowledge management and customer focus were the two most dominant total quality management constructs positively associated with customer satisfaction.

In a systematic literature review of 13 empirical papers published between 1995 and 2017, Kulenović et al. (2021) confirmed the positive relationship between total quality management practices and financial performance. They identified six total quality management critical success factors, viz., (a) top management leadership and commitment, (b) customer focus, (c) employee training, (d) procurement management (suppliers), (e) information and analysis, and (f) process management.

In a qualitative case study of three Japanese manufacturing small and medium enterprises, Georgiev and Ohtaki (2020) identified 12 soft total quality management constructs, namely: (a) top management involvement and leadership, (b) policy and strategy, (c) middle management involvement and support, (d) employee involvement

and empowerment, (e) teamwork, (f) training and education, (g) staff evaluation, (h) reward and recognition, (i) communication management, (j) customer focus, (k) supplier management, and (l) corporate social responsibility focus. Georgiev and Ohtaki (2020) discovered additional soft constructs: (a) middle management involvement and support, (b) reward and recognition, and (c) corporate social responsibility focus that has not been previously recognized or has been given little importance. Their findings suggested that (a) total quality management is a long-term approach to achieving quality improvement and business excellence, and (b) small and medium enterprises should not use financial and human resources constraints as an excuse for the failures of total quality management implementation.

In a quantitative study of 200 Turkish manufacturing companies, Sonmezturk Bolatan and Karaman Akgul (2019) investigated the relationship between strategic planning and total quality management. Building on their evaluation of the responses to the survey, Sonmezturk Bolatan and Karaman Akgul (2019) found that strategic planning was positively and significantly related to total quality management critical success factors: (a) top management commitment and leadership, (b) customer satisfaction, (c) employee responsibility and involvement, (d) quality results, (e) product/service design, (f) education and training, (g) supplier quality management, (h) process management, (i) information and analysis, and (j) important innovations.

Kumar and Sharma (2017) investigated 111 Indian companies to perform a comparative analysis of the significance of 20 total quality management critical success factors to validate the claim that total quality management critical success factors were

instrumental in the successful implementation of the total quality management system under three types of business strategy: (a) prospector, (b) defender, and (c) innovator. The findings showed the critical importance of critical success factors for different firms' strategies: (a) prospector, (b) defender, and (c) innovator. Some critical success factors may be critically important for all three types of firms. In contrast, others have significant roles for innovators, prospectors, and defenders individually, better prepared for total quality management implementation.

Erdil and Erbiyik (2019) assessed the relationship between total quality management and benchmarking and found that benchmarking, as a managerial tool, was parallel with total quality management applications where top management must be involved and initiate the change effectively and successfully. The authors defined benchmarking as a continual process where one organization compares its performance with another organization that has achieved the best in its category and then adopts the successful company's techniques. They described that the goal of benchmarking was to make continuous improvements and implement changes in products, services, and business processes to meet customer expectations.

Jusoh et al. (2018) conducted a mixed study to evaluate 24 total quality management critical success factors, namely (a) leadership, (b) process management, (c) customer focus, (d) continuous improvement, (e) employee involvement, (f) teamwork, (g) organizational communication, (h) organizational communication, (i) internal/external cooperation, (j) employee fulfillment, (k) learning, (l) organizational trust, (m) quality systems, (n) quality improvement, (o) quality assurance, (p) ISO 9000 series, (q) quality

information, (r) housekeeping, (s) benchmarking, (t) product/service design, (u) planning for quality, (v) design process management, (w) Pareto analysis, and (x) quality control as implemented in the Iranian hospitality industry. The findings revealed that in the hotel and hospitality industry, internal and external cooperation ranked first among the other total quality management critical success factors, with customer focus and leadership, ranking second and third, respectively.

The qualitative findings of a mixed-methods study done by Sainis et al. (2019) on 400 Greek small and medium enterprises within the manufacturing industry with International Organization for Standardization (ISO) certifications revealed that quality managers stressed the need to change the organizational culture to achieve service quality. In contrast, the quantitative data showed that small and medium enterprises emphasized the importance of quality tools and processes. The authors urged the Greek-ISO-certified small and medium enterprises to acknowledge the importance of quality business practices and the relevance of transitioning from a quality management system to a total quality management system to achieve growth and sustainability to face and adapt to severe economic and financial crisis conditions. Sainis et al. (2019) believed that total quality management is one of today's most influential business concepts.

Nguyen and Nagase (2019) investigated the influence of total quality management on perceived service quality and patient satisfaction involving 516 respondents from the in-patients at a tertiary referral hospital in Vietnam. The findings revealed that total quality management significantly affected perceived service quality and patient satisfaction, while perceived service quality positively influenced patient satisfaction.

The authors stated that total quality management is a management tool aimed at continually improving the process to enhance the quality of service to meet or exceed customer expectations. Nguyen and Nagase (2019) urged healthcare organizations to consider including and implementing total quality management in their strategic planning to enhance customer satisfaction.

De Las Casas and Alecchi (2020) conducted a three-period study (2006, 2011, and 2017) to investigate the implementation of total quality management in Peruvian companies using nine constructs of the total quality management philosophy. The study involved the top managers of medium and large industries with more than 51 employees. The samples comprised 245, 212, and 211 companies for 2006, 2011, and 2017, respectively. The 2017 findings revealed the vital role top management plays in the company's successful implementation and sustainability of quality management. Furthermore, they noted that Peruvian companies, ISO certified or not, do not provide pieces of training to their employees to use quality tools such as the flow diagram, Ishikawa or cause and effect diagram, checklist, Pareto diagram, histogram, control charts, and relationship diagram to improve the processes, promote communication, teamwork, and performance excellence to meet the company's continuous improvement initiative.

Othman et al. (2020) investigated the factors affecting the successful implementation of total quality management in Malaysia's completion and sustainability of construction projects. The study involved 32 participants divided into three groups, contractors, clients, and consultants, who were construction professionals such as

managing directors, project managers, design engineers, quality managers, site managers, supervisors, and engineers. Based on the ranking of factors affecting total quality management implementation, (a) employee-related, (b) strategic planning, (c) teamwork, (d) communication-related, (e) organizational culture, (f) top management commitment, (g) continuous improvement, and (h) customer-related, the client/consultant showed similar opinion on quality management than the client/contractor or consultant/contractor. Clients and contractors chose (a) employee-related, (b) organizational culture, and (c) communications related to their top three factors for the successful total quality management implementation. On the other hand, consultants ranked (a) teamwork, (b) communication-related, and (c) organizational culture as their top three. The study identified aspects of the total quality management principles that must be enhanced to effectively implement total quality management strategies.

A study by Dubey et al. (2018) of 300 senior quality managers from 300 auto components manufacturers in India revealed that institutional pressures significantly influence top management commitment to total quality management. As the firm's "internal human agents," top management plays a significant role in the total quality management organizational diffusion. Top management must motivate through the three stages of post-adoption diffusion, (a) acceptance, (b) routinization, and (c) assimilation. The findings also revealed that coercive, normative, and mimetic pressures all affect the diffusion process. Coercive pressures could come from suppliers, peer firms, rival firms, customers, government regulatory agencies, or industry associations.

On the other hand, normative pressures could come from peer or professional organizations, the media, and other factors that firms identify to benchmark their practices and outcomes. Mimetic pressures happen when top management tries to imitate or mimic other organizations within the industry. Dubey et al. (2018) believed that total quality management is a lasting and powerful management philosophy that enhances the firms' competitiveness.

Krajcsák (2019) used two case studies to evaluate the relationship between intrinsic and extrinsic motivation and employee commitment to implement total quality management successfully. He reiterated (a) customer focus, (b) commitment of leaders and employees, and (c) continuous process development as the core values of total quality management. Unlike the ISO 9000s, total quality management does not have written specifications. Krajcsák (2019) stressed that total quality management could not be successful in a company culture where written specifications determine the operation. He mentioned the contrast between human resource management research and quality management in general, including total quality management. In human resource management, it is how to reveal the most effective ways to motivate employees, while quality management puts little value on motivation but instead on committed employees. Quality management believes that a committed employee is more valuable because commitment is a long-term disposition resulting from a perception or discovery process and is not limited to an incentive. In total quality management, the author argued that the leaders' action to motivate employees to commit must only be temporary at best because what management's commitment must do is to transform employees into committed

actors through involvement, motivation, and ownership as the company aims to develop an attitude of high organizational commitment from the employees.

Krajcsák's (2019) study revealed that intrinsic motivation encourages employees to a high level of normative commitment as a moral duty. Intrinsic motivation also promotes a high level of affective commitment or an employee's emotional attachment to organizational values. On the other hand, extrinsic motivation enhances a sense of indebtedness to the organization as a normative commitment. He concluded that the lack of management's and employees' commitment is the most common cause of total quality management failure. Hence, even if the company is not successful in total quality management implementation, the company still gains as the effort to grow employee commitment could lead to a positive cultural impact.

Aleksandrova et al. (2018) argued that organizations must devise plans to respond to devastating incidents that could affect business activities to thwart business failure and achieve full recovery and restoration to normal business activities in today's highly competitive technological market. They proposed improvement areas and instituted new tools and strategies to protect the key stakeholders' interests and ensure business sustainability. They proposed adopting a business continuity management system that aims for continuous improvement within the organization and protection against incidents that could potentially harm business operations. Aleksandrova et al. (2018) argued that the business continuity management process included integrating the international standard ISO 22301:2012 with the risk management methodology based on Dr. Deming's continuous improvement cycle, the PDCA tool (Deming, 1982a; Imai, 1986; Kanji &

Asher, 1996; Walton, 1986), which could offer a model of continuous improvement of business continuity. The proposed model of continuous improvement of business continuity, based on the requirements of international ISO standards for the development, implementation, and effective functioning of management systems, modern tools and methods of risk management, business continuity methodology, and information security services, will allow the organization to implement a systematic approach to the implementation and implementation of measures to manage the overall capabilities and response to risks, potential threats, and incidents, and as a result to implement one of the critical principles of total quality management-continuous improvement based on objective evidence.

Çapacıoğlu et al. (2019) argued that total quality management was primarily designed for the private sector and that implementing the principle in the private sector is difficult. However, the private entities had been looking for ways to enhance customer relationships using the Deming management method. For this reason, the authors conducted a two-part study involving four Turkish public agencies already possessing the ISO certification. The authors designed a model reflecting the relationships between total quality management variables, which included (a) leadership, (b) continuous improvement, (c) employee fulfillment, (d) learning, (e) process management, (f) teamwork, and (g) customer satisfaction) and customer satisfaction (also a total quality management variable). The private and public sectors tested the model partially. However, the Turkish public sector implemented the model partially and inappropriately using path analysis. The confirmatory factor analysis findings revealed that the model

showed a positive relationship between the Deming total quality management variables and customer satisfaction. The authors concluded that Deming management principles could be implemented in the Turkish public sector to enhance customer satisfaction.

Dahlgaard et al. (2019) continued their 2013 study with Çapacıoğlu et al.'s (2019) research. Dahlgaard et al. (2019) argued that total quality management has now evolved from its original application as a management theory and philosophy in the 1950s with the Japanese industries to new methods, tools, techniques, and core values that are needed to implement total quality management to achieve quality and business excellence culture strategically, tactically, and operationally, at various management levels of the company. They used two basic management functions, (a) management control and (b) organizational learning, to discover the challenges and implications of total quality management principles. The findings revealed that the successful implementations of management control and organizational learning go hand-in-hand. Organizational learning needed a comprehensive management control initiative. Dahlgaard et al. (2019) concluded that creating the right organizational culture with (a) the top, middle, and shop-floor employees' active involvement and commitment and (b) appropriate company structure and resource support ensures the effective implementation of total quality management tools. Hence, the right organizational culture enhances the company's core values and improves continuous improvement, encouraging teamwork, mutual trust, and collaboration, leading to companywide participation.

Mitreva et al. (2017) evaluated the methodology they proposed that the 363 Macedonian companies implemented from different business sectors. The methods aimed

at advancing the business processes that encompass daily improvement would lead to increased business processes, the satisfaction of the buyers/users, the employees' satisfaction, the suppliers', and the environment. The 363 companies from different economic sectors adopted the methodology. The participating companies experienced increased competitiveness and profitability. The Macedonian companies with international certificates and standards proved to have easier access to foreign markets, more significant exports, and increased competitiveness. The standards set by ISO 9001:2015 (Tigre-O et al., 2019) represented a foundation for the continuous development of quality and an application of the total quality management strategy. The authors claimed their methodology had a universal application that any organization could use and experience its benefits. The study adds value to my research in successfully implementing total quality management in different industries, regardless of geographic location. Furthermore, this study highlighted the enhanced competitiveness and increased profitability a company would get from implementing total quality management philosophy.

Purwojatmiko and Nurcahyo (2020) assessed the implementation of total quality management concepts by small businesses involving 21 Warung Tegal and Warung Padang in Depok City, Indonesia. Warung is an Indonesian term for a stall that sells food, drinks, and sundries. The authors used the three constructs of total quality management. They are (a) customer orientation, (b) employee empowerment, and (c) continuous improvement. The findings revealed that the 21 small businesses had implemented the total quality management principle of customer orientation as they considered customers

important in their businesses' sustainability. Hence, providing valuable insights into implementing total quality management in small, family-owned businesses.

Stepanov et al. (2017) evaluated the quality management of the Serbian businesses' tourism industry/catering services. They believed quality was critical for the business's survival in today's highly competitive global economy. They stressed that the company must deploy and coordinate all company resources to achieve quality products and services, noting that quality management processes must be companywide to fully satisfy and meet consumers' needs. Stepanov et al. (2017) emphasized that Serbian businesses, regardless of size, must embrace total quality management to be competitive and profitable by offering quality products, engaging highly skilled workers, and modernizing production processes as a new way of doing business.

In a study conducted by Amin et al. (2017) of 25 (four- and five-star) hotels in the four cities of Malaysia, they posited that total quality management practices positively affected employee satisfaction and firm performance. Amin et al. (2017) stressed that total quality management constructs leadership and customer focus significantly enhanced employee satisfaction and firm performance. The findings revealed that implementing total quality management principles improves management and operational aspects of the business, boosts competitiveness, enhances value to the customer, and provides a competitive edge for the organization.

Paraschivescu and Stoica (2018) evaluated the communication model called Catchball within Hoshin Kanri, a Japanese quality management method. They wanted to establish a positive relationship of Catchball with total quality management in terms of

continuous improvement of quality management and organization performance through communication, participation, collaboration, and engagement. Catchball involves and mobilizes all the players to plan, implement, and evaluate the organization's activities. Their study revealed a consensus among researchers and practitioners that Catchball-Hoshin Kanri reflected total quality management, quality assurance, and integrated quality management in its principles. Catchball-Hoshin Kanri addressed the relevance of employee empowerment, knowledge management, quality education, continuous improvement of quality, performance and efficiency of long-term activities, customer satisfaction, and exceeding their expectations and engagement at all levels to achieve the organization's goals, all of which are total quality management constructs. This study emphasized the importance of total quality management and companywide participation to achieve long-term benefits beyond the 5-year mark.

### **Data Saturation and Sampling**

A case study is an in-depth inquiry between the dynamics of the topic of interest and its setting or context (Eisenhardt, 1989), while Yin (2018) and Saunders et al. (2016) describe a research strategy as an empirical investigation of a contemporary phenomenon using multiple sources of evidence; such as interviews, observations, and documents, to gain an in-depth examination of a complex singularity, often a person, program, or event, in its natural setting (Pearson et al., 2015). It is a famous strategy researchers use when a "how" or "why" question is being asked about a contemporary set of events in its real-world context that could include events over a period of time where the researchers have to collect a variety of pertinent data from multiple sources, and where there are many

variables of interest over which researchers have limited or no control in the setting (Yin, 2018), and examining the phenomenon from various angles and perspectives to obtain a clear picture of the problem (Bougie & Sekaran, 2020). It is a research strategy that commonly uses multiple sources, such as interviews, observations, and documents, to gain an in-depth examination of a complex singularity, often a person, program, or event, in its natural setting (Pearson et al., 2015).

The issue of sample size is ambiguous and qualitative methodologists cannot agree on the suitable sample size needed for qualitative studies (Saunders et al., 2016). Guest et al. (2020) stressed that despite “interviewing until saturation” being recognized as a best practice, it was insufficient to describe the sample size. Saunders et al. (2016) reiterated that the sample size depends on the research questions and objectives, what will have credibility, and what can be done within the available resources. Many qualitative researchers recommend continuing to collect qualitative data by performing additional interviews until data saturation is reached, when additional data collected provide few new insights or themes (Saunders et al., 2016). As Lewis (2015) advised, endeavor to conduct between 5 and 30 interviews for a general study. Data saturation will be reached when interviews with each participant no longer give new information or new themes (P. I. Fusch & Ness, 2015; Guest et al., 2006; O’Reilly & Parker, 2013).

Moreover, Guest et al. (2020) noted that there are no agreed-upon metrics to help qualitative researchers interpret the strength of their saturation findings, unlike quantitative researchers who have established options for levels of confidence intervals

and other metrics to report using statistical analysis methods. I will conduct member checking to ensure I reach data saturation.

I decided on a sample of five small business leaders in the Central Valley, California area who have sustained their business beyond the first 5 years. I expect to reach this point after the fifth interview. Yin (2018, p. 61) noted that the analytic benefits of the evidence from two or more individual cases using multiple case study is regarded to be more robust and compelling than even with two cases may be substantial to provide direct replication. Moreover, Eisenhardt (1989) and Saunders et al. (2016) claimed that multiple cases could make findings replicable across cases.

Researchers use interviews as one of the essential sources of case study evidence (Yin, 2018). As the researcher, I will conduct in-depth interviews using open-ended questions reflected in my interview protocol (Appendix C) with the five participants that I have carefully chosen who have met the criteria, which could provide me with rich information to help me answer my research questions. In-depth interviews typically are open-ended that encourage participants to talk more freely in their own words about their attitudes, beliefs, and feelings of relevance or about issues that the researcher may not have considered or overlooked but are nonetheless critical to understanding the phenomenon under investigation (Howson, 2021).

Moreover, the face-to-face and one-on-one interviews with my participants will be a case-by-case approach. Barron (1999) claimed that using a case-by-case approach prevents the misrepresentation and objectification of a group (Barron, 1999). I will also schedule the interviews in locations selected by the participants and at the time the

participant and I agree. I will ensure that the setting is quiet and private enough or with minimum distractions that could interfere with audio recording. Saunders et al. (2016) stressed that the interviews' location could influence the data collected. Suppose the interview is to occur during business hours. In that case, the location must be close to the participant's place of business so that the time away from the business is minimal. I should try to create an atmosphere where the interviewee would feel comfortable.

### **Total Quality Management and Barriers in Its Implementation**

The successful implementation of any quality management concept will define its success within the organization (Kulenović et al., 2021). Fred Smith, the founder of FedEx, stressed that broad quality measures and objectives cascade from the top yet demand active participation from everyone in the organization to succeed in the quality improvement initiative (George & Weimerskirch, 1998, p. 17). Fred Smith further emphasized that achieving 100% is worth the effort, as a 1% failure rate is unacceptable when handling millions of packages daily. It is, therefore, critical to know the barriers to thwart or mitigate failure. Hendricks and Singhal (1997) claimed that effective implementation of total quality management programs improves operating performance. They provided strong empirical evidence for their claim. They conducted a longitudinal study of nearly 400 publicly traded firms that captured their first quality award between 1983 and 1993. Additionally, they analyzed the publicly available accounting data to track down the changes in operating performance over the 10 years they implemented total quality management principles.

Yadav (2015) offered the barriers that Indian companies faced when implementing the total quality management concept, which include (a) lack of availability of power and other infrastructure facilities required for the smooth running of the organization, (b) lack of technical know-how, lack of training facilities, poor industrial relations, undeveloped production and distribution channels and inadequacy of management. (c) incapable team management with a deficiency in knowledge, lack of resources, and lack of time for developing competitive strategies, (d) cynical management behavior when they are unable to benefit from self-regulation and management tools in the process of tackling quality problems, (e) unable to market their products strategically because of various lacks (i.e., lack of marketing strategy, lack of strong technical and domain expertise, lack of solid client reference and competitive price pressure from big and multinational corporations, (f) inability to identify technological needs because of poor financial situation, lower research and development participation, poor adaptability to changing trade needs and isolation from technological hubs, (g) failures associated with benchmarking, employee involvement, addressing cultural issues and maintaining consistency in their quality journey.

In a quantitative study of the Bangladesh Readymade Garment industries, Talapatra and Uddin (2019) assessed the importance of different total quality management implementation barriers within the Readymade Garment industries in Bangladesh. Bangladesh is one of the top garments manufacturing countries globally and fits as a representative of a manufacturing organization within a developing country. In 2018, about 5,000 industries, mainly small and medium enterprises, employed about 4.4

million workers. Talapatra and Uddin (2019) believed that the industry would no longer survive in the competitive global market as labor costs per hour had increased substantially. Given this threat, the industry contemplated adopting the total quality management philosophy to increase productivity. The results showed the following barriers that impacted the proper total quality management implementation, according to the level of importance: (a) inappropriate planning of total quality management implementation program, (b) lack of financial support, (c) lack of employee training, (d) lack of empowerment of employees, (e) lack of sufficient physical resources.

Kiseľáková et al. (2020) investigated total quality management principles as a dynamic tool for managing and improving the performance and competitiveness of enterprises by 191 Slovakian industrial enterprises. The number of employees by the number of companies represented were: (a) 1–9 employees, 11; (b) 10–49 employees, 45; (c) 50–249 employees, 66; and (d) over 250 employees, 69. The findings revealed that the size of the enterprise had a statistically significant impact on the use of total quality management. The barriers to implementing total quality management included: (a) lack of qualified or skilled workforce and (b) insufficient financial resources, (c) lack of total quality management awareness and its benefits, and (d) lack of clear business strategy for sustainability and competitiveness. On the other hand, Mitreva et al.'s (2017) study underscored the importance of total quality management systems and found that the barrier for the 363 Macedonian companies to achieve a competitive position, whether in the local or global market, was the lack of the understanding of total quality

management's strategy of continuous quality improvement of the products and services to satisfy customers' needs.

Peljhan and Marc (2018) investigated the joint effects of implementing total quality management and performance management systems using 264 Slovenian companies representing cross-sections from different industry sectors. The authors wanted to determine the importance that managers place on five different performance perspectives: (a) employee, (b) operational, (c) customer, (d) financial, and (e) return. The participants shared the specific management tool they used: (a) activity-based costing, (b) activity-based budgeting, (c) activity-based management, (d) target costing, (e) lifecycle costing, (f) balanced scorecard, (g) benchmarking, (h) business process reengineering, (i) just-in-time, (j) total quality management, and (k) continuous improvement. The findings revealed that the managers' perceived importance of customer perspective declined due to the simultaneous use of total quality management and performance management system. The authors believed that the reduction was due to the total quality management companies' overstatement of customer perspective and offset by the joint use of the performance management system, indicating that the combined use of total quality management and performance management system only affects customer satisfaction measures. The results showed a weak relationship between total quality management and performance management system for employees, operational, return, and financial perspectives.

Peljhan and Marc (2018) cautioned managers on implementing and coordinating different managerial concepts to avoid negative impacts. Small business leaders must be

aware of the possible tensions in jointly implementing varying organizational concepts and tools that could jeopardize business processes and objectives. Formby et al. (2018) noted that (a) the structural and relational roadblocks imposed by unions significantly limit the development and utilization of workforce capability, thus hampering success in businesses, and (b) that firms with little total quality management experience, management plays a dominant role in success, while in the firms with more total quality management experience, the workforce has a dominant position on success, and (c) that larger firms have more resources and management capability to develop and nurture workforce skills that enhance success. Formby et al. confirmed their position through an empirical study to establish the relationship between the drivers within the quality management philosophy to management leadership and workforce involvement for organizational success. The participants were the American Society of Quality mid-level managers in 2,000 manufacturing businesses (SIC groups 20 through 39), randomly selected from all 48 U.S. states and Puerto Rico. Their studies confirmed. The authors cautioned mid-level managers to be aware (a) that total quality management experience could be ineffective in creating an agile organization to meet economic volatility when structural and cultural impediments such as labor unions are present or if the organization lacks the commitment to continuous improvements and (b) that an empowered workforce is a competitive advantage that positively impacts the success of the company.

Petcharit et al. (2020) claimed that strategic planning and knowledge management had a strong positive impact, while technology and innovation, and product quality showed a weak influence on total quality management. They supported their claim by

investigating 455 auto parts owners, executives, and managers to assess the factors that affect the total quality management employed by the 1,800 Thailand auto parts companies within the industry. Using a questionnaire, the authors incorporated five constructs to ask the participants' opinions to determine the effects on Thailand's auto parts industry, namely (a) knowledge management, (b) product quality, (c) strategic planning, and (d) technology and innovation. Moreover, they discovered that the disruption in the industry that included Industry 4.0 technologies, the Internet of Things, and artificial intelligence were already in use in developing a new generation of autonomous and electric vehicles, which made Thailand's auto parts manufacturers' processes and technologies obsolete. The authors urged the government and educational institutions to collaborate to support the local automotive and auto parts industry. Hence, total quality constructs like innovation and technology, and product quality that are missing in the system could pose barriers to the success of the total quality management initiative. Similarly, the government and educational institutions could hamper the successful implementation of the total quality management initiative.

### **Alternative Theories**

#### ***Malcolm Baldrige National Quality Award***

Although not a theory or model for total quality management, the Malcolm National Quality Award was created by an act of the U.S. Congress when it passed the Malcolm Baldrige National Quality Improvement Act of 1987 to promulgate and encourage U.S. industries to actively pursue quality improvement to become more competitive in the global economy (Kelly & Williams, 2019; Montgomery, 2005). The

participating companies must excel in seven areas to win the award, namely, (a) leadership, (b) information and analysis, (c) strategic planning, (d) human resource development and management, (e) process management, (f) business results, and (g) customer focus and satisfaction (Ferrell et al., 2019). Expert evaluators issue a detailed assessment report detailing the areas of strength and areas that need improvement (George & Weimerskirch, 1998; Kelly & Williams, 2019) in business processes.

### ***ISO 9000***

ISO 9000 is another quality improvement initiative aiming to continuously improve and satisfy customer needs (Ferrell et al., 2019; M. Kelly & Williams, 2019; Tigre-O et al., 2019). The ISO 9000 series of standards advocates an international consensus for an effective quality assurance system applicable to any company (M. Kelly & Williams, 2019). As a management program to improve business processes through quality improvement, ISO 9000 aims to help companies maintain quality and process control and stay competitive in the global marketplace (Kumar & Sharma, 2017), which could help protect the interest of the key stakeholders and ensure business sustainability (Aleksandrova et al., 2018). To a large extent, total quality management is focused on improving overall quality in an organization to meet customer satisfaction. In contrast, ISO 9000 standards are generally focused on ensuring that a basic quality system is in place to be adopted by organizations for the sole purpose of facilitating trade (Panda, 2019).

### *Lean and Six Sigma*

Lean is a Toyota enterprise management approach that focuses on cutting waste and reducing the time needed to provide products and services while maintaining the highest quality standards that increase customers' value according to their distinctive needs (Dyer et al., 2018; Liker & Hoseus, 2008). Lean production is a system that aims at eliminating waste, such as stocking more inventory than needed, producing more products than demanded, over-processing, or moving people and products unnecessarily than required (Jackson et al., 2008). Taiichi Ohno, a former Toyota Motor vice president, pioneered Toyota's unique system known as the "Toyota Production System" (Imai, 1986) using the quality constructs of Dr. Deming (Liker & Hoseus, 2008). The "Lean manufacturing" concept emerged, referring to Taiichi Ono's set of flexible production techniques that minimize inventories and waste despite being designed for rapid product conversion (Dyer et al., 2018). Liker and Hoseus (2008) claimed that "Lean production" has become a new management paradigm replacing the older concept of "mass production," and Lean Six Sigma evolved using its evidence-based, data-driven approach to quality improvement that minimizes defects in products and services, complementing lean practices. Workers learn and execute the lean tools because they are simpler to understand and result in quick gains. At the same time, the Six Sigma black belts participate in several month-long, complex, and more involved projects to achieve more significant dollar savings and drive down costs to satisfy investors (Liker & Hoseus, 2008).

In the late 1980s, Motorola developed the Six-Sigma program to respond to the demand for their products (Montgomery, 2005). It was in the 1990s that the quality community saw the emergence of Six Sigma (M. Kelly & Williams, 2019). It is an approach to quality improvement that involves very ambitious quality goals, extensive training of employees, and long-term commitment to working on quality-related issues (M. Kelly & Williams, 2019). Six Sigma's philosophy aims to change the organization's focus from being cost-only to quality improvement boosting bottom-line results that dollars and cents could measure (Liker & Hoseus, 2008). Six Sigma's constructs parallel total quality management principles, namely: (a) companywide focus on quality improvement emphasizing on finding and eliminating causes of errors and defects, (b) long-term commitment to quality improvement, and (c) teams of workers performing specific projects to improve quality (M. Kelly & Williams, 2019).

According to M. Kelly and Williams (2019), there are three areas that Six Sigma and total quality management differ. Six Sigma has set to reduce any operation or process defects to a level that is not greater than 3.4 per million opportunities, a somewhat challenging and highly ambitious goal. Six Sigma has an extensive proclivity for expensive employee training and expert guidance. Six Sigma uses incredibly advanced techniques, which require a high level of expertise in their application (M. Kelly & Williams, 2019). Antony et al. (2017) stressed that integrating Lean and Six Sigma are the two most effective process excellence methodologies over the past 30 years and a robust business strategy and problem-solving approach for all industrial sectors no matter the size and nature of the business. Companies achieve growth, sustainability, and

competitive advantage by implementing Lean principles and continuous improvement, which are Deming constructs (Bento & Tontini, 2019).

Liker and Hoseus (2008) claimed that Lean Six Sigma's concepts of simple cause-effect relationships and the business as a technical system that clever deployment of the suitable tool kit produce financial gains contradict the Toyota Way of quality methods of W. Edward Deming's and which is totally alien to the human-centric approach. Appendix D provides a comparison of the transformation management approaches and results.

### **Small Business Commitment to Quality**

Small and medium enterprises are the dominant power players in the nation's economy, as an engine for job creation for millions of Americans, spearheading innovation and fueling the entrepreneurial spirit critical for fostering competitiveness and economic growth (Toke & Kalpande, 2020). Given the enormous contribution of small businesses to our nation's economy (as expounded in Appendix I), and as small businesses continue to fail at a high rate (U.S. Small Business Administration, 2020), a substantial number of practical implications that are critical to small business leaders to improve business practices and methodologies to achieve and enhance profitability and sustainability in the long term are provided in the findings of this study. The U.S. Small Business Administration (2020) has reported that from 1994 to 2018, the 5-year survival rate of small businesses was 48.8%. Noteworthy, approximately 32% of the firms that operated from 1994 to 2018 failed during the first 2-years of operation. (U.S. Small Business Administration, 2020). The findings of this study aim to address the

conventional wisdom that has been perpetuated for many years that 50% of small businesses fail after five years of operation to thwart or mitigate business failure, especially during the initial stages.

Small business leaders should realize that top management leadership and commitment to quality are the hallmarks of successfully implementing total quality management (Kulenović et al., 2021). Total quality management initiatives must start from the top and be communicated companywide to all levels of the organization to generate the involvement of all employees (Kumar & Sharma, 2017). Dr. Deming believes that a critical mass of people within the company must understand and carry out the quality mission (Deming, 1982a; Montgomery, 2005; Toke & Kalpande, 2020; Walton, 1986). Hence, as top management leads, total quality management strategies must be fully adopted and implemented effectively within the organization at every level to achieve the desired outcomes and benefits. Top management plays a vital role in the organization's successful implementation and sustainability of quality management initiatives (De Las Casas & Alecchi, 2020; Paraschivescu, 2020); as the firm's "internal human agents" in the organizational diffusion of total quality management (Dubey et al., 2018).

Small business leaders must recognize that continuous improvement is a never-ending process. Continuous improvement entails constant improvement of the design of the products and services through research, education, and innovation, boosting efficiency in all areas of the process and keeping in mind that "the consumer is the most important part of the production line" (Deming, 1982a, p. 26). The customers are the ones

that determine the quality of the products and services (Deming, 1982a; Roberts & Sergesketter, 1993). Improved quality and successfully adopting quality as critical considerations of the organization's overall business strategy reap a substantial return on investment, leading to business success, growth, and enhanced competitiveness (Montgomery, 2005). Hence, producing and offering quality and reliable products and services are critical to exceeding customers' needs and expectations, leading to improved business processes and firm success (Kulenović et al., 2021). Business organizations that are poorly managed and sell products and services that do not offer the needed benefits of the consumers will fail (Ferrell et al., 2019).

### **Transition**

In Section 1 of the study, I presented and discussed the problem and purpose statements. Under the sub-section, the nature of the study, I justified the choice of the qualitative methodology and multiple case design. In the sub-section for the study's significance, I identified the potential contribution to positive social change and business practice improvement under the context of the study's conceptual framework. The literature review section contained scholarly studies showcasing the conceptual framework's importance in helping business leaders remain competitive and achieve success beyond 5 years.

In Section 2 of the study, the Project, I will discuss the pertinent elements of the study, namely, the purpose statement, the role of the researcher, study participants, research method and design, population and sampling, data collection, and organization data saturation and analysis, and reliability and validity of the study. In Section 3, I will

present the research findings, application of the study to professional practice, and implications for social change. I will conclude with comments on the limitations of the research and a call for future research.

## Section 2: The Project

This section includes a discussion of the research design, the principles of ethical research that were upheld and practiced, the role of the researcher, interviews of participants, and the data collection process (e.g., access, analysis, and organization). This section also provides a detailed description of the participants and strategies employed to ensure the findings' transferability, dependability, and credibility.

### **Purpose Statement**

In this qualitative multiple case study, I explored small business leaders' total quality management strategies to sustain their business beyond 5 years. The target population for this study consisted of five small business leaders in Central California who had used total quality management strategies to sustain their business beyond 5 years. The results of this study may contribute to social change through increased job opportunities that could improve the quality of life for residents of local communities.

### **Role of the Researcher**

In a qualitative study, the researcher personally performs the data collection process (Yin, 2018). As advised by Yin, I was the primary data collection instrument: the interviewer, the reviewer of documents and records, and the interpreter of the data. The role of the researcher, being the central figure in a qualitative study, is to collect data through in-depth, open-ended interviews and written communications (Patton, 2015), two methods that give the researcher an idea of what is transpiring in the situation or an explanation for what is happening (Bougie & Sekaran, 2020). I focused my study on total quality management strategies that sustain small businesses beyond the 5-year

benchmark. I adopted the systematic way of researching by adopting a step-by-step, organized, and rigorous method to gather data, analyze them, and draw valid conclusions. According to Saunders et al. (2016), a systematic research process does not include beliefs or hunches; the process is meaningful and based on logical relationships.

I had a relationship with this topic because I grew up in a family that owned and operated small businesses. Two were successful, but one failed. I also owned and operated two small businesses since 2000; one failed in 2008. I did not have any relationships with the participants in the study other than the fact that they were in my professional network or referrals from my network, and they also operated their businesses in the California Central Valley.

Nearly all case studies on a contemporary phenomenon are about human affairs within a real-world context requiring the researcher to abide by ethical practices similar to medical research (Yin, 2018). As the primary data collection instrument, I conducted my case study with special care and sensitivity. I abided by the ethical guidelines of the Belmont Report inherent in research involving human subjects (U.S. Department of Health and Human Services, 1979). The Belmont Report laid out three fundamental ethical principles that guide human research: (a) respect for persons, which includes two moral requirements that individuals be treated as autonomous agents and that people with diminished autonomy are entitled to protection; (b) beneficence, which broadly refers to not doing any harm, maximizing possible benefits, and minimizing possible harm; and (c) justice, which refers to a sense of fairness in the distribution or what is deserved when some benefit to the person entitled is denied without good reason or when some burden is

imposed unduly.

I obtained informed consent from all of my participants. I explained to them the nature and purpose of my case study. I formally solicited their volunteerism to participate in my study and informed them that they could decline participation. I informed them that they could withdraw their consent at any time by sending me an email. I protected them from harm, including not using any deception in my study. I protected their privacy and confidentiality by ensuring them that their identity would not be disclosed in research reports or papers produced. The Belmont Report is specific about protecting vulnerable groups involved in research (Quinn et al., 2013). Given participants' dependent status and frequently compromised capacity for free consent, I took special precautions to protect the members of vulnerable groups, such as racial minorities, the economically disadvantaged, the very sick, and the institutionalized. I did not seek their participation primarily for administrative convenience because they are easy to manipulate due to their illness, socioeconomic condition, or convenient availability in research settings. I also selected participants equitably so that no groups of people were included or excluded unfairly from my study.

According to Yin (2018), the researcher is the data collection instrument when conducting qualitative research. The researcher operates from two different worlds and cannot separate them: (a) the cultural world of the participants and (b) the world of the researcher's perspectives. Bias can pose a challenge in practice and can manifest in a research procedure; Anczyk et al. (2019) argued that qualitative researchers should remain neutral, while Johnson (1997) suggested that critically reflecting on biases and

preconceptions could mitigate the researcher's bias. I was cognizant of my view of the world and did not let my personal view affect the interpretation of the phenomenon as presented by the participants. Because interviews are considered verbal reports of events and experiences, the interviewee's responses and the description of how they occurred could reflect some biases and inaccuracies, which could be due to imperfect recollection or poor articulation (Yin, 2018). Therefore, I carefully listened to participants' perspectives and followed up with clarifying questions to ensure that I interpreted their views accurately. To mitigate my personal bias during data collection and analysis, I used an interview protocol containing carefully constructed interview questions (see Appendix C), member checking, and triangulation to ensure that data saturation had been reached. Member checking is a technique of sharing the researcher's interpretation with the participant for validation to achieve maximum benefit for reliability and validity (G. E. Fusch, 2008). Triangulation is a technique that involves two or more independent sources of data or data collection methods within the study to ensure that the data are what they appear to be, leading to the same results (Bougie & Sekaran, 2020; Saunders et al., 2016).

### **Participants**

Qualitative researchers define the eligibility criteria for their participants and choose those who can provide information that answers the research question about a phenomenon (Guest et al., 2017). The current study's research question was: How do small business leaders sustain their business beyond 5 years using total quality management principles? The participants were five small business leaders who had demonstrated that they had successfully implemented total quality management strategies

that sustained their business beyond 5 years. The five participants' place of operation was within Central Valley, California, which gives me an adequate sample size. Another consideration behind choosing small business leaders who had operated and sustained their businesses beyond 5 years was that over half of all new small businesses will not cross the 5-year benchmark and will close the doors of their business for good (SBA, 2020). Investigating small business leaders' successes through in-depth interviews could provide insights that could help small business leaders achieve continued growth and sustainability (Turner & Endres, 2017). The selection process for my participants was critical to the study's success. Yin (2018) stated the interview is one of the most critical sources of case study evidence.

The five participants for my study came from my business network and referrals from colleagues. Ivanova-Gongne et al. (2018) studied three Central Eastern European countries to investigate the methodological challenges of collecting rich qualitative data on business relationships and networking; they found that personal relationships and connections are vital in collecting data and establishing trustworthiness in the business context within the focal countries as well as for conducting business research. Saunders et al. (2016) also reiterated that participants are concerned about the researcher's competence and integrity because the participants will generally accept such a researcher to be objective and without a hidden agenda. My participants knew me as being within my business network, or referrals from colleagues helped me overcome the issue of integrity and competence and gaining access. Once I gained access, I developed a working relationship with them.

My strategies in establishing a working relationship with my participants included (a) demonstrating my utmost professionalism by connecting with them right away, either by phone or email, to introduce myself and express my gratitude for being willing to participate in this study; (b) demonstrating my competence on the topic by thoroughly explaining the study regarding total quality management, often referring to my interview protocol; and (c) explaining how their organization could benefit from my study. Emphasizing the perceived value of the study concerning the organization builds trust and cooperation (Saunders et al., 2016), whereby participants are willing to share their experiences and answer the questions (Ivanova-Gongne et al., 2018; Kornbluh, 2015). The participants selected for my study had used total quality management strategies to sustain their business beyond 5 years. Participants received an informed consent form with a cover letter (see Appendix A), either by email or regular mail (self-addressed stamped envelope provided), depending on their preference, to review and sign before the interview. After a few days, I followed up with a call to ensure that participants had received the informed consent form and to answer any questions or concerns they may have had. I addressed any concerns to maintain their trust and confidence in me and their willingness to participate in my study. The informed consent form is part of the protection for human subjects participating in the research study, as mentioned in the Belmont Report (U.S. Department of Health and Human Services, 1979). Saunders et al. (2016) noted the importance of “ensuring that those involved in the research are given sufficient information, the opportunity to ask questions, and time to consider without any pressure or coercion, to be able to reach a fully informed, considered and freely given

decision about whether or not to take part” (p. 251). I then reminded my participants to return the signed informed consent form by email or regular mail using the enclosed self-addressed stamped envelope.

## **Research Method and Design**

### **Research Method**

The three research methods are qualitative, quantitative, and mixed (Saunders et al., 2016). I used qualitative methodology in the current study. Yin (2018) suggested using a qualitative approach to collect non-numerical data. Qualitative researchers use open-ended questions to discover what is occurring or has occurred (Ahmad et al., 2019; Jamali, 2018; Malva et al., 2020). Quantitative researchers use numerical and statistical measurements to test hypotheses about the phenomenon (Moe & Enmarker, 2020). I did not intend to test hypotheses about the small business leaders’ lack of total quality management strategies to sustain their business beyond 5 years; therefore, the quantitative method was not appropriate for this study. Mixed-methods research includes qualitative and quantitative elements (Saunders et al., 2016). The mixed-methods research was also inappropriate because this study did not use quantitative methodology.

### **Research Design**

For this study on total quality management strategies small business leaders use to sustain their business beyond 5 years, I considered three qualitative designs: ethnography, phenomenology, and case study. A multiple case study was chosen because I intended to explore five small businesses’ total quality management strategies to compare and verify findings across cases. A single case study design was not chosen because I did not intend

to gather information about a specific event or activity from one case as a single unit of analysis. Ethnography is a design that researchers use to describe and understand one or more groups' cultures (Fernandez, 2020). The current study was not about understanding group cultures; therefore, ethnography was not appropriate for the study. Phenomenology is a design that focuses on the meanings of the individual's personal experiences with the phenomena (Jamali, 2018); phenomenology was not suitable for the current study because I was not exploring the common meanings of individuals experiencing the phenomenon (see Saunders et al., 2016).

According to Saunders et al. (2016), data saturation refers to the point when the data collection process yields few or no new data. Saunders et al. also contended that data saturation is not only about the numbers but also about the richness and depth of the data. P. I. Fusch and Ness (2015) identified three conditions that reveal when data saturation is achieved: (a) when collected information is enough to replicate the study, (b) when obtaining additional new information has been reached, and (c) when further coding is no longer feasible. As a fourth condition, G. E. Fusch (2008) added no new themes. P. I. Fusch and Ness cautioned that data saturation affects content validity and the quality of the research project, that a small study reaches saturation faster than a larger study, that research designs are not universal, and that a one-size-fits-all method to reach data saturation does not exist. In case studies with a small sample, data saturation can be confirmed through member checking follow-up interviews by obtaining in-depth information and enhancing academic rigor (G. E. Fusch, 2008). I conducted member-checking follow-up interviews to ensure I reached data saturation.

## **Population and Sampling**

There are two types of sampling approaches, probability and nonprobability sampling. In probability sampling, the chance or probability of each case being chosen from the population is known and is not zero (Bougie & Sekaran, 2020; Saunders et al., 2016). Probability sampling includes simple random sampling, systematic random sampling, stratified random sampling, cluster sampling, and multistage sampling (Saunders et al., 2016). In nonprobability sampling, the chance or probability of each case being selected is not known (Bougie & Sekaran, 2020; Saunders et al., 2016). A nonprobability sampling includes quota sampling, purposive sampling, convenience sampling, and snowball sampling (Saunders et al., 2016). I used purposive sampling, meaning that I purposefully selected the participants because they met the criteria necessary to obtain information to answer the research question for this study. I identified and selected participants who used total quality management strategies to successfully operate their small businesses beyond 5 years. Ancker et al. (2021) noted that a group of methods for recruiting nonprobability samples of individuals likely to have perspectives or experiences of interest is called purposive (or purposeful) sampling. Bougie and Sekaran (2020) stressed that it is essential to select the participants based on their expertise in the subject being studied.

The population in this study will be small business leaders located in Central Valley, California, who have successfully implemented total quality management strategies that sustained their business beyond 5 years. Population refers to events, an entire group of people, or cases that focus on a scientific query for which a researcher

wants to make inferences, while a sample is a subgroup or subset drawn from that population (Bougie & Sekaran, 2020; Saunders et al., 2016). This multiple case study will involve a sample of five small business leaders. I will use this sample representing a subset of the research population because it will be time-consuming and expensive to interact with every member of my population. Bougie and Sekaran (2020) argued that the researcher should be able to draw conclusions from analyzing the sample that is generalizable to the population of interest.

### **Ethical Research**

To ensure ethical standards in this study, I will seek the permission of Walden's IRB to administer this multiple case study. Once IRB approval is granted, I will follow the ethical standards set forth by the Office of Research Ethics and Compliance, the Institutional Review Board for Ethical Standards in Research, and Walden's IRB. I will abide by the ethical guidelines of the Belmont Report inherent in research involving human subjects (U.S. Department of Health and Human Services, 1979). The Belmont Report laid out three fundamental ethical principles that guide human research, namely, (a) respect for persons defines two moral requirements: first, that individuals should be treated as autonomous agents, and second, that persons with diminished autonomy are entitled to protection, (b) beneficence broadly refers to first, do no harm, and second, maximize possible benefits and minimize possible harm, and (c) justice refers to a sense of fairness in the distribution or what is deserved, when some benefit to which the person is entitled is denied without good reason or when some burden is imposed unduly. Hence, my role as a researcher is to protect the participants from any harm or injuries, respect

their individuality and autonomy, and inform them that there is no financial remuneration for their participation in my study.

The five small business leaders participating in this study will receive a notification to electronically execute the informed consent form. They will be instructed to reply stating, "I consent." The participation consent form will contain the (a) purpose of the study, (b) responsibility of the researcher for ensuring confidentiality, (c) assertion of voluntary participation and without monetary or nonmonetary compensation, (d) the existence of an audio recording device for documentation, and (e) collection of documents. The informed consent form will also contain a disclosure that participation in the study will be voluntary with no incentives or compensation, and withdrawal from the study will be optional. The participants can discontinue their participation in the study at any time by sending me an email.

I will also assure my participants that I will protect their privacy by keeping their information confidential and/or allowing them to remain anonymous. I will use pseudonyms to identify participants to ensure confidentiality and discretion. I will adopt deductive disclosure. According to Tolich (2004) and Sieber and Tolich (2013), deductive disclosure addresses the issue of internal confidentiality where the researcher removes any traits of individuals, groups, association affiliations, or any other information that make the participants in the study identifiable in research reports. Electronic-executed informed consent forms, recorded interviews, and the researcher's interpretation of data will be stored in a safe and on personal password-protected flash drives for a minimum of five years, ensuring the rights of the participants and their

identity remains confidential. After five years, all hard copies of the executed informed consent forms and recorded interview data will be shredded. All electronic information will be destroyed by redacting the data and ablaze the password-protected flash drives. Protecting participants' privacy is crucial in establishing participants' trust and willingness to contribute to the study as the researcher preserves concern for confidentiality and autonomy (Moriña, 2021).

### **Data Collection Instruments**

I am the researcher in this qualitative study and will be the primary data collection instrument for the data collection process. In qualitative research, the role of the researcher is to collect and analyze data (Howson, 2021). For this research project, the data collection instruments are: (a) one-on-one, face-to-face semi-structured interviews and (b) company documents and records.

Semi-structured interviews describe a researcher's interview process with a preplanned set of questions or themes to ask the participants (Bougie & Sekaran, 2020; Saunders et al., 2016). Saunders et al. (2016) noted that the lack of standardization in semi-structured and in-depth interviews poses a threat to the reliability and dependability of the findings. Furthermore, semi-structured and in-depth interviews and good interview skills allow the researcher the flexibility to explore the complexity of the phenomenon under study (Saunders et al., 2016). Turner and Endres (2017) used semi-structured interviews with small coffee shop business owners to explore the skills, knowledge, and strategies they used to achieve success beyond 5 years. Therefore, I will use semi-

structured interviews to explore the total quality management strategies small business leaders use to sustain their business beyond 5 years.

Documents and records are company information that can be extensive and come in various forms and styles, paper or electronic, which are likely to be relevant to every case study topic (Yin, 2018). Documents are data that are popularly used in research projects and are physically available, including both text and non-text materials that can be communicated, transposed, and analyzed over time and space to use as evidence (Saunders et al., 2016). Examples are organizations' communications such as annual reports, the text of company web pages, reports to shareholders, emails, letters, memos, minutes of meetings, financial reports, films, or videotapes (Saunders et al., 2016; Yin, 2018).

I will enhance the reliability and validity of my data collection instruments using member-checking follow-up interviews after my semi-structured interviews and triangulation. I will conduct member checking to enhance the reliability of my study, where I will share the findings of my study with the participants. Participants will review my interview notes to determine if they accurately represent their perspectives or viewpoint from the interview. Member checking is a data collection strategy researchers use to help improve the accuracy, credibility, validity, and transferability of qualitative research (G. E. Fusch, 2008). On the other hand, data triangulation involves collecting information from multiple sources that can corroborate the same finding, ensuring the study's reliability and validity (Yin, 2018). I will use the interview protocol (Appendix C). Yin (2018) contends that using an interview protocol (Appendix C) ensures the

reliability of the study and guides the data collection process to reduce researcher bias (Yin, 2018). Hence, I will employ member checking and data triangulation to enhance the reliability and validity of my data collection instruments.

### **Data Collection Technique**

This qualitative study's research question is: How do small business leaders sustain their business beyond 5 years using total quality management principles? Nassaji (2020) claimed that good qualitative research is systematic that entails a diligent process of identifying the problem, collecting, analyzing, explaining, evaluating, and interpreting the data; it is robust, well-informed, and thoroughly documented, ensuring its rigor and quality. It is, therefore, critical that the information gathered is accurate and substantive to answer my research question.

I will plan thoroughly for the interview. I will arrive at the agreed location approximately 15 to 30 minutes before the scheduled interview. I will be dressed appropriately. Saunders et al. (2016) reminded researchers to wear clothing generally acceptable for the setting within which the interview is to take place and consider wearing a similar clothing style to those of the participants. Saunders et al. added that appearance might also affect the researcher's credibility, affecting the participant's perception. I will come prepared with a copy of the signed informed consent form, the research questions, the audio recorder, and a notebook to take notes.

I will make sure that I re-introduce myself, thank the participant for his time and willingness to participate in my study, and remind them that the interview will run for approximately 45 minutes to an hour, and the conversation will be audio recorded. I will

conduct case-by-case face-to-face semi-structured interviews with each participant, asking the same set of questions as laid out in the interview protocol (Appendix C). The interview protocol limits the topics to not go into areas not within the study and makes interviewing more systematic and comprehensive (Brayda & Boyce, 2014). I will adapt my questions as the situation requires and ask for further clarification, ensuring that I accurately and appropriately understand their responses. I will listen carefully and prompt participants to ensure the quality of the data collected. I will be attentive to the participant's body language, observing for non-verbal cues such as discomfort, fatigue, or stress. Bougie and Sekaran (2020) noted that in face-to-face interviews, the participants' body language unconsciously reveals nervousness or discomfort, which researchers can pick up; the researchers then must adapt the questions as necessary to clarify doubts and ensure they are understood. I will ask probing or follow-up questions. Bougie and Sekaran (2020) and Saunders et al. (2016) posited that researchers use probing questions to explore responses further when the first answer is unclear or incomplete, seeking clarification and additional explanations critical to the research topic.

After the interview, I will again thank the participant. I will remind them that I will send a copy of a transcript compiled from my notes and audio recording within one week of the interview. This way, the participant can verify the accuracy of the data or make corrections, then send the corrected copy back to me via email within one week from the date of the email. This process is my first attempt to perform member checking to verify the accuracy of my notes from the views and perspectives of the participants derived from the interviews.

The second source of my data will be reviewing company documents that the small business leaders or the designated representative will share regarding performance, productivity, and total quality management strategies for sustaining their operations beyond the 5-year benchmark. I will perform an on-site review of company documents that the participants believe cannot be distributed outside the company. I will ask for copies and take them home for review with the non-sensitive documents. Before the on-site review, I will send an email explaining how I plan to use the information, safeguard the documents during the research, and handle the disposal of the documents once I have extracted the data (also contained in the informed consent form). I will also use additional information that I can find online. I will review my notes against the documents. I will also analyze the documents for accuracy, contradictory evidence, and consistency with the interview transcript and bring them to the participant's attention to verify for accuracy. I will complete the review of company documents with a report that I will send via email to the participants for their validation. This process is the second member checking that I will do. Yin (2018) claimed that documents are an excellent source to verify correct spellings and titles or names of people in the company mentioned in the interview, corroborate and supplement evidence from the data collected during the interview, and make inferences. Yin cautioned not to treat inferences as definitive findings as they could turn out to be false leads. As with contradictory evidence, clues from inferences might be worthy of further investigation, as Yin added.

Once my summaries are done, I will go back to my participants. Member checking is a technique to check preliminary findings and interpretations against data

collected from interviews and documents with the participants for validation to achieve maximum benefit for reliability and validity (G. E. Fusch, 2008; Lincoln & Guba, 1982). I will email the participants my revised summaries. Each participant will have another chance to review, make corrections or suggestions, or make additional comments. I will adopt member checking for the accuracy of the data gathered, enhance the quality of my study, and make my participants feel that they are important players in my study. It is worth noting that interviews and documents, as my two sources of evidence, have advantages and disadvantages (see Table 3).

**Table 3***Interviews and Documents: Advantages and Disadvantages*

Source of evidence	Advantage	Disadvantage
Interviews	<p>Focused: researcher can go directly to the topic of inquiry (Yin, 2018).</p> <p>Researchers can adapt the questions as necessary, clarify doubts, and ensure that responses are correctly understood by repeating or rephrasing the questions (Bougie &amp; Sekaran, 2020).</p> <p>Insightful: allows the respondent to provide explanations and personal views or perspectives (Yin, 2018).</p> <p>Researcher can read non-verbal cues (Bougie &amp; Sekaran, 2020).</p> <p>Rich data can be obtained (Bougie &amp; Sekaran, 2020).</p>	<p>Lack of standardization (Saunders et al., 2016).</p> <p>Response bias due to a false response (Saunders et al., 2016).</p> <p>Participant error due to (a) poorly articulated researcher's question (Yin, 2018), (b) wrong time of day (Saunders et al., 2016), and (c) poor recall (Yin, 2018).</p> <p>Researcher bias: researcher's subjective views or disposition in recording and interpreting the responses (Bougie &amp; Sekaran, 2020; Saunders et al., 2016).</p> <p>Researcher error: wrong interpretation due to the researcher being tired or unprepared, causing to misunderstand the subtle meanings of the interviewee's response (Saunders et al., 2016).</p> <p>Reflexivity as the interviewee's response is what the interviewer wants to hear (Yin, 2018).</p>
Documents	<p>Stable: can be reviewed repeatedly (Yin, 2018).</p> <p>Unobtrusive: not created by the study (Yin, 2018).</p> <p>Specific: provides accurate names, references, and details of an event (Yin, 2018).</p> <p>Broad: covers a long period of time, many events, and many settings (Yin, 2018).</p>	<p>Retrievability: locating can be hard (Yin, 2018).</p> <p>Biased selectivity, if the collection is incomplete (Yin, 2018).</p> <p>Reporting bias: reflects unknown bias of any given document's author (Yin, 2018).</p> <p>Access: maybe deliberately withheld (Yin, 2018).</p>

### **Data Organization Technique**

All the data gathered from my interviews and review of documents will be compiled in a case study database and securely stored, accessible only by me. Yin (2018) reminded case study researchers of the importance of creating a case study database representing all the evidence sources. Yin mentioned two distinct advantages of having a case study database, (a) allows a critical reader to inspect raw data that had led to the findings of the study, which is not co-mingled in the researcher's interpretations of data and (b) remarkably enhances the reliability of my entire case study. Baškarada (2014) advised that all items in my database should be categorized, indexed, and cross-referenced for easy access and retrieval for future use.

I will efficiently organize the data, access information, simplify data, extract themes, and code electronic databases. Electronic data will be stored in password-protected files on my computer. I will also have a backup copy that I will keep in a personal flash drive solely for the materials for my study. Hard copies, such as my notes, company documents, transcriptions, and the report of the findings, will be stored in secured locked boxes that are only accessible by me. After 5 years, all electronic files stored in my computer and flash drives will be deleted, while all hard copies will be destroyed through shredding.

### **Data Analysis**

This descriptive qualitative research will use the case study design to explore total quality management strategies small business leaders use to sustain their business beyond 5 years. A case study is a research method that examines an existing phenomenon within

its real-world setting using multiple sources of evidence (Bougie & Sekaran, 2020; Saunders et al., 2016; Yin, 2018). Triangulation is critical in a case study approach to ensure that the case study accurately renders the participant's perspective (Yin). Farquhar et al. (2020) claimed that triangulation had traditionally been considered to offer validity through a convergence of findings, sources, or methods and is a good practice for conducting case study research.

There are four types of triangulation (Bougie & Sekaran, 2020; Yin, 2018), namely, (a) methodological triangulation, an evaluation that uses multiple methods of data collection and analysis, (b) data triangulation, an approach that uses data collected from several sources or at different periods of time, (c) researcher or investigator triangulation, an approach involving multiple researchers collecting or analyzing data, and (d) theory triangulation, an evaluation using multiple theories or perspectives to interpret and explain the data. I will use two independent data collection methods within this research study: (a) one-on-one semi-structured interviews and (b) company documents; hence, I will adopt methodological triangulation. Using two or more independent sources of collection methods within a study ensures that the data are what they claim to be (Saunders et al., 2016). In a quantitative research study done by Dźwigoł & Dźwigoł-Barosz (2020) involving 401 representatives of management science theoreticians, the statistical conclusion showed that 66% or 265 respondents believed that methodological triangulation is an integral part of the research process, and 82% or 329 claimed that triangulation supports the research process.

Data analysis in qualitative research is the process of systematically collecting and analyzing vast amounts of data from interview transcripts, observation notes, or other non-textual materials by decreasing the volume of raw information, followed by identifying significant themes or patterns, and finally making inferences from the data and finally building a chain of evidence to gain an in-depth understanding of the phenomenon (Wong, 2008). Yin (2018) suggested that a logical and sequential data analysis process enhances a reliable and valid interpretation. Azungah (2018) argued that qualitative data analysis was complex, laborious, and time-consuming, drawing limited theoretical attention, and making the process frustrating, particularly to novice researchers, due to the lack of specific guidelines for analyzing qualitative data using particular methods. Azungah (2018) proceeded to conduct a study of eight western multinational enterprises subsidiaries in Ghana in the manufacturing, service, and extractive sectors involving managers and employees, employing semi-structured interviews using two interview guides to explore how managers and employees in these subsidiaries understood and interpreted transferred human resource management practices. His study demonstrated how analysis of raw data from interview transcripts and company documents could help researchers identify core themes that captured the phenomenon under study using thematic analysis that demonstrated rigor and transparency within qualitative research using deductive and inductive approaches to achieve rich interpretive data analysis. Saunders et al. (2016) described the thematic analysis as a technique used to analyze qualitative data sets that involve searching for themes or patterns occurring across a data set, such as interviews, documents, or

observations leading to rich descriptions, explanations, and theorizing. Given these reasons, for this study, the data analysis technique that I will use is thematic analysis.

Saunders et al. (2016) provided four procedures when conducting thematic analysis: (a) becoming familiar with the data, (b) coding the data, (c) searching for themes and recognizing relationships, and (d) testing propositions (Saunders et al., 2016).

The two sources of my data are interviews and company documents. Documents are regarded as important data sources for qualitative research that have been recorded without a researcher's intervention (Azungah, 2018). Company documents will consist of financial and non-financial data, such as quarterly and annual reports, meeting records/minutes, and other published company documents on the internet. In my in-depth interviews, they will be semi-structured one-on-one using open-ended questions. In-depth interviews using open-ended questions and follow-up probes allow the researcher to elicit an in-depth understanding of participants' experiences, perceptions, opinions, feelings, and knowledge of the topic under study (Rosenthal, 2016). I will focus and narrow my search to information related to total quality management strategies that the participants used that helped them sustain their business beyond 5 years. Yin (2018) noted that using multiple data sources increases the confidence of the findings. Becoming familiar with my data starts when I produce transcripts of the interviews and reports from my review of the company documents. I conducted member checking on the interview transcripts and the document reviews. Member checking is the most crucial technique for establishing credibility where the members of the stakeholding groups from whom the data were

initially collected validate the data, analytic categories, interpretations, and conclusions (Lincoln & Guba, 1982).

For this study, I will use NVivo 11 student version Computer Assisted Qualitative Data Analysis Software (CAQDAS) for coding and identifying themes. Researchers suggested that CAQDAS programs had gained popularity since the early 1980s when they first appeared (Seror, 2012). CAQDAS are computer programs offering a range of tools a researcher can use to facilitate coding and analyzing qualitative data (Saunders et al., 2016; Wong, 2008; Yin, 2018). As a user of the NVivo software, I still have to create the categories, code, decide what to collate, identify the patterns, synthesize and draw meaning from the data, and interpret the meanings extracted from the data. NVivo software offers the following features: (a) it is easy to use, (b) it makes organizing, reducing, and storing data more efficient and manageable, (c) it simplifies and accelerates thematic coding and categorization of data, and (d) it gives accuracy to the process of counting, sorting, and displaying of gathered data from the participants. For these reasons, I chose NVivo over other Computer Assisted Qualitative Data Analysis Software (CAQDAS) packages, such as ATLAS.ti, Dedoose, Leximancer, MAXQDA, NVivo, QDA Miner, Qualrus, and Transana (Saunders et al., 2016).

NVivo is a form of CAQDAS that can annotate and edit documents and perform code-based inquiry, searching, and theorizing (Dalkin et al., 2021), which realist researchers found challenging to use, yet valuable in qualitative research in advancing the robustness of qualitative studies (Bergin, 2011). Dalkin et al. (2021) proposed the use of NVivo software as it helps researchers in structuring the complex iteration of generating,

refining, and testing complex program theories when drawing on multiple data sources simultaneously; thus, effectively creating a structured track record of the analytical process, which increases the study's rigor and transparency. NVivo also supports uploading both primary and secondary data that can be used for coding, allowing literature to be considered data consistent with a realist approach, which integrates both literature and empirical data, added Dalkin et al. (2021).

I will import my interview transcripts and document reviews from MS Word and upload them in NVivo. I will perform an iterative process of reading and reviewing my interview transcripts and document reports to look for themes in the five small business leaders' total quality management strategies that sustained their business beyond 5 years. I will then develop codes for the themes, focusing on successfully implementing total quality management strategies using Deming's 14 points. I will also develop affective codes to capture and understand my participants' decision to adopt total quality management strategies for their business. I will use thematic analysis and NVivo to help identify themes related to the research question and categorize data to create meaningful themes. Codes are labels, such as a single word, a phrase, or an abbreviation given to units of texts which are later grouped and turned into categories (Bougie & Sekaran, 2020; Saunders et al., 2016). Coding is the process of categorizing data with similar meanings, which involves labeling each unit of data, such as several words, a line of a transcript, a sentence, several sentences, a paragraph, other chunks of textual data, or visual image within the document (Saunders et al.). I will classify the relevant data extracted from the company documents and the interview notes into current themes for

valuable data analysis and conclude by interpreting the findings to ensure the conclusions will be accurate. I will use thematic analysis to examine the themes to ensure they are linked to my conceptual framework. Thematic analysis is a technique used that helps to analyze data involving the search for themes or patterns across data sets, such as a series of interviews and company documents (Saunders et al.).

### **Reliability and Validity**

In qualitative research, the researcher probes the subjective and socially constructed meanings expressed about the phenomenon of interest by assessing the participant's meanings and relationships, employing different data collection techniques and analytical procedures to develop a conceptual framework and theoretical contribution (Saunders et al., 2016). Saunders et al. (2016) added that it is critical to demonstrate the methodological rigor and theoretical contribution notwithstanding the methods used. Validity and reliability are highly regarded standards for determining the quality and uniformity of qualitative research as they enhance transparency and reduce the possibility of bias in qualitative research (Leung, 2015). An evaluation of reliability and validity allows the researcher to appraise the methods used for data collection and describe the effectiveness of the theoretical relationships being explored (Mohajan, 2017).

#### **Reliability**

The determination of reliability in the research indicated that a study is precise, dependable, trustworthy, and consistent. Achievement of reliability indicated that there is no bias, and instruments and sources used for data collection are invariably unflinching and can be replicated (Bougie & Sekaran, 2020; Mohajan, 2017; Yin, 2018). Reliability

indicates the consistency of the study's measures that remain unchanged over time and across multiple factors in the instrument (Bougie & Sekaran, 2020). Thomas and Magilvy (2011) claimed that reliability demonstrates confidence in the findings of a research study.

Given the importance of reliability, I will use member checking to ensure that I achieve data saturation. G. E. Fusch (2008) claimed that member checking is a technique of sharing the interpretation with the participant for validation to maximize reliability and validity benefits. Lincoln and Guba (1982) advanced the concept of dependability for reliability as a qualitative measure to establish trustworthiness in the study. Member checking (Brear, 2019; Candela, 2019; Saunders et al., 2016), also known as a participant or member validation (Johnson, 1997; Saunders et al., 2016), is achieved by going back to the participants and presenting them a summary of the data obtained from the interview recording. Each participant will have the opportunity to validate the accuracy of the data or suggest changes.

Mohajan (2017) determined that a single observer can apply an objective approach to data collection methods to increase the reliability of the research. In qualitative research, dependability should be established. Shenton (2004) suggested that to establish the dependability issue more directly, the processes within the study should be reported in detail, thereby enabling future researchers interested in the phenomenon to repeat the work, if not necessarily to gain the same results. Lincoln and Guba (1982) emphasize a close relationship between credibility and dependability, arguing that credibility enhances dependability. I will utilize an interview protocol, conduct member

checking, and review the transcripts of my data to establish dependability. I will also employ data triangulation to heighten my knowledge and understanding of the phenomenon. Saunders et al. (2016) noted that triangulation, which involves two or more independent sources of data or data collection methods within the study, ensures that the data are what they claim they are.

### **Validity**

O'Malley et al. (2003) claimed that to demonstrate the validity evidence, both the reliability of the observation instrument and accurate reflections of the reality it was designed to measure must be evident. A researcher's establishment of validity is achieved when the measuring instrument measures the particular concept it intends to measure, thus ensuring that the right concept is measured (Bougie & Sekaran, 2020). Mohajan (2017) reiterated that validity in qualitative research is based on truthful, dependable, and trustworthy data collection and analysis procedures. Research validity is enhanced when a researcher is transparent with the methods used in data collection and interpretation (Saunders et al., 2016). Lincoln and Guba (1982) proposed the concepts of credibility, transferability, dependability, and confirmability as parallel criteria to address methodological trustworthiness and quality in naturalistic inquiry, whereas Mohajan (2017) recommended essential components of validity are credibility, conformability, and transferability. P. I. Fusch and Ness (2015) stated the correlation between data triangulation and data saturation is that data triangulation assures the establishment of data saturation. I will use data triangulation to reach data saturation. As triangulation continues to be used to claim a study's validity (Farquhar et al., 2020), a researcher can

triangulate data to ensure the validity of results to achieve data saturation (P. I. Fusch & Ness, 2015).

### ***Credibility***

In case studies with a small census sample, data saturation could be reached through member checking by obtaining in-depth information and enhancing academic rigor (G. E. Fusch, 2008). Madill and Sullivan (2018) claimed that member checking is often considered a gold standard of quality in qualitative research, while Motulsky (2021) claimed that member checking, also known as respondent or participant validation, is a powerful validity tool that has become a requirement for rigorous qualitative research. The scientific community and practitioners have popularly and consistently recommended member checking as the validity or a check for trustworthiness; threats to validity are not adequately addressed unless included in the research design (Motulsky, 2021).

The concept of credibility in qualitative research concerns the truthfulness or the plausibility of the research findings and conclusions reflecting the reality of the phenomenon under study as shared by the participants (Nassaji, 2020). Mohajan (2017) posited that a researcher enhances the credibility of the research by documenting participant selection, data collection, and data analysis measures. Lincoln and Guba (1982) proposed validating interpretations with participants via member checking to enhance the credibility of findings. P. I. Fusch and Ness (2015) stated that data triangulation aids with data saturation through data collection from multiple sources, thereby alleviating bias. Therefore, to ensure that my study meets the credibility criteria, I

will use member checking, data saturation, and data triangulation to establish the credibility of my findings.

### ***Confirmability***

Confirmability in qualitative research involves the researcher's display of objectivity. Confirmability in qualitative studies, which is a parallel concept to objectivity, entails how multiple people confirm the accuracy of the researcher's interpretation and conclusions of the study based on the participant's account of the phenomenon under study (Nassaji, 2020). Confirmability is also achieved by triangulating data. Data triangulation increases researcher objectivity as triangulation involves corroborating data from multiple perspectives providing verification and enhancing the researcher's understanding of the phenomenon of interest (Farquhar et al., 2020; Johnson, 1997; Nassaji, 2020; Stavros & Westberg, 2009; Yin, 2018). To ensure the validity and reliability of my study, I will address credibility and confirmability by incorporating an interview protocol, implementing member checking and transcript review with the participants to ensure my data does not distort the participant's perspectives, and triangulating my data.

### ***Transferability***

My study involves five individual cases using semi-structured interviews and reviewing company documents. Lincoln and Guba (1982) and Yin (2018) claimed that a case study researcher could obtain a richer data set and promote the transferability of the findings using multiple data sources. To make the transferability of the study possible, the researcher provides sufficient details, such as rich descriptions of the research

activities and assumptions (Nassaji, 2020). Rich data offer in-depth knowledge of the empirical world or the topic of inquiry (Charmaz, 1996).

In a study done by Stavros and Westberg (2009) involving six Australian companies using multiple methods of data collection and semi-structured interviews, they claimed that the documentation of their research activities and substantiation of findings enhanced the robustness and transferability of their study possible for other researchers who wish to do so. I will provide written or digital reports of the in-depth descriptions of the details associated with my data collection and analysis methods, interview protocol, and data saturation methods to allow readers and future researchers to determine additional times, places, circumstances, and people that will aid with determining the transferability of my findings.

### **Transition and Summary**

Section 2 includes descriptions and explanations of the purpose, the role of the researcher, participants, research method, research design, population sample, ethical considerations, and data analysis methods used to study small business leaders sustaining their business beyond five years of operation. Section 2 also covered how I would accomplish and strengthen the reliability and validity of the findings of my study. Section 3 will include an overview of the study and a presentation of findings from the analysis of collected data. Section 3 covers the discussion of the applications of my study to professional practice and its implications for social change. Moreover, Section 3 presents my study's findings, recommendations for action, further research, reflections, and conclusions.

### Section 3: Application to Professional Practice and Implications for Change

In this qualitative multiple case study, I explored small business leaders' total quality management strategies to sustain their business beyond 5 years. Half of the new businesses started by small business leaders will not survive their first 5 years of operation (SBA, 2020). My findings revealed eight critical success factors of total quality management, or Deming's 14 points, that helped the small business leaders enhance overall business performance, employee relations, customer expectations and relations, and strategic competitive advantage in the marketplace that sustained their business beyond 5 years. The eight critical success factors were (a) create constancy of purpose or toward the improvement of product and service, (b) cease dependence on mass inspection to improve quality, (c) improve constantly and forever the system of production and service, (d) institute training on the job, (e) institute leadership, (f) drive out fear, (g) eliminate numerical quotas, and (h) institute a vigorous program of education and retraining. This study showed several benefits of successfully implementing total quality management, or Deming's 14 points model, across different small business service industries to sustain business beyond the 5-year benchmark.

#### **Presentation of the Findings**

According to Kulenović et al. (2021) and Carmona-Márquez et al. (2016), implementing total quality management practices positively impacts company performance. Moreover, Toke and Kalpande (2020) claimed that a total quality management system allows organizations to consolidate all of their quality systems into a unified and single strategy leading to profitability and meeting regulatory compliance.

Given the critical role total quality management strategies play in company performance, the research question for the current study was the following: How do small business leaders sustain their business beyond 5 years using total quality management principles?

I collected data from the five participating small business leaders through semi-structured interviews using open-ended questions (see Appendix B) and company documents. The five small business leaders represented a cross-section of different small businesses within Central Valley, California, that had operated between 6 and 25 years with estimated annual sales revenues between \$200,000 and \$3 million (see Appendix D). To protect the identity of the participants, I assigned them the following pseudonyms: P1, P2, P3, P4, and P5.

Yin (2018) opposed using a single source of evidence when doing case study research. Yin stressed that the primary strength of case study data collection is using many sources of evidence to provide multiple measures of the same phenomenon. This technique of data collection using multiple sources of evidence is known as triangulation (Bougie & Sekaran, 2020; Ellis, 2021; Saunders et al., 2016; Yin, 2018).

In the current study, the company documents included financial statements, policy manuals, individual certificates of training, and certificates of personal licenses. The five participants described their unique experiences related to their businesses when asked using the eight open-ended interview questions. I used the company documents to substantiate the participant's claim regarding their implementation of Deming's 14 points. For example, if the participant said that they implemented Number 13 of Deming's 14 points, which is to institute a vigorous program of education and retraining,

I substantiated the participant's claim through the expense line item in their financial statements, such as magazine subscriptions to industry-specific journals or industry-specific conventions, workshops, and training. By collecting information from multiple sources, I pursued corroborating evidence through interviews and company documents. These procedures ensured the triangulation of my data. Triangulation involves collecting information from multiple sources that can corroborate the same finding, ensuring the study's reliability and validity (Yin, 2018).

I used NVivo software to code, analyze, and organize my data. I used the coding table based on the codes (see Appendix F) I created beforehand because I was interested in the information related to my conceptual framework: total quality management or Deming's 14 points. While interviewing and analyzing the documents for this study, I identified themes that revealed total quality management strategies under Deming's 14 points (see Appendix D). I used NVivo's Matrix Coding Query (see Appendix G). Matrix Coding Query is NVivo's powerful and flexible tool for finding patterns in data. This query helped me find emergent themes and contrasts in my participants' statements about the Deming 14 points model principles. The careful analysis of the emergent themes paralleled the Deming 14 points model principles. The participants revealed how these principles contributed to the profitability and sustainability of their business beyond the 5-year benchmark of operations (see Appendix D).

### **Theme 1: Institute Leadership**

P1 mentioned that he treated his employees like family, constantly monitored the changes in the industry, and conducted regular monthly meetings with his management

team to check the operational and financial aspects of the business. He stressed that communication is an essential skill for everyone to communicate problems immediately. He also took pride that his employees had worked with him for many years with low turnover. P2 stressed that he was very hands-on, that before the employees arrived for work, he had already gone over the day's jobs, and that he had already communicated with the customer any information that the customer needed to be aware of beforehand, such as potential issues related to the job, and that he had discussed the job with his employees before going out in the field. P3 stressed doing what was best for the customers and treating employees like family. P3 was also pleased with the 20% to 30% growth rate during the 6 years of operation, even achieving a 50% growth in one particular year. P4 believed in adopting a lean management style of leadership. P3 recalled that when COVID put his company in a very challenging situation, wondering if they would survive, he and his brother and co-owner went without a paycheck so that everyone else got theirs and to ensure that the business remained operational. P3 always worked hard to achieve the \$2 million annual revenue they had accomplished for several years. When I asked P5 about the number of employees he had in his company, he said, "three, including myself. I also consider myself an employee of the company."

Anil and Satish (2019), Aquilani et al. (2017), Kulenović et al. (2021), and Talib and Faisal (2020) articulated that leadership and top management commitment have shown a positive correlation with firm success. Formby et al. (2018) claimed that for years, the central concepts of quality management related to management leadership and workforce involvement have consistently shown a strong correlation with firm success.

Sonmezturk Bolatan and Karaman Akgul (2019) and Kumar and Sharma (2017) articulated that leadership and top management commitment are critical success factors for implementing total quality management initiatives.

### **Theme 2: Improve the System of Production, Service, and Communication**

All five participating small business leaders echoed their support for the Deming 14 points model in the interview transcripts and policy manuals. P1 emphasized that his company did a lot of improvement this year. P1 stressed that they have always been critical about how they do each year. P2 reiterated that they always went the extra mile and tried to educate their customers and perform many business aspects to stand out in the industry, “keeping a good pulse on the industry” by attending annual industry-specific conventions numerous times. P3 stated that they always looked for ways to improve customer service by being consistent and reliable in what they were doing. P4 referenced this theme 13 times and stated that he had differentiated himself from the competition by focusing more on service and quality. P5 emphasized that his business had always focused on customer loyalty and meeting or exceeding customer needs and expectations. Othman et al. (2020) and Purwojatmiko and Nurcahyo (2020) believed that continuous improvement was influential in the organization’s sustainability. The total quality management principle of continuous improvement of the products and services to satisfy customer needs could help the company achieve a competitive position (Mitreva et al., 2017). The continual improvement of the process enhances the quality of service to meet or exceed customer expectations (Nguyen & Nagase, 2019). All participants in the current study supported this theme as they believed in fostering open communication and

treating their employees like family. P1 stressed that he was always there for his employees to listen to them, maintained open communication, and treated them the way they deserved. P2 encouraged a very open environment, that it was acceptable to make mistakes and that he was not perfect. P3's employees could talk to him openly anytime and share their concerns. P4 prided that he had an excellent relationship with his employees. P5 emphasized that his employees were always welcome to talk to him and freely share their concerns.

### **Theme 3: Institute Education and Training**

P1 specified that they have a policy manual that every employee needs to follow and there was also continuing education requirement. P1's employees had to undergo a week of training on the job before starting, and the physical therapists came with their degrees and training. P1 added that all employees had to keep up with the changes in medical insurance, insurance claims, and government regulations. P2 noted that he and his workers were constantly learning that there were many complexities in their jobs, and they were continuously learning different and better methods. P2 stated that a lot of the training was primarily done on the job, sometimes running for several months. P3 conducted employee training online, as required by the head office or government entities. P4 emphasized that their products had so many variables and so many different things could change that they had to continue to relearn and retrain themselves. P4's employees were trained on the job because the products could come with different additions per customer specifications. P5 and his workers continuously took online training before renewing their licenses to meet government regulations. Georgiev and Ohtaki

(2020) identified education and training as one of the soft total quality management strategies that were a long-term approach to achieving quality improvement and business excellence. Sonmezturk Bolatan and Karaman Akgul (2019) noted that education and training are one of the total quality management critical success factors for effective strategic planning to enhance quality results and process management. Businesses with highly skilled workers and modern production processes that offer quality products will be competitive and profitable (Stepanov et al., 2017).

Kisel'áková et al. (2020) identified that the lack of a qualified or skilled workforce was a barrier to implementing total quality management principles for improving and managing the performance and competitiveness of the enterprise. Similarly, Kulenović et al. (2021) and Solomon Akpoviroro et al. (2019) noted that employee training is critical in implementing total quality management strategies to achieve financial performance. Investing in total quality management training for employees enhanced employee empowerment and increased job satisfaction because employees are critical in achieving productivity (Ahmed & Idris, 2020).

### **Other Relevant Findings**

The five participating small business leaders asserted that conducting business with honesty and integrity was essential to them. P1, P2, and P5 reported that they measured the effectiveness of their strategies through referrals from friends, customers, and other business organizations. P2 and P5 stressed that they also watched their customers' ratings on Yelp. Both P2 and P5 have consistently received 5-star ratings on Yelp. Only P1 reported the Deming 14 points model principle, breakdown barriers

between staff areas because P1 owned a larger organization with more than 50 employees. All five participants showed concern for their employees and customers. Still, as a business entity, they were not directly involved in the community by engaging in activities that addressed social issues.

### **Implications for Social Change**

Total quality management and corporate social responsibility are critical management strategies and frameworks that organizations employ to help achieve sustainable competitive advantage (Calvo-Mora et al., 2018). Total quality management's universal acceptance, regardless of geographic location, and its application's versatility (Toke & Kalpande, 2020), regardless of the type of organization, industry, and size (for-profit, nonprofit, manufacturing, service), make it possible for any organization committed to effecting positive social impact to engage in activities to bring about social change on issues such as poverty, high unemployment, and pressing social and environmental factors impacting their communities. The current study's findings showed that size was immaterial, confirmed by the more than 35,000 individual cases in my literature review.

Peršič et al.'s (2018) study of 136 participating Republic of Slovenian medium and large organizations with employees above 50 confirmed the positive impact of socially-responsible management on the organization's financial well-being: (a) higher profits, (b) business growth, (c) productivity, and (d) cost-efficiency in the production processes. Many organizations use the social responsibility approach to strategically align and use their company resources and core competencies to address the needs of the

community and society and the needs and expectations of their employees, customers, and business partners (Thorne McAlister & Ferrell, 2002). Small business leaders use company resources (financial) and share their core competencies (collective learning and skills within their business, e.g., leadership, employee training, customer service, and other quality management principles) to infuse a positive social contribution to the community.

Total quality management, or Deming's 14 points model, is employee-centric and customer-focused, encourages continuous improvement of products and services, and eliminates waste (Deming, 1982a; Walton, 1986). These descriptives align with the stakeholder approach offering four lenses that help define to whom the business is responsible: (a) responsibility to employees, which means creating jobs that work; (b) responsibility to customers, which means delivering value, honesty, and communication; (c) responsibility to investors, which relates to fair stewardship of money and full disclosure; and (d) responsibility to the community (M. Kelly & Williams, 2019). Total quality management is a management strategy used to achieve long-term success and sustainability by satisfying customer needs and expectations, respecting societal values and beliefs, obeying government regulations, and promoting employee participation (Peljhan & Marc, 2018). That means that business leaders must eliminate wastes of time, money, and other resources as they commit to continuous improvement through efficient business processes at every level of the organization. Furthermore, defective products are expensive and waste company resources that can be better used. Defective products require being scrapped, reworked, and returned to the supplier, inevitably resulting in

disgruntled or disappointed customers. In today's competitive global environment, with the possible evolution of quality management to the third generation, the self-assessment and performance evaluation of an organization must be viewed through the three pillars of sustainable development: (a) economy, (b) environment, and (c) social responsibility (Paraschivescu, 2020).

Therefore, every business leader's function is to serve and satisfy a social need while also serving the organization by engaging in social change and social innovation initiatives that directly or indirectly benefit the company to foster a new and better social community (Drucker, 1974). Drucker added that responsibility for social impacts is not only a management's responsibility but a business one. The successful implementation of total quality management principles enhances business performance, thus allowing the company to engage in programs that improve the quality of life, raise the standard of living, and promote goodwill. The community does not benefit from the mismanagement or misfortune of management to fulfill its mission. To do something out of social responsibility, no matter how noble the motive is, yet jeopardizes the company's well-being, is economically irrational, untenable, and irresponsible (Drucker, 1974). Finally, in Peter Drucker's words: "a bankrupt business is not a desirable employer and is unlikely to be a good neighbor in a community" (Drucker, 1974, p. 343).

### **Recommendations for Action**

Based on the findings of this study that will help small business leaders cross the 5-year benchmark using the Total Quality Management-Deming 14 Points Model, I propose two recommendations, namely: (a) for small business leaders to implement the

three strategies that the participants in this study implemented that resulted in improved profitability, achieving sustainability, and effectuating competitive advantage and (b) for small business leaders to incorporate social responsibility as part of their organization's culture.

### **First Recommendation: Implementation**

Institute leadership. Leadership aims to help people to do their jobs well. Leaders must know the work first-hand and find ways to continuously improve the quality of their products and services. Leadership within a small business is critical in effecting transformational change.

1. Improve the system of production and services. This strategy specifies that quality is a way of life for the business and begins at the design stage, not later, as it may be too late. Understanding the customer's needs and expectations is critical as the business continually improves the product or service.
2. Institute vigorous program of education and training. Education and training about the business, processes, products, and services must be ongoing for everybody.
3. Institute training on the job. Leaders or management must train the workers properly and not from other workers.

To successfully implement the above strategies, small business leaders must build the right organizational culture, which means there should be active involvement and commitment from the top, middle, and shop-floor employees, and ensure an appropriate

company structure. The organization must have various departments (Human Resources, Marketing, Accounting, Operations, and Information Technology) to execute the initiative and additional resources to support the initiative. Dahlgard et al. (2019) argued that the approach strengthens core values nourishing continuous improvement, teamwork, mutual trust, and collaboration, leading to total organizational participation.

### **Second Recommendation: Incorporate Social Responsibility**

The social responsibilities of business are not a new idea; in fact, this topic has been discussed for a century (Drucker, 1974). Social responsibility describes the obligation of a business to contribute to society to make the world a better place (M. Kelly & Williams, 2019). According to M. Kelly and Williams, the stakeholder approach, which offers four approaches, defines to whom the business is responsible, namely, (a) responsibility to employees, which means creating jobs that work, (b) responsibility to customers, which means to deliver value, honesty, and communication, (c) responsibility to investors, which relates to fair stewardship of money and full disclosure, and (d) responsibility to the community, which relates to contributing to society to raise the standard of living through corporate philanthropy through financial or in-kind contributions, such as employee time, or through corporate responsibility, which focuses on the actions of the business itself rather than a donation of time and money. Protecting the environment, social injustice, climate change, and poverty are ways business leaders can help social and economic problems.

As the findings of this study revealed, small business leaders' engagement in social impact initiatives accomplished the three-stakeholder approach but not the fourth

one, which was the responsibility to the community. Listed below are four strategic moves small business leaders could implement to positively impact their communities (Gavin, 2019), namely: (a) engage in and promote ethical business practices; this means that social responsibility is part of the culture, and they are committed to social responsibility, (b) form strategic partnerships with nonprofit organizations, (c) encourage employees to volunteer, and (d) inspire action with corporate platforms, like using social media and blogs as advocacy tools.

### **Recommendations for Further Research**

The participating small business leaders were from Central Valley, California, representing a cross-section of businesses. First, I recommend a research study on small businesses in a particular industry market segment that may provide richer market-driven data on the successful implementation of total management strategies that small business leaders in the specific market find relevant. Second, I recommend more research studies on successful small business leaders based on the conceptual framework of the Total Quality Management-Deming 14 Points Model. The literature review and seminal studies have shown a general approach to total quality management strategies without identifying the specific model used. This study discovered that most studies used the Deming 14 Points Model sparingly. Third, I recommend more studies on small business leaders' participation in social responsibility initiatives. Fourth, I recommend more research in other geographic areas, especially in America's inner cities and emerging economies worldwide, as this study only portrayed small business leaders in Central Valley, California. These recommendations will increase awareness of the positive impact of

total quality management strategies to help small business leaders achieve profitability and sustainability beyond five years and encourage them to engage in community activities to effect positive social change.

### **Reflections**

I chose the Walden University doctoral program in business over other schools in the United States because of the entrepreneurship offering. I also looked at the many prestigious accreditations Walden University has earned over several years. Then I looked at the profiles of the different instructors in their fields of specialization. The information was compelling and encouraging. The cost of the program was last in the criteria.

My doctoral journey has been enriching. I was blessed to have competent and caring instructors and committee members, welcoming cohorts, and a very supportive and competent chair. In my total quality management conceptual framework choice, I did not realize it was a broad and complex framework. However, that did not deter me from pursuing it. I learned so much about quality strategies. I enjoyed reading stacks of research studies and seminal books. The knowledge was priceless. I am glad I did what I did because the doctoral process was enriching and insightful, one that will be useful to small business leaders, who are dear and close to my heart, not only here in America but the emerging countries like the Philippines, which is my hometown.

I did not find it challenging to locate the five small business leader participants or find the time and place to have the one-on-one interviews. I was blessed to interview them and discover their minds and their hearts. They showed no reservations or qualms

about sharing their experiences, triumphs and failures, and financial blessings. They were all successful small business leaders, yet they were all very human. They were all very inspiring. Overall, my doctoral journey was an incredible and rewarding experience.

### **Conclusion**

Small business leaders have been the foundation and backbone of America's economy. Their contributions (Appendix H) have been mentioned in many writings, research studies, and books; they were remarkable, uncontested, and have stood the test of time. Without these unsung heroes in varying diversity, where would America be? The United States economy is the largest in the world in 2022, with \$22.93 trillion in GDP and gross domestic per capita of \$69,375 ("Top 10 largest economies," 2022). Furthermore, the United States has the most technologically robust economy globally, and its companies are technically at the forefront or close. Advances, particularly artificial intelligence, computers, pharmaceuticals, and medical, aerospace, and military equipment ("Top 10 largest economies," 2022). Our small business leaders are influential innovators registering about 16 times more patents per employee than their larger-firm counterparts (M. Kelly & Williams, 2019).

The realization of such a role justifies this study's findings to help small business leaders survive long term. Total Quality Management-Deming 14 Points Model was behind the remarkable economic recovery of Japan after World War II when the country was down to the ground, food was scarce, and rice was in short supply (Walton, 1986). Dr. Deming convinced the Japanese industries of the importance of quality as a competitive weapon and the commitment to using statistical methods critical in Japan's

expansion of its industry and economy (Montgomery, 2005). Dr. Deming recanted an occasion in 1947 when an American captain took him to a railroad where he witnessed about 30 homeless men sleeping on rice mats. He saw an older man and young boy no older than nine huddled around a charcoal burner with scarcely a flame, where the boy said to the captain that he had been in an institution, but the adults ate all the food, so he ran away. Dr. Deming wondered why some people had so many good things while others were sleeping on mats in rags, hungry, most of them dying of hunger (Walton, 1986).

In March of 1950, JUSE (Japanese Union of Scientists and Engineers) Managing Director Kenichi Koyanagi wrote a letter to Dr. Deming to deliver a lecture course to the Japanese research workers, plant managers, and engineers on quality control methods (Imai, 1986; Walton, 1986). The occasion was pivotal to Japan's economic recovery making Japan a formidable economic foe on the global stage flooding the international market with quality products (Imai, 1986). Dr. Deming was considered to be the "inspirational force for quality improvement in this country (Japan) and around the world," an active and much sought-after consultant and speaker (Montgomery, 2005). The Deming method is universal—it works anywhere (Walton, 1986); it is versatile (Toke & Kalpande, 2020). The findings of this study will be critical to the success of any business in the long term, small, medium, and large; for-profit or nonprofit; manufacturing or service industries. In closing, and this is for all of us, I would like to leave this powerful statement from Dr. Deming talking about poverty: "If Japan be an example, then it is possible that any country with enough people and with good

management, making products suited to their talents and to the market, need not be poor”

(Deming, 1982a, p. 6).

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## Appendix A: Cover Letter

Date

Dear \_\_\_\_\_:

My name is Nida Palmore, and I am a Doctor of Business Administration (DBA) candidate at Walden University. I am conducting a doctoral study project to explore strategies small business leaders use to sustain their business beyond 5 years.

Based on your experience of running your business successfully and crossing the 5-year benchmark, I would like to interview you to gather information about your strategies, perceptions, beliefs, or challenges about running a small business that has successfully operated beyond 5 years. The interview will require 60-90 minutes of your time and will be scheduled at your convenience between April 5, 2022, and June 15, 2022. I will conduct this in-person interview at a location that is most convenient for you. I am also inviting you to share with me any company documents and reports that you feel would provide additional information about how you survived the first 5 years of operation. I understand that providing any documents and reports on your part is entirely voluntary. If you do not wish to provide documents or reports, I am still asking that you participate in the study as an interviewee.

Your participation in my study will be instrumental in ensuring that I gather data from a varying list of small business leaders in Fresno County with the experience and success you have. If you decide to participate in my study, I will send you an informed consent form via e-mail for your review and signature. This informed consent form provides background information on the study and outlines your rights during the interview process. Please do not hesitate to contact me if you have any questions or require additional information.

I kindly request a response to this letter indicating your agreement to participate or your declination by April 15, 2022. Thank you in advance for your consideration and support of my study of a topic of economic significance, locally and nationally.

Sincerely,

Nida G. Palmore

## Appendix B: Interview Protocol

Interview Protocol—Script	
What to do	What to say
Introduce the interview and set the stage—often over a meal or coffee.	Thank you very much for this opportunity. My research is about succeeding and sustaining the business beyond the first 5 years of operation. All information will remain confidential. Your confidentiality will be protected. Your participation in this research is always voluntary, and you can withdraw at any time, refuse to participate in the research study, or stop participation at any time. Again, my name is Nida Palmore, and my phone number is 559-xxx-xxxx.
<i>Watch for non-verbal cues.</i>	1. What total quality management strategies were most helpful and effective that helped sustain your business beyond 5 years?
<i>Paraphrase as needed.</i>	2. What total quality management strategy have you used to measure quality?
<i>Ask follow-up probing questions to get more in-depth.</i>	3. What benchmarking strategy do you use to sustain your business beyond 5 years?
<i>Did I miss anything? Or what would you like to add?</i>	4. How do you judge the effectiveness of these total quality management strategies?
	5. How often do you evaluate the effectiveness of these total quality management strategies?
	6. What key challenges have you had in implementing these total quality management strategies?
	7. How did you address the key challenges when implementing these total quality management strategies?
	8. What else would you like to tell me about strategies to succeed and stay competitive and achieve success beyond 5 years of operation?
Wrap up interview thanking participant.	Thank you very much for this opportunity.
Schedule follow-up member checking interview.	Review the transcript with the participant.
Review and Schedule a Follow-up Member Checking Interview.	

## Appendix C: Profile of Participants

Participant identification	Type of business	Gender	Years in business	Number of employees or associates	Estimated annual sales revenue
P1	Physical therapy	Male	8	53	\$2.5 million to \$3 million
P2	Pumping company	Male	18	4	\$700,000 to \$1.1 million
P3	International air cargo and money remittance	Male	6	4	\$200,000 to \$250,000
P4	Sporting goods	Male	25	4	\$2 million
P5	Automotive service	Male	16	3	\$250,000 to \$350,000

## Appendix D: Response Rates of Participants to Deming's 14 Points

Deming's 14 points	Sample Size (n)	Number of participants that implemented (y)	Frequency of responses in transcripts	Participation rate (n/y)
1. Create constancy of purpose or toward the improvement of product and service.	6	P1, P2, P4	27	50 %
2. Adopt a new philosophy.	6	0	0	0
3. Cease dependence on mass inspection to improve quality.	6	P1, P2, P3, P5	5	67 %
4. End the practice of awarding business based on price tags alone.	6	0	0	0
5. Improve constantly and forever the system of production and service.	6	P1, P2, P3, P4, P5	54	100%
6. Institute training on the job.	6	P1, P2, P3, P4	7	67%
7. Institute leadership.	6	P1, P2, P3, P4, P5	58	100%
8. Drive out fear.	6	P1, P2, P3, P4, P5	7	100%
9. Break down barriers between staff areas.	6	P1	1	17%
10. Eliminate slogans, exhortations, and targets for the workforce.	6	0	0	0
11. Eliminate numerical quotas.	6	P1, P2, P3, P5	4	67%
12. Remove barriers to pride of workmanship.	6	0	0	0
13. Institute a vigorous program of education and retraining.	6	P1, P2, P4, P5	8	67%
14. Take action to accomplish the transformation. Transformation is everybody's job.	6	0	0	0

Source: Deming (1982a, pp. 23-24)

## Appendix E: Comparison of the Transformation Management Approaches and Results

Approach	Target	Method	Focus of activities	Leadership level driving change	Role of social support system	Result if successful
Total quality management <sup>a</sup>	Quality throughout the value stream	Cross-functional teams using statistical problem-solving	Statistical quality training; align metrics; team projects	CEO	Cross-functional teams	Large quality improvement
Six Sigma	Cost-reduction	Top-down structure with black belt projects	Black-belt training; variation reduction projects; results metrics	CEO	Mostly individualy based	Cost reduction and problem-solving skills (especially for black belts)
Lean	Waste-reduction	Top-down direction and projects at gemba.	Gemba projects to reduce lead time; teach TPS to manage from the floor	COO or V.P. manufacturing	Work-group	Local profound change and intensive local learning
Toyota Way <sup>b</sup>	Long-term mutual prosperity via QCDSM	Top-down leadership challenge, teaches, and develops culture.	Leaders as teachers; daily management; Kaizen; people value stream	CEO and entire management hierarchy	Servant leadership and work-group	Transformational business results (though few examples outside Toyota).

Source: Liker and Hoseus (2008).

Note: <sup>a</sup> Anchored on Dr. Deming's principles of management (Peljhan & Marc, 2018).

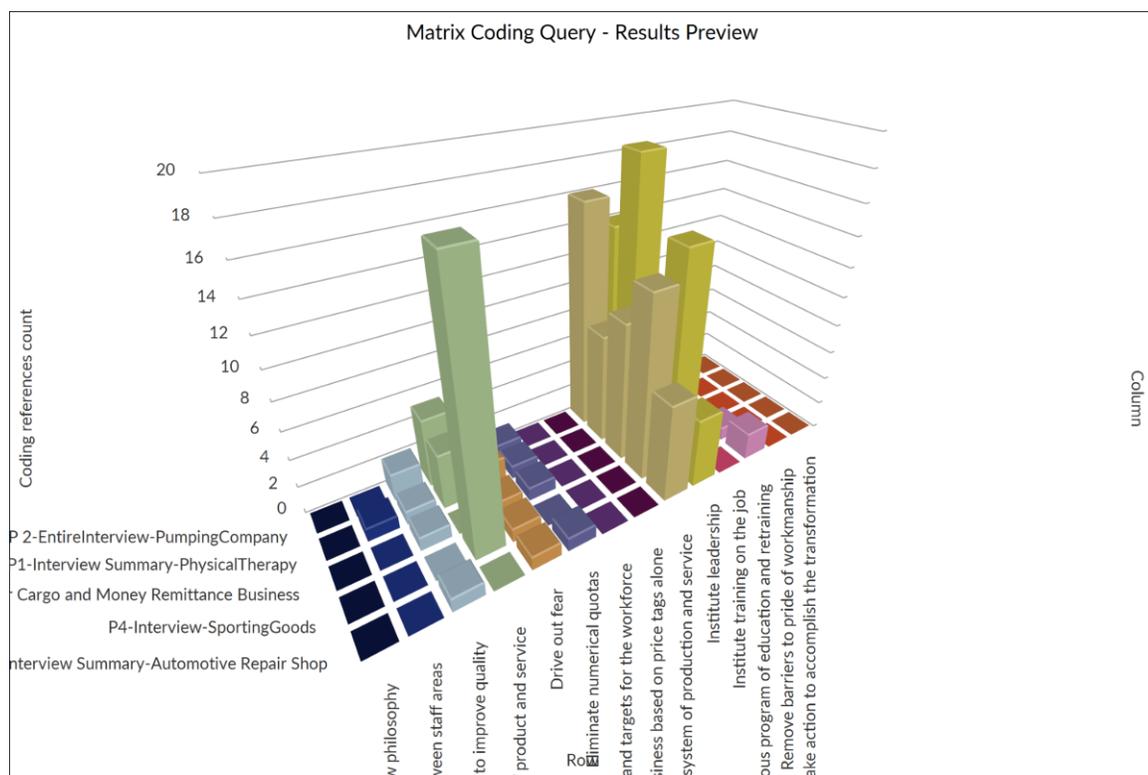
<sup>b</sup> Founded on the tenets of the quality methods of W. Edward Deming (Liker & Hoseus, 2008).

<sup>c</sup> Quality, cost, delivery, safety, and morale.

## Appendix F: Codes

Name	Files	References
Adopt a new philosophy	0	0
Break down barriers between staff areas	1	1
Cease dependence on mass inspection to improve quality	4	5
Create constancy of purpose or toward the improvement of product and service	3	27
Drive out fear	5	7
Eliminate numerical quotas	4	4
Eliminate slogans, exhortations, and targets for the workforce	0	0
End the practice of awarding business based on price tags alone	0	0
Improve constantly and forever the system of production and service	5	54
Institute leadership	5	58
Institute training on the job	4	7
Institute vigorous program of education and retraining	4	8
Remove barriers to pride of workmanship	0	0
Take action to accomplish the transformation	0	0

### Appendix G: Matrix Coding Query



## Appendix H: Tangible Contributions From the Small Businesses

According to the U.S. Small Business Administration, 31.7 million small businesses in the U.S. have consistently contributed over 40% of new jobs in the U.S. economy over the past two decades. From 2000 to 2019, they created 10.5 million net jobs, accounting for 65.1% of net new jobs since 2000, while large businesses created 5.6 million new jobs. They constitute 99.9% of all businesses in the United States and account for 48% (61 million) of all private-sector employees. Small businesses comprise 97.5% of exporters (285,334) with a known export value of \$473 billion or 32%. They are considered the backbone of urban economies serving as an impetus as they help vitalize inner cities. Inner-city business establishments comprise 99% of small businesses, generating 80% of the total employment in the U.S. inner cities. They are the engine of a nation's economy, fostering entrepreneurial spirit, bolstering innovation, and creating jobs. Small businesses provided the economic foundation on which the U.S. economy was built. Small business leaders are tireless champions of entrepreneurship, destroying the existing economic order by reorganizing or revolutionizing the production system and introducing new products and services, creating new forms of organization, exploiting or opening a new source of supply of raw materials, or redirecting resources from activities that are producing low or diminishing returns and allocating them to more profitable ventures.

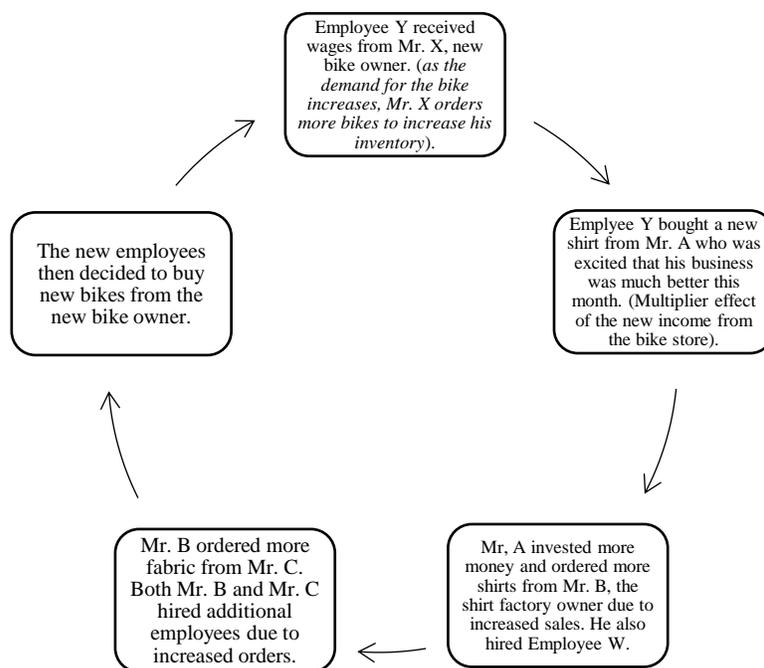
The growth of the U.S. economy is measured by two macroeconomic phenomena:

a) growth in the GDP, which represents the aggregated market value of all final goods and services produced in the economy during one year, and (b) jobs or employment. A

Yale professor and economist who analyzed the empirical relationship between unemployment and economic growth, Arthur Okun, with which the findings later became a solid theory on unemployment rate dependency on output in 1962, named “Okun’s law.” Prof. Okun discovered that economic growth, measured by GDP or output growth, affects the unemployment level. According to Okun’s law, economic growth typically slows down with rising unemployment. When high unemployment occurs, jobs are scarce, and wages and benefits decrease because of an over-supply of applicants in the economy.

The two economic concepts, (a) income multiplier and (b) acceleration principle, give us a complete picture of the effect of the interplay between unemployment and economic growth. Let us assume that we have a high unemployment rate and are in a macro-equilibrium economy characterized by an economy that is not expanding or contracting. However, we have a new business owned by Mr. X that sells bikes in the neighborhood. Mr. X hired Employee Y as an assistant for his new bike store. Let us see what happens, as illustrated in the diagram below—

## Income Multiplier and Acceleration Principle on Unemployment and Economic Growth



As sales increased, inventories increased, caused by the acceleration principle.<sup>1</sup>

An increase in consumer income triggers an increase in consumer spending. The increased consumer spending started from Employee Y. Some of the increased spending went to Mr. A, some to Employee W. Some went to Mr. C, and some to Mr. C's employees. Some went to the bank to pay the interest on the loans. The banks kept some, and some went to pay the bank employees. Some went to the owner of the building, some to the telephone company, to other suppliers and employees. On and on it goes. The re-spending cycle created the multiplier effect.

Moreover, to ensure the social and economic health of the country, there must be a tax base to provide for the public interest. Taxes paid by individuals comprise a significant portion of taxes. The U.S. government collects an estimated \$1.4 trillion in individual income taxes annually.