2018

Strategies for Pharmacy Managers to Increase Profit by Reducing Prescription Errors

Alphonsus I. Nwambie
Walden University

Walden University

College of Management and Technology

This is to certify that the doctoral study by

Alphonsus Nwambie

has been found to be complete and satisfactory in all respects,

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Review Committee

Dr. Ronald Jones, Committee Chairperson, Doctor of Business Administration Faculty

Dr. Deborah Nattress, Committee Member, Doctor of Business Administration Faculty

Dr. Judith Blando, University Reviewer, Doctor of Business Administration

Chief Academic Officer

Eric Riedel, Ph.D.

Walden University

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Abstract

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Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Business Administration

Walden University

February 2018

Abstract

The costs attributed to prescription errors negatively affect the profits of retail pharmacy businesses. The U.S. prescription error rate since 2010 was 0.1%, yet with more than 3.5 billion prescriptions filled annually in the United States, the outcome is more than 3.5 million prescription-dispensing errors and an annual cost of more than $16 billion. Using the performance prism theory, the purpose of this multiple case study was to explore strategies retail pharmacy managers used to increase profit by reducing prescription errors. Using purposeful sampling, 5 retail pharmacy managers in Miami, Florida, were selected as participants because they had implemented strategies to reduce prescription errors. Data were collected using semistructured, face-to-face interviews with 5 pharmacy managers, and company records consisting of quality improvement incident reports, income statements, and balance sheets. Data analysis occurred using methodological triangulation and following Yin's 5-step process of compiling, disassembling, reassembling, interpreting, and concluding the data. The 3 emergent themes were prescription error reducing strategy, profitability improvement strategy through reduced prescription errors, and technology strategy for reducing prescription error. The findings indicated that prescription error reducing strategies are essential for pharmacy managers to increase profits. The implications for positive social change include the potential for retail pharmacy managers to reduce the cost of health care in their communities, prevent prescription error-related hospitalizations and deaths, and improve employment conditions and economic activity in their communities.

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Dedication

I dedicate this doctoral study to God for granting me the wisdom, health, focus, and ability to go through this challenging but interesting process. I also dedicate this work to my lovely wife, Hopelinda Nwambie, who provided me with immense homely support, matchless patience and understanding, and several reassurances when I needed them. I further dedicate this research to my daughter, Adaeze, and my two sons, David and Victor, for their patience in allowing me to stay put in my study room for several hours at the expense of enjoying more of my company. Finally, I would be remiss in my duties if I did not also dedicate this study to my late dad, Eugene Nwambie, who foundationally steeped my focus on the benefits of good education, and my late mum, Roseline Nkiruka Nwambie who never got tired of reassuring me of my abilities.

Acknowledgments

I give thanks and glory to God, whose mercy, grace, and steadfastness made this accomplishment possible. I acknowledge and thank my committee chair, Dr. Ronald Jones, for his immeasurable input, critical mentoring interventions, guidance, and support in the course of undertaking the challenging journey of earning a doctor of business administration degree in leadership. I acknowledge and thank my second committee member, Dr. Deborah Nattress, and university research reviewer, Dr. Judith Blando, for their wisdom, helpful feedback, and great insights that assisted me in this study. Finally, I acknowledge Dr. Susan Davis, the program director, and Drs. Freda Turner and Fred Walker for their encouraging remarks during the two residency programs that I attended.

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Section 1: Foundation of the Study

Business leaders in the retail pharmaceutical sector have a responsibility to establish business models and strategies that effectively position their business organizations with a competitive advantage. One of the areas of focus in which business leaders have striven to excel is in the area of meeting and exceeding customer expectations through the delivery of quality service (Castaldo et al., 2016). Castaldo et al (2016) noted that customers who visit retail pharmacies expect to receive the correct medication. A critical aspect of improving the delivery of quality prescription services is ensuring that customers receive the right medication by reducing prescription errors (Agency for Healthcare Research, 2015). Despite the current efforts of business leaders in the retail pharmaceutical sector aimed at preventing prescription errors, the rate of avoidable prescription errors in the United States is still high at more than 3.5 million errors annually from 2010-2014 (Odukoya, Stone, & Chui, 2014; Schroeder et al., 2016). Retail pharmacy managers can apply the findings of this study to reduce the incidence of prescription errors in their pharmacies.

Background of the Problem

The number of prescription errors in the United States from 2010-2014 was more than 3.5 million annually (Odukoya et al., 2014; Schroeder et al., 2016). James et al. (2014) noted that the annual cost of avoidable medical and prescription errors, excluding the cost of human life, was $17-29 billion from 2009-2013 in the United States. Considering the high cost of avoidable medical and prescription errors, business leaders

in the retail pharmacy sector are constantly seeking to adopt strategies with demonstrated success to reduce prescription errors.

Several scholars have called for more research on issues related to prescription errors and strategies for reducing such errors. Odukoya et al. (2014) noted the need for additional research regarding strategies for reducing prescription errors because of the rise of prescriptions that are electronically transmitted from doctors' offices to pharmacies. To gain additional insight, Schroeder et al. (2016) recommended research regarding the negative impact of prescription errors caused by sound alike, look alike drugs and strategies for reducing those errors. O'Donnell and Vogenberg (2014) reported that indemnity payments by retail pharmaceutical companies because of prescription errors had increased from 2007. To further understand the cost implications of prescription errors, O'Donnell and Vogenberg recommended additional research on the negative impact of prescription errors on the profitability of retail pharmacy businesses. The goal of this research was to create more effective solutions and strategies that may help retail pharmacy business leaders to increase organizational profitability by reducing negative outcomes. Such outcomes include increasing indemnity payments, increasing cost of litigation, reduced brand loyalty, and an increased regulatory oversight from regulatory bodies (O'Donnell & Vogenberg, 2014). Pharmacy managers can gain additional insight concerning how to increase profit in their pharmacies through the reduction of prescription errors.

Problem Statement

Pharmacy employees dispensing the wrong medication to consumers expose the pharmacy business to significant legal and regulatory risk and cause reduced profitability (O'Donnell & Vogenberg, 2014; Odukoya et al., 2014). The global mean error rate regarding dispensing prescription orders ranges from 2.3% because of drug-name confusion to 26.3% because of the inability to recognize the drug name (Schroeder et al., 2016). The U.S. prescription error rate from 2010-2014 was 0.1% (Schroeder et al., 2016), yet with over 3.5 billion prescriptions filled annually in the United States (Odukoya et al., 2014), the result is more than 3.5 million prescription-dispensing errors from 2010-2014 and an annual cost of more than $16 billion (James et al., 2014; Odukoya et al., 2014). The general business problem was increasing cost of prescription errors reduce the profit margin of retail pharmacy businesses. The specific business problem was some retail pharmacy managers lack strategies to increase pharmacy profits through the reduced prescription errors of pharmacy employees.

Purpose Statement

The purpose of this qualitative multiple case study was to explore strategies some retail pharmacy managers used to increase pharmacy profits by reducing prescription errors among pharmacy employees. The targeted population was managers of five retail pharmacies in Miami, Florida, who doubled as pharmacy owners and who had successfully implemented strategies to increase pharmacy profits through the reduced prescription errors of pharmacy employees. I used the Florida Board of Pharmacy

continuous quality improvement (CQI) incident reporting system to identify pharmacy managers who had implemented strategies to reduce prescription errors. Customers may experience reduced injuries, sicknesses, hospitalizations, and even deaths from wrong medications. They also have an increased potential to become more socially relevant, participate in more community projects, have a more positive orientation to members of the community, and live better lives because of lower health related costs and improved health (Pervanas, Revell, & Alotaibi, 2015). By using study findings, retail pharmacy managers may be able to reduce the cost of health care in their communities, prevent prescription error-related hospitalizations and deaths, and improve employment conditions and economic activity in their communities.

Nature of the Study

The three research methods are qualitative, quantitative, and mixed method (Yin, 2014). Qualitative researchers gather data by conducting interviews using open-ended questions and access documents to explore concepts, issues, and phenomena (Dornan & Kelly, 2016). I used qualitative methods because I collected data through face-to-face interviews in addition to reviewing company documents and records. Quantitative researchers who conduct survey research use closed-ended questions to collect numeric data to either reject or fail to reject tested hypotheses (McCarthy, Whittaker, Boyle, & Eyal, 2017). Mixed method researchers use a combination of quantitative and qualitative methods to collect data. I did not test hypotheses; therefore, quantitative and mixed method approaches were not appropriate for my study.

I considered four designs: (a) phenomenology, (b) ethnography, (c) narrative inquiry, and (d) case study. Phenomenological researchers study a phenomenon by exploring the meanings of individuals' (or, groups of individuals') lived experiences (Bliss, 2016). I did not choose a phenomenological design because I did not collect data regarding the lived experiences of participants. Ethnographers base their research on the study of a specific cultural phenomenon (Baskerville & Myers, 2015). I did not choose an ethnographic design because I did not focus on a particular cultural phenomenon. Narrative inquiry researchers focus on the life stories of participants (Barkhuizen, 2014a). I did not choose a narrative inquiry design because I did not focus on the life stories of participants. Researchers use a multiple case study design approach to obtain data from multiple case units to achieve a deeper exploration of complex phenomena (Battistella, De Toni, De Zan, & Pessot, 2017). The multiple case study design was the appropriate choice for my research because I collected data from multiple pharmacies to explore the complex phenomenon of prescription error.

Research Question

What strategies do some retail pharmacy managers use to increase profit through the reduced prescription errors of pharmacy employees?

Interview Questions

1. What strategies did you use to increase profit through the reduction of prescription errors?

2. What strategies regarding quality assurance did you implement to verify the accuracy of prescription dispensing by pharmacy employees?
3. What strategies worked best to increase profit through the reduction of prescription errors?
4. What strategies were least effective regarding increasing profitability through reduced prescription dispensing errors?
5. How did you know which strategies were most effective?
6. How, if at all, did pharmacy employee training and development complement or affect the strategies you used to increase profit through reduced prescription errors?
7. How did the employees react to the strategies you implemented?
8. What role, if any, did your pharmacy employee recruitment, assessment, and hiring practices play to implement your strategies?
9. What, if any, strategies did you use to rectify a prescription dispensing error?
10. What additional information regarding the strategies for increasing profit through the reduction of prescription errors would you want to add?

Conceptual Framework

The performance prism theory, originated by Neely, Adams, and Crowe (2001), was the conceptual framework for the study. The tenets of the theory are (a) stakeholder satisfaction, (b) satisfaction strategies, (c) processes, (d) capabilities, and (e) stakeholder contributions (Neely et al., 2001). According to Neely et al., the unique difference between performance prism theory and other performance measuring frameworks is that

performance prism theory begins with a focus on the needs and wants of the stakeholders of an organization instead of the shareholders alone. Effective exploration of existing strategies requires an understanding of the stakeholders, satisfaction levels, embedded processes, and organizational capabilities (Neely et al., 2001). Performance prism theory served as an effective lens for exploring the strategies some retail pharmacy managers used to reduce prescription errors and increase profitability.

Operational Definitions

Drug utilization review: Drug utilization review is a provision in the U.S. Omnibus Budget Reconciliation Act 1990 (OBRA '90) that placed a legal requirement on pharmacists to evaluate a doctor's prescription order to ensure the correctness, appropriateness, and medical necessity of the prescribed drug for the purpose of preventing adverse drug events (Warholak, Rupp, Leal, Kurniawan, & Patel, 2014).

Electronic prescription: An electronic prescription is a prescription that an employee in a doctor's office transmits directly to the pharmacy of choice of the customer (Dhavle & Rupp, 2014).

Indemnity payments: Prescription indemnity premium is either a monthly or an annual payment a pharmacy leader or manager pays to an insurance company in lieu of possible prescription errors (O'Donnell & Vogenberg, 2014).

HIPPA violations: HIPPA violations are violations that occur when the personal health information of a customer is either compromised or exposed to another person either mistakenly or intentionally (Mendelson & Mendelson, 2017).

Pharmacy employees: Pharmacy employees are employees such as pharmacy managers, staff pharmacists, pharmacy interns, pharmacy technicians, and pharmacy clerks (Batra, Aquilino, & Farris, 2015).

Prescription errors: Prescription errors are errors that occur when a prescription is either wrongly written, transcribed, filled, or dispensed (Odukoya et al., 2014).

Prescription verification process: Prescription verification process is the final process in the prescription making process where the pharmacist checks, approves, and bags the medication (Gorbachet al., 2015).

Retail pharmacy: Retail pharmacy is the aspect of pharmacy practice that deals directly with end-users such as customers and patients (Odukoya et al., 2014).

Sound-alike, look-alike drugs (SALA drugs): Sound alike, look alike drugs are two or more medications that look alike in appearance, with similar sounding names (Ciociano & Bagnasco, 2014).

Assumptions, Limitations, and Delimitations

Assumptions

Assumptions are ideas that researchers accept to be true despite the absence of verifiable proof (Gardner, 2014). In this study, I assumed that the retail pharmacy managers who I interviewed provided honest and accurate answers to all questions and possessed the needed knowledge to provide relevant information regarding the strategies pharmacy managers use to increase profitability through the reduction of prescription errors. In addition, I assumed that the company records and documents on prescription

errors were accurate and complete. The basis for this assumption was that the participants answered questions and provided company documents willingly without coercion.

Limitations

Limitations are potential weaknesses within a research study which are outside the control of the researcher (Yin, 2014). A limitation of this qualitative study was that the accuracy and reliability of the interview data I collected depended on the subjective experiences and opinions of managers in five retail pharmaceutical stores. Participants' views may not typify the views of the larger population of community pharmacy leaders. The condensed time span that I spent to conduct the study was another limitation. Another limitation was that the potential transferability of my findings to other leaders and organizations may be restrictive because of the limited scope of the study. My dependence on the integrity of participants and the accuracy of their supporting documents was a limitation.

Delimitations

Delimitations are factors that a researcher uses to set the scope and boundaries of a research study (Marshall & Rossman, 2016). Many researchers set delimitations for the purpose of narrowing the responses of participants to their research questions. The geographic region of Miami, Florida, was a delimitation as was the sample population limitation of 5 leaders in the retail pharmaceutical industry. The participant inclusion criteria of leaders or managers who had successfully implemented strategies to increase profitability through the reduction of prescription errors limited the scope of this study. I

did not address other issues that might affect professionals in other industries because I focused on retail pharmacy managers who worked in community pharmacies in the Miami area of Florida.

Significance of the Study

The value of this study is that business leaders in the retail pharmacy business can have an increased potential to gain a competitive advantage over their competitors. Business leaders in the pharmaceutical sector may gain access to current and relevant strategies required to improve the performance of pharmacy employees to reduce prescription errors and increase organizational profit. Business leaders may also understand how to apply the strategies that had enabled other leaders to increase organizational profitability through reduced prescription errors.

Contribution to Business Practices

Retail pharmacy managers may acquire newer and tested strategies for increasing profitability through positive customer experiences. Sabater-Galindo et al. (2017) noted that community pharmacists increase profitability by exceeding customer expectations for quality products and services. Retail pharmacy managers can acquire the appropriate strategies to exceed customer expectations, increase profitability, and train employees to reduce prescription errors and the resultant costs of prescription errors. The findings from this study can be beneficial to other pharmacy practice settings such as the hospital pharmacy practice setting.

Implications for Social Change

The implications for social change are that customers have the potential to experience reduced injuries, faster recovery times when sick, fewer hospitalizations, and even reduced deaths from wrong drugs. Pervanas, Revell, and Alotaibi (2015) noted that reducing prescription errors lowers the cost of healthcare and improves patient safety. Customers who experience faster recovery times from their ailments because of the intake of accurate prescriptions may create more time to participate in more community projects, have a more positive orientation to members of the community, and live better lives because of lower health related costs and improved health.

A Review of the Professional and Academic Literature

The objective of this qualitative multiple case study was to explore the business strategies some retail pharmacy managers used to increase profitability by reducing the prescription errors of pharmacy employees. I used a multiple case study design with the hope that I will be able to use study findings to offer new and practical insights, strategies, and approaches from the perspectives of retail pharmacy managers concerning how these managers can develop and apply strategies for increasing organizational profit. The professional and academic literatures were relevant in establishing the foundation for this study. I used 135 sources for the entire study. Out of the total number of sources, 61 sources were used in this literature review. The breakdown of the 135 sources used in the entire study were 123 peer-reviewed journals, four dissertations, four books, three government sources, and one non peer-reviewed journal (see Appendix A). More than

85% of the total sources were from peer-reviewed journals that were published less than 5 years from 2018, which is my anticipated year of graduation.

I collected peer reviewed scholarly articles using the following databases, which I accessed through Walden University Library: Google Scholar, EBSCOhost, Emerald Management, SAGE Premier, Business Source Complete, and ProQuest. I used the following keywords to search the different databases for relevant journal articles: *prescription errors*, *pharmacy managers*, *performance prism theory*, *pharmacy, medication errors*, *pharmacy and errors, pharmacy and litigation*, *profitability,* and *retail pharmacy.* I used the Ulrich's Periodical Directory website to ascertain the peer-reviewed status of each of the journals. The literature review is organized by theme and is divided into the following five sections: performance prism theory and supporting and contradictory theories, relevance of the literature, prescription errors, pharmacy managers and pharmacy practice, and pharmacy practice-based research.

Performance Prism Theory

Performance prism theory was the conceptual framework for this study. Neely et al. (2002) developed the performance prism as a second-generation measurement framework that business leaders can use to display the true complexities of performance measurements in business organizations. Edgeman, Eskildsen, and Neely (2015) agreed with Neely et al. on the observation that business leaders can use the performance prism to assess, evaluate, and improve both the tangible and the intangible aspects of organizational performance. Kaplan and Norton (1993) supported the idea that business

leaders gain more insight in the performances of their businesses if the performance metrics reflect both tangible and financial measures as well as intangible or nonfinancial measures. Neeley et al. noted that the foundation of organizational success and advancement rests on the expectations of the stakeholders.

Stakeholders are those individuals or group of individuals who have interests in the business organization (Edgeman et al., 2015). Stakeholders may consist of, but are not limited to, business owners, investors, customers, suppliers, employees, regulators, communities, and lobbyists (Edgeman et al., 2015). Although Kaplan and Norton (1993) argued that the customer and shareholder components of stakeholders were the most relevant to a business metric, Neely et al. (2002) acknowledged that business leaders must focus on all stakeholders. A relationship of mutual expectation exists between the organization and the stakeholders (Edgeman et al., 2015). That is, the organization expects something from the stakeholders, and the stakeholders also expect something from the organization. The performance prism framework has the following five facets or constructs: (a) stakeholder satisfaction, (b) stakeholder contribution, (c) strategies, (d) processes, and (e) capabilities (Neely et al., 2002).

Stakeholder satisfaction. Business leaders use the stakeholder satisfaction facet or construct to identify the stakeholders in a business organization and what they need or want from the business organization. Neely et al. (2002) noted that business leaders aspire to answer the question of who the stakeholders in their business organizations are and what the needs and wants of those stakeholders are. Edgeman et al. (2015) identified

stakeholders as those individuals or groups of people who have interests in the organization. Both Edgeman et al. and Neely et al. agreed that stakeholders include but are not limited to the business owners, investors, suppliers, customers, employers, and regulatory agencies relevant to the business. Neely et al. argued that the performance prism has a wide span of stakeholders when compared to other competing performance measures such as the balanced scorecard. The balanced scorecard only has a stakeholder facet that consists of business owners or shareholders and the customers (Kaplan & Norton, 1993). Abramson (2015) and Aburuz (2015) identified the stakeholders of a retail pharmacy business as including business owners, customers, employees, suppliers, regulatory agencies (e.g., the state pharmacy board and the Drug Enforcement Administration, and the local community.

I believe that applying the performance prism framework to answer the study's research question will show that the customer stakeholders of retail pharmacy stores want and need value-based services that include receiving the correct prescription on every visit to the pharmacy. As Castaldo et al. (2016) noted that pharmacy customers who experience prescription error(s) on their visits to the pharmacy may transfer their prescriptions and customer loyalties to competing pharmacy stores. Negative customer experiences adversely impact brand loyalty and the expected customer-stakeholder contributions to a pharmacy business (Castaldo et al., 2016). Pharmacy leaders and managers expect a reciprocal contribution from their customer stakeholders.

Stakeholder contribution. The stakeholder contribution facet of the performance prism theory identifies the need for business owners to exercise a reciprocal expectation from the stakeholders (Edgeman et al., 2015). The ability of business owners to expect contributions such as financial compensation, brand loyalty, and remuneration from their customer stakeholders is a critical unique feature of the performance prism when compared to other frameworks such as the balanced scorecard and the sustainability balanced scorecard (Mishra, 2016; Neely et al., 2002). Mishra (2016) agreed with Edgemann et al. (2015) and Neely et al. (2002) on the idea that business leaders can use the performance prism theory to identify who their main stakeholders are and what they expect from those stakeholders. In a retail pharmacy, the business owners expect to receive customer patronage, financial compensation, customer loyalty, brand loyalty, and continuous patronage while the customer stakeholders expect to receive value-based services such as correct and accurate prescription from the pharmacy owners (Mishra, 2016; Neely et al., 2002). Edgeman et al. and Neely et al. agreed that researchers use the performance prism as a framework or thinking guide to envision the different facets of their businesses as they design specific metrics to measure those expectations.

Strategies. The strategy facet or construct of the theory has to do with the specific policies, plans, and procedures needed by the leaders of an organization to fulfill the needs and wants of their stakeholders (Mishra, 2016). The strategy construct is another unique feature of the performance prism when compared to the other measuring frameworks such the balanced scorecard (Kaplan & Norton, 1993; Neely et al., 2002). As

noted by Edgemann et al. (2015), the strategy construct is used by business leaders to answer questions such as, what are the best strategies to use in satisfying the needs and wants of the stakeholders? Kaplan and Norton (1993) noted that in the balanced scorecard theory, business leaders derived strategies from measures or metrics contrary to the performance prism theory where, leaders derive strategies after the leaders determined the needs and wants of the stakeholders of the business organization (Neely et al., 2002). Neely et al. (2002), Mishra (2016) and Edgeman et al. agreed that identifying who the stakeholders of a business organization were and what their needs and wants were must be the starting point for an effective organizational strategy. Pharmacy managers must adopt strategies that would enable the pharmacy employees to fill and dispense the correct medication to the correct customers without prescription errors on every visit to the pharmacy.

Processes. The processes facet of the performance prism theory is the set of activities and practices needed to implement the specific strategies required to satisfy stakeholder expectations (Edgeman et al., 2015). Business leaders attempt to answer the question of the type of business processes they should implement to execute the most effective strategies (Mishra, 2016; Neely et al., 2002). The prescription filling process in a retail pharmacy business occurs through a series of processes that involve a chain of workstations. A retail pharmacy manager aspires to ensure that the prescription filling process is equipped with the following: the strategies for avoiding prescription errors, the strategies that would enable the pharmacy employees to follow through on the processes

of reducing prescription errors, and the relevant tools needed to prevent prescription errors (Abramson, 2015; Aburuz, 2015). Pharmacy managers may decide to either introduce new workstations or modify the existing workstations for the purpose of reducing prescription errors.

Capabilities. Capabilities are the combinations of people, practices, strategies, technologies, competencies, abilities, and proficiencies needed to drive the established processes that will satisfy the needs and wants of the stakeholders (Neely et al., 2002). Mishra (2016) and Edgeman et al. (2015) noted that the key question business leaders may ask in this facet is: what are the capabilities we need to execute our processes? Without the right combination of people, practices, technologies, and strategies, organizational leaders will not drive the required processes needed to achieve organizational goals (Neely et al., 2002). Pharmacy managers have a role to organize pharmacy employees such as pharmacy technicians, pharmacy clerks, and staff pharmacists to implement effective prescription filling processes that will achieve the expectations of their customer stakeholders.

Applying the performance prism framework to the research question of this study, the customer stakeholders have a need and want to receive the correct prescription on each visit to the pharmacy, and the pharmacy owners and investors who represent the business organization have a need and want to expect to receive increased financial remuneration, profitability, and brand loyalty from the customers (Edgeman et al., 2015; Mishra, 2016; Neely et al., 2002). Retail pharmacy managers have the role of equipping

the pharmacy employees with the appropriate capability and competences for implementing the best strategies and processes that will satisfy the needs and wants of the customers (Boon et al., 2014). Without fulfilling the expectation of the customer-stakeholders for correct and accurate prescriptions on each visit to the pharmacy, the business organization may experience decreased profitability and customer loyalty because of increased prescription errors.

Supporting and Alternate Theories

Traditional accounting measuring systems. Performance measuring tools had their original roots in the traditional accounting measuring systems (Way et al., 2014). Mishra (2016) noted that the traditional accounting measuring tools include, but are not restricted to, tools such as standard costing, variance analysis, flexible budgets, and return on investments. Way et al. (2014) and Neely et al. (2002) noted that the traditional forms of accounting measuring tools had the following limitations: managers who use them could only measure the financial metrics of business; those managers could only focus internally, retroactively, or backward with a localized perception in their operational margins. The purpose of performance measuring tools or frameworks is to help business leaders and retail pharmacy managers to develop those metrics that could help them to measure organizational outcomes such as reducing prescription errors and increasing profitability (Edgeman et al., 2015; Kaplan & Norton, 1993; Mishra, 2016; Neely et al., 2002; Way, Nabiha, & Jalaludin, 2014).

Between the 1850s to the 1920s, organizational expectations, activities, and operational outcomes shifted from piecework activities to specified functions, from single operations to multiple operations, from single business units to integrated business units (Mishra, 2016; Way et al., 2014). Before the findings of Mishra (2016) and Way et al. (2014), Kaplan and Norton (1993) observed that as industrial and service-based organizations developed, business leaders must recognize the need to develop more comprehensive measures that could help other business managers and leaders to effectively drive organizational goals. By the late 1980s and early 1990s, traditional accounting based performance measures became insufficient to manage the complexities of contemporary businesses. Marr and Schiuma (2003) noted that different business measuring tools were constantly emerging for the purpose of tracking the different facets of a business. The past had witnessed business performance measuring tools that only focused on the financial measures of a business (Kaplan & Norton, 1993). Current business performance measuring tools measure both the financial and nonfinancial aspects of a business (Edgeman et al., 2015; Marr & Schiuma, 2003; Mishra, 2016). The ability of a leader to obtain the financial and non-financial reports of a business conveys a clearer picture of the activities of the business to the business leader (Kaplan & Norton, 1993; Neely et al., 2002). Future business performance measuring tools point in the direction of improving on currently available measuring frameworks to include strategies that would encompass both the external and internal factors of a business in addition to

the financial and nonfinancial aspects of the business (Edgeman et al., 2015; Neely et al., 2002).

Kennerley and Neely (2002) argued that the traditional method of judging organizational performance by using only financial indices such as cash flow, and return on investments, was not good enough. In the bid to achieve the goal of developing measures that reflected the whole business, various researchers and practitioners developed other business performance measuring tools such as the balanced scorecard, the sustainability balanced scorecard, and the strategic measurement and reporting technique (SMART) performance pyramid (Kalender & Vayvay, 2016; Kaplan & Norton, 1993; Sorooshian et al., 2016). The relevance of these financial and nonfinancial metrics for this current study was that I used both financial data inputs such as cost and profit-related data and nonfinancial data such as strategies for reducing prescription errors in the data analysis. The objectives of the researchers in developing the newer measuring frameworks were to help organizational leaders to define a set of measures that reflected their business objectives, and the issue of proper and comprehensive measure of organizational performances (Kennerley & Neely, 2002). A basic advantage of the second-generation measuring frameworks over the first generation frameworks was that unlike, the first generation frameworks, the second-generation frameworks are multidimensional in function with features that explicitly balanced the financial and nonfinancial measures of a business organization (Kaplan & Norton, 1993; Kennerley & Neely, 2002; Mishra, 2016). The inadequacies of the traditional accounting based

measuring tools led to the emergence of the balanced scorecard (Kaplan & Norton, 1993; Neely et al., 2002).

The balanced scorecard. Kaplan and Norton (1993) introduced the balanced scorecard in the bid to develop a performance measuring tool that could create a balanced view of both the financial and nonfinancial components of a business organization in the same document. Kaplan and Norton indicated that the four perspectives of the balanced scorecard were financial perspective, customer perspective, internal business processes perspective, and the learning and growth perspective. Way et al. (2014) noted that the financial perspective allowed business leaders to focus on the outcomes or results of actions that had already been taken, while the nonfinancial aspects such as customer perspective, the internal business processes perspective, and the learning and growth perspective complemented the financial measures as the drivers of future financial outcomes. Pharmacy managers may use the metrics from the financial components of the balanced scorecard to measure the profitability of past strategies and use the nonfinancial aspects of the balanced scorecard to gauge customer satisfaction, internal business processes, and the business growth to determine how to develop and implement future strategies for reducing prescription errors and increasing organizational profitability.

Neely et al. (2002) and Mishra (2016) supported the idea that business leaders prefer a performance-measuring framework that measures both the financial and nonfinancial metrics of a business organization. Kaplan and Norton argued that business organizations that would maintain a competitive edge in the 20th century would be those

business organizations that would harness the benefits of the financial components of their businesses, but also take advantage of the benefits of the nonfinancial components. The term *balance* refers to a balance between the external measures for the customers and shareholders and the internal measures for the effective management of the business by the business leaders (Kaplan & Norton, 1993). Adams and Crowe (2002) agreed with Kennerley and Neely (2002) on the observation that while the balanced scorecard addressed the limitations of the traditional measuring systems, newer measuring tools such as the performance prism addressed the limitations of the balanced scorecard. Apart from the balanced scorecard, other business performance measuring tools currently exist such as sustainability balanced scorecard and the SMART performance pyramid (Adams & Crowe, 2001; Kennerley & Neely, 2002; Neely; Marr & Schiuma, 2003).

Kennerley and Neely (2002) agreed with Edgeman et al. (2015), Mishra (2016), and Neely et al. (2002) on the finding that the performance prism had an advantage over the balanced scorecard and the earlier types of performance measuring tools. The first advantage of the performance prism was that business leaders who adopted the performance prism began with a focus on measures that demonstrated the satisfaction of all stakeholders in a business organization instead of the measures that focused on the shareholders and the customers alone. The performance prism was more suited to measure the different facets of a business organization, either separately or holistically, by addressing the different stakeholders of the business (Kennerley & Neely, 2002; Mishra, 2016). Unlike the performance prism-measuring framework, researchers and

business leaders who used the balanced scorecard began the determination of their measures from the strategies of the business organizations (Kaplan, & Norton, 1995; Kennerley & Neely, 2002). Neely et al. (2002), Edgeman et al. (2015) and Mishra (2016), however, argued that the purpose of any business organization was the realization by business leaders that they must consider the needs and wants of stakeholders before considering the commensurate strategies for actualizing them.

A second advantage of the performance prism was that unlike the earlier measuring frameworks that were designed to focus on a few aspects of the business activities in a single dimensional way, the performance prism was more suited to different business practices and environments because of the comprehensive focus on all the stakeholders of a business organization (Edgeman et al., 2015; Neely et al., 2002; Marr & Schiuma, 2003; Mishra, 2016). Just like a physical prism refracted *white light* to bring out the different components in the light rays, business leaders used the performance prism to address the complexities of a business organization (Neely et al., 2002; Marr & Schiuma, 2003). A third advantage of the performance prism was that its theoretical foundation was well established unlike the earlier and more popular business measuring tools like the balanced scorecard that was more intuitive with less established theoretical foundations (Marr & Schiuma, 2003). Despite the advantages of the performance prism over the first generation or traditional measuring frameworks, however, the performance prism has its limitations too.

The performance prism theory is not 100 % perfect. Mishra (2016) and Edgeman et al. (2015) noted that business leaders based the limitation of the performance prism on the observation that business leaders could only optimize the benefits of the performance prism theory if they used the performance prism intelligently and methodically because of the many facets of the performance prism theory. Apart from the balanced scorecard and the performance prism, other business measuring frameworks such as the sustainability balanced scorecard, the strategic measuring and reporting technique (SMART) also exist.

The sustainability balanced scorecard. The sustainability balanced scorecard framework complements the traditional balanced scorecard (Kalender & Vayvay, 2016). Kalender and Vayvay (2016) described sustainability as the missing fifth pillar of the traditional balanced scorecard. The traditional balanced scorecard allowed business leaders to measure business performance from these four perspectives: financial, customer, internal processes, learning, and growth (Kaplan & Norton, 1993). Figge et al. (2002) argued that because many business leaders who endorsed sustainability initiatives used the traditional balanced scorecard framework to measure business performance, business leaders could add a set of extra metrics that could help them to measure the sustainability performances of their businesses to the traditional balanced scorecard. The basic philosophy of sustainability in business is that leaders should carry out business development strategies with the attitude that the economic, social, and environmental safety issues of the future would be sustained (Figge et al., 2002; Kalender & Vayvay,

2016). I did not choose the sustainability balanced scorecard as the conceptual framework for this study because environmental sustainability issues were not part of the focus of the current study.

Strategic measurement and reporting technique (SMART) performance pyramid. The strategic measurement and reporting technique (SMART) performance pyramid was introduced by Cross and Lynch in 1991 to show a pyramidal link between the financial and nonfinancial aspects of a business organization (Sorooshian et al., 2016). Kaplan and Norton (1993), Edgeman et al. (2015), Mishra (2016), and Neely et al. (2002) agreed on the need for performance measuring tools to show the link between the financial and nonfinancial components of a business organization. Sorooshian et al. (2016) noted that the SMART performance pyramid model consists of the following four levels: level one is the corporate vision of the organization; level two is the short term goals of cash flow and profitability plus the long term goals of growth and market position; level three is the business operating system that measures customer satisfaction, flexibility, and productivity, and level four deals with performance measures connected to: quality, delivery, cycle time, and waste issues. Sorooshian et al. also noted that the major advantage of the SMART pyramid was that it allowed business leaders to establish links between the corporate goals of an organization and the objectives of the departmental units. I chose the performance prism theory instead of the SMART pyramid theory because of the more flexible and comprehensive applications of the performance

prism theory. Edgeman et al. agreed with Neely et al. on the flexibility and diversity of the performance prism theory to different business organizations.

Kennerley and Neely (2002) noted that a strong point of the performance prism framework is that the performance prism tool is a process-driven framework that requires the involvement of employees of different capacities. The business problem of reducing prescription error was a process-driven event that involved different workstations operated by pharmacy employees of different capacities (Abramson, 2015). Adams and Crowe (2001) agreed with Kennerley and Neely concerning the strong emphasis of the proponents of the performance prism on the processes and capabilities needed to execute those strategies that would satisfy the needs and wants of customers in a retail pharmacy. I found the performance prism framework to be the most suited framework that helped me to more exhaustively explore the strategies retail pharmacy managers used to increase organizational profitability as they reduced prescription errors.

Relevance of the Literature

Different scholars had studied the problem of prescription errors in the past with different emphases (Babatunde, Akinbodewa, Akinboye, & Adejumo, 2016; Boyle et al., 2015; Castaldo, Grosso, Mallarini & Rindone, 2016; Chan & Tan, 2016; Dyasanoor, 2016; Odukoya et al., 2014; Schroeder, Salomon, Galanter, Schiff, Vaida, Gaunt & Lambert, 2016; Sipora, VenkateswaraRao & Nadendla, 2016). Babatunde et al. (2016) carried out a study in Nigeria with a focus on the prevalence and pattern of prescription errors in a kidney hospital. Although Babatunde et al. noted the negative impact of

prescription errors on human life; they did not view the impact of prescription errors from the perspective of organizational profitability.

A retail pharmacy business organization can serve both as an outlet that sells consumer products and an outlet for healthcare deliveries (Castaldo et al., 2016). Chan and Tan (2016) agreed with Castaldo et al. (2016) on the dual roles of retail pharmacy businesses. Chan and Tan argued that the retail pharmacy business is a retail businesses organizations that can provide both consumer products and healthcare services to customers at the same location. Chan and Tan argued that because a community pharmacy functions as both a health care providing outlet and a store that offers consumer products, the quality of the products and services offered to customers must be value-driven. Castaldo et al. agreed with Chan and Tan on the finding that customers who experienced the negative impact of prescription errors in a pharmacy store often distrusted such pharmacy stores and their employees (Chan & Tan, 2016).

Castaldo et al. (2016) agreed with Chan and Tan (2016) on the finding that trusting the pharmacist is the first driving factor that either directly or indirectly influences the store loyalty of a customer to a retail pharmacy store. Invariably, the negative impact of prescription errors increased the emergence of customers who distrusted the pharmacist and the pharmacy business with a consequential reduction in store patronage and store loyalty (Castaldo et al., 2016; Chan & Tan, 2016). Both Castaldo et al. and Chan and Tan agreed that decreasing customer store loyalty has a negative impact on organizational profitability. Because of the negative impact of

prescription error on organizational profitability, business leaders in the pharmaceutical sector are constantly seeking to identify and remove the causes of prescription errors (Odukoya et al., 2014; Sipora et al., 2016).

The relevance of this study was an attempt to explore the strategies some retail pharmacy managers used to reduce the negative impact of prescription errors on organizational profitability within the retail pharmacy sector. This literature review indicated that despite the efforts of the different scholars who had worked on prescription errors, the majority of the scholars focused their studies only on the negative impacts of prescription errors on human life as a social issue (Babatunde et al., 2016; Boyle et al., 2015; Sipora et al, 2016). Odukoya et al. (2014) suggested that future researchers should focus their studies on the strategies for reducing prescription errors and the possible impacts of prescription errors on organizational profitability. The current study will offer solutions and strategies that retail pharmacy managers can use to increase organizational profitability through reduced prescription errors.

Prescription Errors

Definition of prescription errors. Babatunde et al. (2016) and Dyasanoor (2016) defined prescription error as any deviation from what should be on a normal prescription. Sipora et al. (2016) gave a more encompassing definition of prescription error. Sipora et al. defined prescription error as inconsistencies or deviations from the prescription order such as dispensing an incorrect drug, dose, dosage form, wrong quantity, inappropriate, incorrect, or inadequate labeling, confusing or inadequate directions for medication use,

incorrect or inappropriate preparation, packaging, or storage of medication prior to dispensing. Prescription errors include: when a doctor writes an inaccurate prescription, when a nurse administers a correctly prescribed prescription the wrong way, and when a pharmacist dispenses a correctly written prescription the wrong way (Babatunde et al., 2016; Dyasanoor, 2016; Sipora et al., 2016). Babatunde et al., Dyasanoor, and Sipora et al. agreed on the idea that prescription errors were preventable adverse drug events. Although Babatunde et al. noted that 51% of the error type was because of wrong dosing, Sipora et al. indicated that 63% of the identified errors centered on wrong drugs. Dyasanoor, however, observed that prescription errors accounted for over 70% of preventable adverse drug events. Business leaders understand that prescription errors may have a negative impact on organizational profitability (Sipora et al., 2016).

Causes of prescription errors. The cause of prescription errors is multifactorial (Babatunde et al., 2016). The findings from this literature review indicated that prescription errors in a retail pharmacy business may be caused by overworked pharmacy employees, communication errors between the pharmacy stores and the doctors' offices, electronic prescription issues, sound alike and look alike medications, illegible doctors' handwritings, and inadequate drug use review and resolutions (Babatunde et al., 2016; Boyle et al., 2015; Dyasanoor, 2016; Odukoya et al., 2014). Boyle et al. argued that workload issues and job-related stresses may cause some pharmacy employees to experience an increased incidence of prescription errors.

Overworked pharmacy employees. Johnson et al. (2014) noted that a direct relationship existed between an increasing workload on pharmacy employees and an increasing episode of self-reported dispensing errors. Johnson et al. observed that pharmacy employees reported significantly higher levels of workplace stressors than the general working population, with concerns about work-life balance, the nature of the job, and work relationships being the most influential on health and well-being. Boyle et al. (2015) agreed with Johnson et al. on the negative impact of workload on prescription errors and emphasized the impact of overwork and job stress on pharmacy personnel as a causative factor for the prevalence of prescription errors, not just in a hospital setting, but also in a retail pharmacy setting. Boyle et al. also agreed with Babatunde et al. (2016) on the need for organizational leaders to take adequate measures to curb the menace of prescription errors through adequate scheduling of pharmacy employees. Organizational leaders who adopt strategies that encourage their employees to think that their work schedules would enable them to achieve a meaningful work-life balance were more empowered to overcome work-related stress and strain (Boyle et al., 2015; Johnson et al., 2014).

Communication errors. Dyasanoor (2016) argued that prescription error begins with either a wrongly written, transcribed, or faxed prescription from the doctors' offices to the retail pharmacy stores. Sipora et al. (2016) agreed with Dyasanoor on the connection between communication issues and prescription errors. Sipora et al. noted that 63% of prescription errors were mainly because of the issue of pharmacy employees who

dispensed the wrong drugs from either electronic or verbal communication errors between the doctors' offices and the pharmacy stores. Babatunde et al. (2016) observed that communication errors from wrong drug dosing were responsible for 51% of prescription errors. Prescribers may communicate the wrong drug name, wrong drug dosage, direction, and strength to the pharmacy store out of negligence (Dyasanoor, 2016). Lieb and Scheurich (2014) noted that some prescribers prescribe some medications because of the influence of the medical sales representatives who promote those medications instead of strict ethical considerations. Nusair and Guirguis (2017) supported the arguments of Dyasanoor on communication errors by observing that some prescriptions from the doctors' offices do not contain adequate information to communicate the adherence needs of customers. DeHenau et al. (2016) suggested that prescribers can proactively minimize communication errors using the Tallman lettering technique. The Tallman lettering technique is the use of a combination of mixed upper case and lower case letters to write sound alike and look alike drugs (DeHenau et al., 2016). Lambert, Schroeder and Galanter (2015) argued that researchers should carry out more studies to establish the benefits of the Tallman lettering technique. Pharmacy managers have a responsibility to train the pharmacy employees on the need to double-check a prescription for errors before filling or dispensing them to the customers (Lambert et al., 2015).

Illegible doctors' handwriting. Odukoya et al. (2014) agreed with Dyasanoor (2016) on the idea that prescription errors begin from the prescription itself because of

illegible doctors' handwriting. Albarrak et al. (2014) noted that pharmacy employees must take proactive actions in contacting the doctors' offices to clarify every case of illegible doctors' handwritings. Odukoya et al. investigated how the use of electronic prescriptions could remedy the issue of prescription errors because of illegible handwritings. Electronic prescriptions are those prescriptions that the employees at the doctor's offices electronically transmit directly to the pharmacy stores (Albarrak et al., 2014; Odukoya et al., 2014). Odukoya et al. noted that the use of the technology of electronic prescriptions solved the problem of doctors' illegible handwriting, but created a new set of errors from wrong input of prescription information from the employees at the doctors' offices.

Electronic prescriptions. Odukoya et al (2014) noted that 9% of prescription errors were from electronic prescriptions. Albarrak et al. (2014) supported the views of Odukoya et al. on the impact of electronically transmitted prescriptions on prescription errors. Odukoya et al. observed that 5 out of every 100 electronic prescriptions have errors because of wrong drug quantity, wrong dosing directions, wrong duration of therapy, and wrong dosage formulations. Both Albarrak et al. and Odukoya et al. agreed that the prescription errors from electronic prescriptions were multidisciplinary and multifactorial. Albarrak et al. noted that wrong inputs from the staff at the doctors' offices and failure by the pharmacy staff to verify the accuracy of the content of the electronically sent prescription could lead to prescription errors. Despite the incidence of

prescription errors from electronic prescriptions, other researchers focused on sound-alike and look-alike drugs as a major cause of prescription errors.

Sound-alike and look-alike drugs (SALA). Beyond the issue of wrongly written prescriptions is the issue of sound-alike and look-alike drugs. Shroeder et al. (2016) noted that 1 in every 1000 prescriptions lead to prescription errors from drug name confusion in the United States. Drugs that sound or look like other drugs pose a challenge to the pharmacy employees in the course of dispensing a prescription. Odukoya et al. (2014), agreeing with Shroeder et al. on the negative impact and high incidence of prescription errors in the United States, identified other factors such as improper drug use review, improper scheduling of the pharmacy store, job stress and pressure on the pharmacy employee, and technological issues as probable causes of prescription errors. With the negative impact of prescription errors on pharmacy business and the attendant risk to human life, pharmacists and pharmacy business leaders have indicated their willingness to become more proactive at developing strategies that would help them to: reduce the menace of prescription errors by setting high and appropriate expectations for pharmacy employees as well as engage in more effective communication with physicians, nursing staff, other retail pharmacists, and hospital pharmacists to minimize prescription errors (Sipora et al., 2016).

Inadequate drug use review resolutions. The pharmacists' drug utilization resolution process is a knowledge-based process or practice through which the pharmacist uses relevant health information software to analyze a prescription (Choi et

al., 2014). Thamir (2016) supported the position of Choi et al. (2014) on the finding that pharmacists who fail to engage in the detailed drug use reviews of customers increase the incidence of prescription errors. The pharmacist at the verification workstation must analyze the prescriptions for the purpose of resolving any untoward drug interactions (Thamir, 2016). Choi et al. argued that unresolved drug-drug and drug-allergy interactions may lead to prescription errors that could cause harm to the customers.

Classification of Prescription Errors

Mohan, Sharma and Panwar (2014) and Neville et al. (1989) described the classification of prescription errors based on the written prescription itself. Neville et al. identified the following four types of prescription errors, Types A, B, C, and D. Retail pharmacy managers have a responsibility to teach their workforce on the need to scrutinize prescriptions for the purpose of identifying prescription error types as the pharmacy employees input the prescriptions into the computer.

Type A: (serious to patients). Mohan et al. (2014) noted that the focus of this type of prescription error is on the degree of potential danger that the prescription error would constitute to the customer, if dispensed. Pharmacists who fail to detect a wrong drug dosage that had the potential of seriously impairing or killing the customer are said to commit Type A prescription error (Neville et al., 1989). For example, if a pharmacist dispenses a cardiac medication with a dose that is wrong by a factor of 10, the pharmacist exposes the customer or patient to serious danger, including death (Mohan et al., 2014; Neville et al., 1989).

Type B: (major nuisance). Mohan et al. (2014) explained that the focus of this type of prescription error is on the degree of inconvenience or nuisance the period of correcting the prescription error itself may constitute to the doctor, pharmacist, and customer. Neville et al. (1989). Type B prescription errors occur if the pharmacist would have to contact the prescriber before dispensing the prescription. Type B prescription errors may not pose much danger to the life of the customer, but they constitute a major nuisance to the time of the customers who may have to wait for the pharmacists to liaise with the doctor's offices (Neville et al., 1989). For example, if a doctor prescribes an oral medication like Phenytoin without indicating if the pharmacist should dispense it as either a capsule or a tablet, the inconvenience, cost, and nuisance of the waiting period constitutes a Type B error (Mohan et al., 2014; Neville et al., 1989).

Type C: (minor nuisance). In Type C prescription errors, the prescriber makes a minor mistake on the prescription that the pharmacist can correct without needing to contact the prescriber (Neville et al., 1989). Type C errors are annoying to the pharmacist, and sometimes cause a slight delay for the customer (Mohan et al., 2014; Neville et al., 1989). For example if a doctor prescribes a dermatological or skin cream without indicating the dispensing size on the prescription, the pharmacist may decide to correct such minor omissions without contacting the doctors' offices. The minor nuisance in the time of the pharmacist and the customer constitutes a Type C error (Mohan et al., 2014; Neville et al., 1989).

Type D: (trivial). In Type D prescription errors, the prescriber writes a prescription that does not conform strictly to the provisions of the drug formulary also known as the drug list (Neville et al., 1989). For example, a Type D error occurs when the prescriber misspells the name of a drug on the prescription. The pharmacist often overrides this type of error if he or she is certain that the intentions of the prescriber were clear enough on the prescription (Mohan et al., 2014; Neville et al., 1989).

Current Strategies for Reducing Prescription Errors

This literature review indicated that the search for those strategies that help pharmacy employees to reduce prescription errors is still a work in progress. Kaestli et al. (2014) noted that pharmacy managers can reduce the incidence of prescription errors by engaging in retrospective approaches such as root cause analysis and proactive approaches such as failure mode and effects analysis. Odukoya et al. (2014) noted pharmacy employees must endeavor to tackle the issue of prescription error proactively as a first line of defense. Kaestli et al. agreed that business leaders use the failure mode and effect analysis tool to proactively predict and prevent the potential or probable causes of future prescription errors and the potential impacts of future prescription errors on organizational profitability and customer safety. Business leaders and pharmacy managers, however, use the root cause analysis to analyze a prescription error event retroactively for the purpose of identifying the system error that might have caused the error (Kaestli et al., 2014). Both Kaestli et al. and Fassett (2011) agreed that the purpose of root cause analysis is not to apportion blame or find fault with individuals but to

identify system issues that might have led to the error. Business leaders depict the potential causes of prescription errors as failure modes and identify the potential impacts of the prescription errors on organizational profitability and customer safety as effect analysis (Fasset, 2011; Kaestli et al., 2014). Pharmacy managers can use the root cause analysis tool to identify the causes of previous errors and the failure mode and effect analysis tool to train the pharmacy employees on the best strategies for preventing future errors (Fasset, 2011; Kaestli et al., 2014).

Boyle et al. (2015), Odukoya et al. (2014), and Shroeder et al. (2016) agreeing with Kaestli et al. (2014), highlighted the need for pharmacy managers to develop and train their employees on the best strategies for reducing prescription errors considering the imminent danger of prescription errors to both the customers and the increased cost on the pharmacy business. Boyle et al. emphasized that organizational leaders who aspire to reduce prescription errors in their organizations must create a learning culture that is devoid of blames and tensions. Odukoya et al. suggested that the use of electronic prescriptions is a potential tool for reducing the incidence of prescription errors occasioned by the illegible handwriting of physicians. Shroeder et al. noted that researchers must properly test look-alike and sound-alike medications for professional memory perception checks before their approvals to reduce the prescription errors caused by look-alike-and-sound-alike drugs. Boyle et al. noted that more than 67% of pharmacy employees experienced job-related stress because of quality reporting events. A quality-reporting event is an essential aspect of community pharmacy practice. Pharmacy

employees carry out quality reporting events if prescription errors occur in the pharmacy for the purpose of engaging in peer review analysis of what caused the prescription error, and the strategies for avoiding a repeat occurrence (Kaestli et al., 2014; Odukoya et al., 2014). Boyle et al. also observed that pharmacy employees came under work stress during a quality related event if the pharmacy employees think that their work environments were more prone to criticism and blame instead of those of a learning organization. Kaestli et al. agreed with Boyle et al. on the observation that employees experienced less stress about engaging in quality related events if they believe the leader respects their work.

Odukoya et al. (2014) noted that despite the introduction of e-prescribing to reduce prescription errors, prescription errors remained unchanged. The rate of prescription errors range between 0.23% to 11% out of the more than 3.5 billion prescriptions filled annually across the United States in community pharmacies from 2010-2014 (Odukoya et al., 2014; Schroeder et al., 2016). Sarwar et al. (2017) and Yasunaga et al. (2016) also noted that the consequences of e-prescribing errors include: increased likelihood of patient receiving incorrect drug therapy, patient frustrations from delayed dispensing of e-prescription, increased medication cost for the patient, potential consequences of error for the pharmacy and the pharmacy personnel, confusion and frustration for pharmacy personnel, and reduced profitability for the business because of increased cost, as well as audit and insurance billing issues for the pharmacy each time the prescription was resubmitted to the insurance for billing. The contributing factors to

e-prescribing errors include wrong calculations and typographical errors by personnel at the doctor's offices, wrong use of medical abbreviations, and wrong quantity calculations.

Shroeder et al. (2016), agreeing with Odukoya et al. (2014) on the incidence of prescription error, indicated that 1 out of every 1000 prescriptions filled in the United States from 2010-2014 had a medication error because of wrong drug names and look-alike, sound-alike drugs. Shroeder et al. used a standard set of perception and memory tests in the laboratory to mimic real world scenarios within error limits to show that drug companies may save cost by adopting a reliable laboratory test to match real world scenarios prior to the final approval of new drugs. Ciociano and Bagnasco (2014) shared the same thoughts with Shroeder et al. on the finding that laboratory-based tests, like the battery of memory and perception tests, may help to predict the rate of how doctors, nurses, pharmacists, patients, and customers will confuse sound-alike and look-alike drugs. Shroeder et al. noted that the laboratory-based test truly mimicked the real world based tests. The cost effectiveness of the laboratory based test and its ability to mimic real-world outcomes is a good bargain for drug companies, research, and regulatory organizations. Retail pharmacy managers and pharmacy employees will have minimal problems with confusing look-alike and sound-alike drugs during the dispensing process if pharmacy managers carefully distinguish sound-alike and look-alike drugs by placing them on different shelves in the pharmacy (Ciociano & Bagnasco, 2014; Shroeder et al., 2015).

Negative Effects of Prescription Errors

Prescription errors and jeopardized customer health care. Prescription errors are preventable adverse drug events that have a negative effect on the delivery of prescription services to customers. Prescription errors impair the effectiveness of customers, increase the morbidity of customers, and sometimes cause the death of some affected customers (Abramson, 2015; Odukoya, Schleiden & Chui, 2015). Abramson estimated that 1.5 million patients experience a preventable adverse drug event annually, leading to approximately 7,000 deaths. Odukoya et al. (2015) agreed with Abramson on the observation that prescription errors jeopardize customer healthcare because of poor disease management outcomes.

Prescription errors, cost, and profitability. Prescription errors increase the cost of running a pharmacy business (Esmaeil & Tremblay, 2016; Morrow, 2015; Sarwar et al., 2017; Yasunaga et al., 2016). Yasunaga et al. (2016) noted that the cost savings associated with preventing serious adverse drug reactions was $21,400 per case. Worthy (2016) agreed with Yasunaga et al. on the cost implications of violating drug safety issues. Worthy noted that some government regulatory agencies like the Food Drug and Administration (FDA) impose fines that range between $250,000.00 to $10 million on some drug-utilization safety violation issues. In a study carried out in the United Kingdom, Esmaeil and Tremblay (2016) noted that pharmacists usually require an average of 6 minutes to resolve incorrect e-prescribing orders, leading to an additional cost of $ 4.74 per prescription error. The U.S. error rate is 0.1% (Schroeder et al., 2016),

yet with over 3.5 billion prescriptions filled annually in the United States (Odukoya et al., 2014), the result is more than 3.5 million prescription-dispensing errors each year and an annual cost of more than $16 billion.

Prescription errors can also have a negative impact on organizational profitability due to the potential backlash of negative customer experience on brand loyalty (Castaldo et al., 2016; Chan & Tan, 2016; Gavilan et al., 2014). Pharmacy customers who experienced specific incidents of prescription errors may develop a negative customer experience about the pharmacy. Negative customer experiences may consequently reduce the brand loyalties of the affected customers. Decreasing brand loyalties have a negative impact on business profitability (Castaldo et al., 2016; Chan & Tan, 2016; Gavilan et al., 2014). Castaldo et al. (2016) identified trust for the pharmacist as the major driving force for customer loyalty in a retail pharmacy. The relationship of trust to customer loyalty in a retail pharmacy business may imply that pharmacy employees who record increasing dispensing errors in a community pharmacy may experience negative customer trust and profitability caused by customer distrust of the pharmacists or pharmacy personnel. Gavilan et al. (2014) noted that apart from the sale of prescriptions, trust for the pharmacist can boost store sales because of the potential for increased customer shopping experiences. Pharmacy managers can harness the trust of a customer by using a well-developed array of shopping triggers in a pharmacy store known as shoppers marketing. Shoppers marketing may encourage those customers who developed trust for the pharmacist to buy nonprescription items, in addition to filling their prescriptions, each

time they visit the pharmacy. Castaldo et al. argued that while increasing pharmacy sales can boost business profitability, decreasing customer patronage will hinder business profitability. Chan and Tan (2016) also supported Castaldo et al. and Gavilan et al. by noting that there is a direct positive link between factors such as store attributes, quality of service, and customers' shopping experiences in a community pharmacy business. The trust of the customers for the pharmacist, pharmacy employees, and pharmacy has positive impacts on customer loyalty, patronage, and organizational profitability (Castaldo et al., 2016; Chan & Tan, 2016).

Customers expect to receive the correct medication prescribed for them by their doctors each time they visit their community pharmacists without any error (Sabater-Galindo et al., 2016; Sabater-Galindo et al., 2017; Vella et al., 2015). Sabater-Galindo et al. noted that customers responded to community pharmacists because of the belief in the professional competences of the pharmacists. Sabater-Galindo et al. (2017) noted that the health belief model of elderly customers guided the level of belief that elderly customers reposed on community pharmacists. Vella et al. (2015) concurred with Sabater-Galindo et al. on the potential negative effect a decreasing brand loyalty, occasioned by prescription errors among the elderly community, may have on the profit margins of a retail pharmacy business. Vella et al. explained that the elderly community constituted a significant number of the pharmacy clientele. Vella et al. noted that the direct relationship between chronic illness and age could be responsible for the significant number of the elderly community among the clientele base in retail pharmacies.

Community pharmacy business managers and leaders who desire to achieve the goal of increasing profitability by reducing prescription errors must aspire to exceed the customer service expectations of the elderly (Sabater-Galindo et al., 2017; Vella et al., 2015). Vella et al. (2015) observed that customers considered the issue of pharmacist-physician collaboration for the purpose of improving the quality of pharmaceutical service to customers to be the most important possible pharmaceutical service extensions. Vella et al. also noted that customers, whose expectations of receiving quality-dispensing services at their local pharmacy stores are not met, may lose their trust in that pharmacy business. Aggrieved customers who experienced the incidence of prescription error may add to the overhead costs of the pharmacy business through litigation and indemnity redresses (Sabater-Galindo et al., 2017; Vella et al., 2015).

Prescription errors, litigation, and indemnity. Business leaders in the retail pharmacy business often incur litigation and indemnity costs that may result from the incidences of prescription errors (O'Donnell & Vogenberg, 2014, 2016; Yasunaga et al., 2016). O'Donnell and Vogenberg (2016) noted that prescription errors accounted for over 56 % of the closed claims made against pharmaceutical companies between 2002 and 2011. O'Donnell and Vogenberg noted that the victims of prescription errors received more than $14 million as indemnity payments between 2002 and 2011. Yasunaga et al. supported O'Donnell and Vogenberg on the finding that pharmacy business leaders and managers who guard against prescription errors may increase the profitability of their business organizations. O'Donnell and Vogenberg noted that increasing prescription

errors had the potential to reduce the profitability of a retail pharmacy because of the attendant costs that may accrue from indemnity payment to victims of prescription errors, higher coverage premium charges from insurance firms, and fines from regulatory agencies. Yasunaga et al. agreed with O'Donnell and Vogenberg on the idea that the potential for increasing legal liabilities may increase if prescription error increases among pharmacy employees. O'Donnell and Vogenberg supported the findings of Yasunaga et al. concerning the observation that business leaders in the retail pharmaceutical sector stood a better chance of reducing the cost of their businesses, and by implication increased profitability, if retail pharmacy business leaders implement strategies to help their employees to reduce prescription errors.

O'Donnell and Vogenberg (2014) and Yasunaga et al. (2016) observed that reduced prescription errors may have a positive impact on the profitability of retail pharmacy businesses. Pharmacy employees who guard against prescription errors may assist in reducing the overhead cost of their business organizations (O'Donnell & Vogenberg, 2016). Due to the negative impact of prescription errors on a successful pharmacy practice, pharmacy leaders are constantly searching for newer and proven strategies that may help their employees to increase organizational profit by reducing prescription errors (Yasunaga et al., 2016).

Pharmacy Managers and Pharmacy Practice

Retail pharmacy managers function as team leaders in the community or retail pharmacy practice setting (Fakeye, Adisa, Olukotun, & Morawo, 2017). Retail pharmacy

managers exercise both managerial and leadership influences over other pharmacy employees such as the staff pharmacists, pharmacy technicians, pharmacy clerks, pharmacy interns, and pharmacy cashiers. Supporting the need for an effective leadership attitude within the healthcare team, the U.S Institute of Medicine (IOM) in a report titled, *To Err is Human: Building a Safer Health System,* emphasized the need for a cultural change in the leadership and managerial strategies that health care organizations and providers adopt in managing medication and prescription errors. Chinthammit et al. (2017) and Woods, Gapp, and King (2015) agreed that the minimum expectation of a pharmacist, who functions as a pharmacy manager, is that such a pharmacist should be a well-rounded pharmacist.

The International Pharmaceutical Federation (FIP) and World Health Organization (WHO) developed the concept of the *seven star pharmacist* to describe a well-rounded pharmacist. A well-rounded pharmacist is a compassionate caregiver, a good decision maker, an active communicator, a lifelong learner and good manager, and an effective leader who has the ability to be a teacher and researcher (Fakeye, et al., 2017; FIP, 2016; Thamby & Subramani, 2014). Thamby and Subramani (2014) shared the thoughts of Fakeye et al. (2017) concerning the expanding roles of the functions of a pharmacy manager from the perspective of the concept of a seven star pharmacist. Fakeye et al. noted that a retail pharmacy manager who demonstrates the expectations of the seven star pharmacist will be able to demonstrate compassion to his or her customers as a care giver, make decisions that may increase the profitability of his or her store,

communicate effectively and actively with the members of his or her team, liaise with the doctors' offices in order to meet and exceed customer expectations for accurate prescriptions as well as carry out managerial functions such as planning, organizing, directing, controlling, and staffing the pharmacy for the purpose of reducing prescription errors and increasing organizational profitability. Thamby and Subramani agreed with Thamir (2016) on the expectation that well-rounded pharmacy managers will be able to lead the pharmacy team, as well as teach the pharmacy team, to embrace strategies that would help them reduce the incidence of prescription errors.

Thamir (2016) noted that pharmacy leaders are continuously facing the issue of how to reduce prescription errors in their business organizations. Thamir also indicated that pharmacy leaders who strategically empower the pharmacy workforce on how to reduce prescription errors using technological advancements recorded better outcomes than their competitors. Harrison, Paul, and Burnard (2016) supported the role of pharmacy leaders as motivators in driving the pharmacy work team towards the vision of reducing prescription errors using what they described as entrepreneurial leadership. Harrison et al. noted that entrepreneurial leadership involves vision, risk-taking, and opportunity recognition and exploitation. Pharmacy leaders who imbibe the vision of rendering value-based services to their customers through the reduction of prescription errors recognize and take advantage of proven strategies that could help them to ensure that their customer stakeholders are satisfied in practice settings where the pharmacy manager also serves as the business owner or entrepreneur (Thamir, 2016).

Some pharmacy managers function as pharmacy leaders, owners, and investors at the same time while some other pharmacy managers function as hired employees (Harrison et al., 2016). Regardless of the different roles of the pharmacy manager in a given practice setting, the pharmacy manager must take cognizance of the overriding goal of reducing prescription error in any pharmacy-practice setting (Thamir, 2016). Kinsey, Scahill, Bye, and Harrison (2016), contrary to the findings of Harrison et al., noted that pharmacy managers who double as business owners or entrepreneurs are concerned about the high cost of implementing newer strategies that have the potential of improving better customer outcomes with anticipated profitability. Masoom, Waheed, Sheikh, and Hussain (2014) noted that despite the issue of cost, the expanding role of the pharmacy profession in helping customers to experience improving health-related quality of life will give a competitive advantage to those retail pharmacy businesses that have managers who are strongly motivated about leading their work force with the vision of reducing prescription errors.

Davies, Barber, and Taylor (2014) concurred with Harrison et al. (2016) on the need for retail pharmacy managers to spend more of their work time on professional activities such as customer counseling sessions. Harrison et al. noted that customer counseling activities help improve the level of customer trust and brand loyalty. Davies et al. argued that pharmacists who spend more time with customers during counseling sessions have a higher chance of detecting some forms of prescription error in the course of counseling the customers. In a 2014 study, Davies et al. noted that pharmacists spent

only 46.2 % of their work time on professional activities that were patient-driven when compared to the higher 53.8 % less professional activities that they could have delegated to the pharmacy technicians.

Retail pharmacy managers must prioritize the issues of quality assurance and work force training. Quality assurance and work force training are some of the challenges currently facing the advancement of the retail pharmacy business (Bader, McGrath, Rouse, & Anderson, 2017). Pharmacy stores that record high incidences of prescription errors have low quality assurance levels (Bader et al., 2017). Bader et al. (2017) supported Masoom et al. (2014) on the need for pharmacy managers to continually train and re-train their workforce along the line of improving quality assurance. A pharmacy workforce that is not properly trained to meet and exceed the quality assurance expectations of their customers will not be able to implement the strategies and processes that would help their business organizations to satisfy both the wants and needs of their customer stakeholders. Masoom et al. argued that unsatisfied customers negatively impact the profitability of a business organization. Pharmacy managers must endeavor to improve the capabilities of their workforce to deliver quality prescription services by encouraging and implementing pharmacy practice based researches (Aburuz, 2015).

Pharmacy Practice Based Researches

This literature review indicates that pharmacists are developing a growing interest in pharmacy practice based researches (Aburuz, 2015; Al-Quteimat & Amer, 2016; Rollins, Gunturi & Sullivan, 2014; Sultana, Al Jeraisy, Al Ammari, Patel, & Zaidi, 2016).

Sultana et al. noted that traditionally, other professions in the healthcare sector such as medicine and nursing made more progress in the area of practice-based researches, but more pharmacists are now being motivated to engage in pharmacy practice based researches for the purpose of establishing an evidence-based pharmaceutical care practice. Effective pharmaceutical care requires evidence-based practice (Rollins et al., 2014). Sultan et al. argued that pharmacists use evidence-based pharmaceutical care to improve the quality of pharmaceutical services they render. Pharmacy based research is defined as a component of health services research that focuses on the assessment and evaluation of pharmacy practice (Al-Quteimat & Amer, 2016 ; Sultana et al., 2016).

Professional pharmacy organizations have strategically advocated for more pharmacy practice based research (Al-Quteimat & Amer, 2016; Sultana et al., 2016). This literature review indicated that the leaders of the American College of Clinical Pharmacy (ACCP) encouraged pharmacists to engage in pharmacy practice based researches. Al-Quteimat and Amer (2016) also noted that the Agency for Health Care Research and Quality (AHRQ) in America supported the call for more pharmacy practice based researches. Rollins et al. (2014) proposed the use of business simulation technology tools to mimic virtual business situations without the risk of real life business situations.

Al-Quteimat and Amer (2016) supported Sultana et al. (2016) on the benefits of adopting evidence based pharmaceutical practice over personal opinions and experiences. Al-Quteimat and Amer explained that pharmaceutical care involves three major functions: identifying potential and actual drug related problems, resolving actual drug-

related problems, and preventing drug related problems. As pharmacy managers engage in the process of training the pharmacy workforce on those strategies that would help identify potential drug related problems or resolve actual drug-related problems, the incidence of prescription errors would reduce (Aburuz, 2015).

Awaisu, Kheir, Alsalimy and Babar (2015) accepted the positions of Sultana et al. (2016) and Al-Quteimat and Amer (2016) regarding the contributory role of pharmacy practice based research in the improvement of quality-based pharmaceutical care. Awaisu et al. focused their research on the attitudes of pharmacists and pharmacy managers to pharmacy practice based research. Awaisu et al. concluded that more than 80% of pharmacists and pharmacy managers were positively disposed to pharmacy practice based research. Al-Quteimat and Amer concurred with Awaisu et al. on the finding that despite the positive attitudes of pharmacists and pharmacy managers towards practice based researches, pharmacists and pharmacy managers identified the following barriers as limiting factors to active participation: lack of time and workload, insufficient funds, lack of research knowledge, lack of training, and lack of adequate mentorship and support. This literature review indicates that pharmaceutical business leaders are interested in the outcomes of pharmacy practice, case study, and pharmaceutical research (Al-Quteimat & Amer, 2016; Sultana et al., 2016). The evolving role of retail pharmacy practice from just medication dispensers to pharmaceutical care providers places a responsibility on retail pharmacy managers to develop strategies that would help them to improve the capabilities of their workforce in meeting the challenge of increasing

organizational profitability through reduced prescription errors (Hermansyah, Sainsbury & Krass, 2015). Pharmacy managers and pharmacy employees have the potential of experiencing prescription error-related issues at the different phases of the dispensing process.

The Dispensing Process

The dispensing process in a retail pharmacy setting takes place through a series of activities that involve the following workstations: prescription drop-off workstation, prescription filling workstation, prescription verification workstation, and the prescription pick-up workstation (Albarrak et al., 2014; Galanter et al., 2015; Hansen & Brown, 2017; Odukoya et al., 2015). Odukoya et al. (2015) noted that the relevance of the different workstations to prescription errors is that prescription errors can occur at any of the stages in the prescription filling process. Galanter et al. (2015) argued that pharmacy managers have a responsibility to continue to train and motivate the pharmacy workforce to follow specific strategies to increase organizational profitability through reduced prescription errors.

Prescription drop-off workstation. At the drop off workstation, a pharmacy employee inputs the data of a prescription order into the computer. Pharmacy employees may receive prescription orders directly from the doctors' offices through a process known as e-prescribing, or through faxes and telephone call-ins, or through walk-in customers (Odukoya et el., 2015). Gallanter et al. (2015) and Albarrak et al. (2014) agreed that pharmacy technicians were the pharmacy employees responsible for all steps

leading up to the pharmacist review and actual dispensing of medications to the customers. Albarrak et al. noted that pharmacy technicians play a critical role in helping pharmacists to reduce the incidence of prescription errors. Odukoya et al. (2015) observed that the effectiveness of a pharmacy technician in helping to reduce prescription errors depends on factors like experience, certification status, and knowledge of appropriate medication use. Galanter et al. agreed with the idea that pharmacy technicians play critical roles in reducing prescription errors.

Prescription filling workstation. At the prescription filling workstation, the pharmacy technician or other authorized pharmacy employee pulls the stock bottle of the prescribed medication and fills it by counting the exact quantity of pills (Albarrak et al., 2014). A common error that may occur at this workstation is the error of pulling the wrong medication from the shelf. Pharmacy employees may confuse similar looking drugs on the shelf in the course of filling a customer's prescription (Galanter et al., 2014). Albarrak et al. (2014) noted that current research indicates that pharmacy employees who scan the barcode of pulled medications and the printed labels of the prescription label will detect a wrongly pulled medication.

Prescription verification workstation. At the prescription verification workstation, the pharmacist on duty checks the prescription for authenticity, legality, accuracy, drug-drug interactions, and completeness (Albarrak et al., 2014; Odukoya et al., 2015). Common errors that may occur at this workstation include improper verification of patient data, improper resolution of drug-drug interactions, occurrence of

mixed pills in a bottle, or bagging the wrong medication for a patient (Albarrak et al., 2014; Odukoya et al., 2015). Pharmacy managers have a responsibility to identify, implement, and monitor the application of proven strategies that would help to reduce prescription errors in their pharmacies.

Prescription pick-up workstation. At the prescription pick-up workstation, any of the pharmacy employees can sell the verified and bagged prescriptions to either the actual customers or the customer's representatives. Gallanter et al. (2015) noted that a common error that may occur at this workstation is the possibility of selling the correct prescription to the wrong customer. HIPPA or health insurance violations occur when the protected health information of customers are compromised by exposing them to the wrong customers (Albarrak et al., 2014; Odukoya et al., 2015).

The Pharmacy Workforce

This literature review indicated that pharmacy managers and leaders have a responsibility to train, empower, and schedule pharmacy technicians and other pharmacy support staff for the purpose of meeting and exceeding the goal of satisfying the needs and wants of customers (Hansen & Brown, 2017; Koehler & Brown, 2017). Miller and Goodman (2016) noted that lack of adequate training of the pharmacy workforce was contributory to low quality performance in the pharmacy. The International Pharmaceutical Federation (FIP) report stated that pharmacy managers must train their workforce to adapt to a need-meeting based model of service (FIP report, 2016). The pharmacy workforce consists of pharmacy managers, staff pharmacists, pharmacy

interns, pharmacy technicians, and pharmacy cashiers. Pharmacy technicians and other pharmacy employees play a vital role in the goal of satisfying the needs and wants of customers (Desselle, 2016; Traynor, 2017). The major need and want of retail pharmacy customers is the need to receive the correct medication without the stress of worrying about prescription errors. Koehler and Brown (2017) agreed with Traynor (2017) on the need-based model of pharmaceutical service. Koehler and Brown argued that part of the needs of a pharmacy customer included the expectation to receive professional counsels about their new prescriptions.

Pharmacy managers who schedule well-trained pharmacy technicians with other staff pharmacists may enable the staff pharmacist on duty to create more time to counsel with customers. Pharmacists often identify some prescription errors just before handing over the relevant prescriptions to the customers in the course of counseling (Koehler & Brown, 2017). Since 1997, pharmaceutical service delivery in a retail pharmacy store has evolved from a focus on the availability of the medicine alone to a more broadened focus on direct pharmaceutical service optimization (Koehler & Brown, 2017; Mobley-Smith et al., 2014; Moné, 2017). Mobley-Smith et al. agreed with Moné on the broadened roles of the pharmacy workforce and noted that the training curriculum of the pharmacy workforce should accommodate the newer expectations. Kadia and Schroeder (2015) agreed that well-trained pharmacy technicians can help the pharmacy managers Kadia and Schroeder (2015) agreed that well-trained pharmacy technicians can help the

pharmacy managers in the goal of reducing prescription errors and increasing organizational profitability.

Summary and Transition

The purpose of this study was to discover the strategies retail pharmacy managers used to reduce prescription errors and increase organizational profit in a retail pharmacy. The emphasis of the discussions in Section 1 of this study revolved around subsections such as: introduction to the study, background to the research problem, the problem statement, the purpose statements, nature of study, the central research question, the interview questions, the conceptual framework, operational definitions, assumptions, limitations, delimitations, significance of the study, value to businesses, and implications for social change. Section 1 of this study also included the professional and academic literature review. I organized the literature review in themes that I divided into the following 5 sections: the performance prism theory, relevance of the literature, prescription errors, pharmacy managers and pharmacy practice, and pharmacy practice based researches.

The focus of the discussion in Section 2 of this study were on issues such as methodology and design of the study, responsibilities, and role of the researcher, requirements for participants and population sampling methods. The discussion in Section 2 also involves the privacy of the participants of this study under the section of ethical research. The remaining subsections that I discussed in Section 2 include data

collection instruments, data collection technique, data organization methods, data analysis, reliability, and validity, then finally the transition and summary.

Section 2: The Project

In Section 2 of this study, I provide information on the specific steps that I took to carry out this study. This section includes a restatement of the purpose statement and detailed discussions of (a) role of the researcher, (b) participants, (c) research method, (d) research design, (e) population and sampling, (f) ethical research, (g) data collection instruments, (h) data collection techniques, (i) data organization techniques, (j) data analysis procedures, and (k) reliability and validity. Researchers who intend to work on a related topic in the future may find the contents of Section 2 of this study to be helpful in achieving dependability, credibility, and transferability in their studies.

Purpose Statement

The purpose of this qualitative multiple case study was to explore strategies some retail pharmacy managers used to increase pharmacy profits by reducing prescription errors among pharmacy employees. The targeted population was managers of five retail pharmacies in Miami, Florida, who doubled as pharmacy owners and who had successfully implemented strategies to increase pharmacy profits by reducing the prescription error of pharmacy employees. I used the Florida Board of Pharmacy continuous quality improvement (CQI) incident reporting system to identify pharmacy managers who had implemented strategies to reduce prescription errors. Customers may experience reduced injuries, sicknesses, hospitalizations, and even deaths from wrong medications. They also have an increased potential to become more socially relevant, participate in more community projects, have a more positive orientation to members of

the community, and live better lives because of lower health related costs and improved health (Pervanas, Revell, & Alotaibi, 2015). By using study findings, retail pharmacy managers may be able to reduce the cost of health care in their communities, prevent prescription error-related hospitalizations and deaths, and improve employment conditions and economic activity in their communities.

Role of the Researcher

Qualitative study researchers carry out specific roles in a research. Qualitative study researchers collect, organize, and analyze data; categorize themes; identify ethical and confidentiality issues; and mitigate personal biases in the collection and analysis of data (Hunt, 2014). Cronin (2014) noted that in a qualitative case study, the researcher is the primary data collection instrument. In my role as the primary data collection instrument in this research, I collected, organized, analyzed, and categorized data into themes.

Hunt (2014) noted that researchers should be very familiar with the topic of study. I have over 25 years of experience in the retail pharmaceutical industry, having served as a superintendent pharmacist, pharmacy manager, pharmacy owner, and staff pharmacist in major retail pharmaceutical companies from 1991 to 2017. As a practicing pharmacist, I am familiar with the topic of study and field of study.

Researchers should avoid recruiting participants who may not offer objective responses to interview questions. As noted by Yin (2014), researchers can achieve objectivity by refusing to select participants with whom either a past or current personal

or professional relationship exists. I had no previous or current personal or professional relationships with the targeted participants. Similarly, I had no past or current association with the organizations selected to recruit participants for this study.

The geographical area of a research study is an important factor to a researcher. Hunt (2014) indicated that researchers should be closely acquainted with the geographical area of the study. I have lived in Miami, Florida, from 2008-2017, and I am acquainted with the geographical area.

Qualitative study researchers must adopt a series of systematic ethical steps when carrying out investigations that involve the lived experiences of human subjects (Belmont Report, 1979). Researchers who gather data from human subjects using interviews and other direct method engagements demonstrate the following ethical requirements: (a) respect for individuals, (b) beneficence, and (c) justice (Belmont Report, 1979). In this research, I demonstrated respect by being fair to every participant. I asked each participant the same set of questions in the same way in the private room of a public library. I practiced beneficence by attempting to do more good than harm to every participant, and I adhered to the principles of justice towards every participant.

Researchers have a responsibility to proactively guard against the possibility of collating, analyzing, interpreting, and viewing data through personal lenses, perspectives, or biases (Yin, 2014). I acknowledged that my work experience as a pharmacist may cause potential biases. I mitigated potential personal bias by using the member-checking technique to reduce potential bias. Member checking is the process of having each

participant review a summary of his or her interview responses for accuracy and exhaustiveness (Morse, 2015). Giving the participants the opportunity to verify the accuracy of interview data helped me to check if I injected personal bias into the responses of the participants. I also mitigated potential bias by conducting a semistructured interview with open-ended questions. As Yin (2014) noted, asking open-ended, semistructured interview questions affords participants the opportunity to offer more detailed and exhaustive answers to questions in their own words. In addition, I asked follow-up questions to clarify participants' earlier responses, where necessary.

I reviewed company documents only to explore the effect of reduced prescription errors on profitability in a retail pharmacy. I did not take a subjective view of the data. I recorded and reported the data as found regardless of what my personal persuasions were and I remained objective, neutral, and professional. After obtaining the consent of the participants, I recorded the interview sessions using an audio digital recorder, summarized the responses of the participants, sent the summarized versions of the participants' responses to the participants for member checking, and uploaded the member-checked, summarized versions of the participant responses into NVivo version 11. NVivo is a data analysis software that researchers use to code data (Castleberry, 2014).

As indicated by Yin (2014), researchers use interview protocols to guide and standardize the interview process. I used an interview protocol (see Appendix B) to guide and standardize the interview sessions with participants. The interview protocol is a

document that itemizes the specific steps and procedures required for the interview process (Yin, 2014). My rationale for using an interview protocol was that interviewers use interview protocols to set the participants at ease, reduce the personal biases of the researcher, encourage participants to share information freely, facilitates uniform data collection strategies for all interview sessions, and creates a relaxed context and environment during the interview sessions (Hunt, 2014; Yin, 2014). I used the interview protocol to minimize the issue of personal bias in the course of interviewing the participants in this study.

Participants

The participants in qualitative case study research must possess the required characteristics and relevant knowledge that will enable them to answer the research question effectively (Ertürk & Vurgun, 2014; Newington & Metcalfe, 2014; Hilton, 2015). The overarching research question for this study was: What strategies do some retail pharmacy managers' use to increase profit by reducing the prescription error of pharmacy employees? The eligibility requirements for this study were (a) that a participant must be a pharmacy manager and pharmacy owner in a retail pharmaceutical company within Miami, Florida, and (b) that a participant must have successfully implemented strategies that increased profitability though reduced prescription errors in their respective organizations based on the quarterly, continuous quality improvement incident report of the Florida Board of Pharmacy reporting system. The participants selected for this study satisfied the eligibility requirements.

Qualitative case study researchers may gain access to prospective case study participants through in-person visits (Comi, Bischof, & Eppler, 2014; Hilton, 2015; Smith & Braunack-Mayer, 2014). After receiving IRB approval, I obtained contact information for the potential participants in this study by using the website of the Florida Board of Pharmacy. I called the potential participants on the telephone using an initial telephone script to identify those who had successfully increased organizational profit through the reduction of prescription errors based on the results of the quarterly, continuous quality improvement reporting system of the Florida Board of Pharmacy (see Appendix E). After identifying five qualified participants, I e-mailed the potential participants in this study letters of invitation (see Appendix C) and an informed consent form to formally solicit for their participation in this study. A qualitative researcher uses an informed consent form to provide the details of the roles of a participant in a study to potential participants (Marshall & Rossmann, 2016; Newington & Metcalf, 2014; Suen, Huang, & Lee, 2014). Presenting an informed consent form to my prospective participants enabled them to make informed decisions about their roles in the study. The five prospective participants indicated their willingness to participate in the study by responding to the electronic consent forms with the words, "I consent" within 5 days from the date I e-mailed them the letters of invitation and the informed consent forms. After receiving their individual consents by e-mail, I called them on the telephone individually to schedule 30-45 minutes face-to-face interview sessions in one of the meeting rooms at one of the public libraries in Miami, Florida.

Qualitative researchers who establish a working relationship built on trust and rapport with their prospective participants receive more candid, honest, and detailed responses during interview sessions (Ertürk & Vurgun, 2014; Patterson, McDaid, & Hilton, 2015; Yin, 2014). I engaged my knowledge base as a pharmacist to establish a working rapport with the participants. To establish mutual trust, I included an explanation of the potential benefits of the study to the business community to the participants and to the businesses of the prospective participants. I informed the participants on what my roles and responsibilities were in maintaining their privacies and confidentialities. A qualitative researcher can use code names to identify participants and organizations in a study for the purpose of maintaining privacy and confidentiality (McQuarrie & McIntyre, 2014; Molenberghs et al., 2014; Suen et al., 2014). I used the following code names: P1, P2, P3, P4, and P5 to identify each of the participants and code names: C1, C2, C3, C4, and C5 to identify each of the companies. I reminded the participants that based on their sole discretion, they could decide to withdraw from the study for any reason and at any time either in person, through a telephone call, an e-mail, or by no means at all.

Research Method and Design

The choice of the methodology and design of a research study is an essential and important decision in a research project (Mendez-Morse, 2015). I adopted the qualitative methodology and the multiple case study design for this study. Researchers adopt a qualitative, case study design to gather relevant data from the specialized understanding of the implemented business strategies of the participants in a study (Mendez-Morse,

2015). I designed the study to seek a deeper understanding of the strategies some retail pharmacy managers used to increase profitability through reduced prescription errors.

Research Method

The three major research methods are qualitative, quantitative, and mixed methods (Turner, Kane, & Jackson, 2015). The qualitative method was the most suitable for this study. Business researchers use the qualitative method to explore and describe the various aspects and complexities of those business phenomena that involve the professional experiences of the participants (Trainor & Graue, 2014). This study involved the exploration and description of the business strategies some retail pharmacy managers used to increase profitability through reduced prescription errors in the Miami area of Florida. Qualitative researchers use open-ended questions to explore an in-depth review of the responses of participants concerning the strategies they implemented within the purview of the phenomenon of study (O'Brien, Harris, Beckman, Reed, & Cook, 2014). I chose the qualitative method for this study considering the fact that my objective in this study was to explore and describe strategies used to achieve a specific business goal.

Researchers use the quantitative method to test the relationship between two or more variables and the significance of hypotheses (Hagan, 2014). Quantitative researchers conduct a series of observations between the interactions of the dependent and the independent variables in an experiment (Trainor & Graue, 2014). In using a quantitative method, researchers conduct experiments, collect numeric data, and analyze their data using statistical techniques (Ioannidis et al., 2014). The quantitative method

was not suitable because I was not comparing variables, collecting numeric data, conducting an experiment, or testing the significance of different hypotheses using statistical analysis.

Researchers use the mixed method study when the research study includes both a qualitative and a quantitative aspect (Morse & Cheek, 2014). In mixed method research, the researcher gathers data to test the quantitative aspects of the study and also gathers data to explore and describe the qualitative aspects of the study (Trainor & Graue, 2014). A mixed method approach will not be the most suitable approach for a study when the focus of the researchers is on exploring the lived or practical experiences of the participants of study (Duan, Bhamik, Hoagwood, & Palinkas, 2015). I did not use the mixed method approach for this study because I did not analyze or integrate a combination of quantitative and qualitative data. The use of the qualitative method afforded me the opportunity of using a series of open exchange, open discourse, and open-ended questions to seek a deeper meaning to the practical perspectives of the participants with the business goal of maximizing profitability through minimized prescription errors.

Research Design

The design of a research study must align with the objective of the study (Yin, 2014). Researchers use a variety of designs to conduct social science research such as phenomenology, case study, narrative inquiry, and ethnography (Barkhuizen, 2014a; Baskerville & Myers, 2015; Bliss, 2016). After careful consideration and analysis of the

designs, I chose the case study design because of the alignment of the case study design with the purpose of this research and the research question.

Case study design involves a deeper exploration of a complex phenomenon through the use of case study units (Battistella, De Toni, De Zan & Pessot, 2017). Case study design may be either a single case study (single location) or a multiple case study (multiple locations) (Battistella et al., 2017). Business researchers use a multiple case study design approach to obtain data from multiple case unit locations to achieve a deeper exploration of complex phenomena (Battistella et al., 2017). The multiple case study design was the most appropriate for this study. I chose the multiple case study design because multiple case studies create opportunities for researchers to access stronger and richer data more than the single case study designs as researchers explore complex issues through the strategic perspectives of the participants (Barkhuizen, 2014a; Battistella et al., 2017; Bliss, 2016). Using the multiple case study design afforded me the opportunity to explore the perspectives of retail pharmacy managers regarding the complex issues of prescription errors and organizational profitability.

I did not consider the phenomenological design to be the most appropriate design for this study because my goal in this study was not to study the lived experiences of participants concerning a phenomenon. My goal was to identify the strategies some retail pharmacy managers used for reducing prescription errors. Researchers who use phenomenological designs explore and attach meanings to the lived experiences of the participants of the study (Barkhuizen, 2014a; Baskerville & Myers, 2015; Bliss, 2016).

The purpose of this study was not to find the meaning of phenomena through the lived experiences of people or groups of people.

The ethnographic design was not appropriate for this study. Researchers who use the ethnographic design attempt to study certain concepts within a specific cultural group. (Barkhuizen, 2014a; Baskerville & Myers, 2015; Bliss, 2016). The objective of this study was not to research a concept within a cultural setting. The focus of this study was on retail pharmacists within the Miami, Florida business community.

The narrative inquiry design was not suitable for this study because I was not focusing on the life story of the participants. Narrative inquiry design involves a focus on the life stories of one or more participants in a chronological order (Barkhuizen, 2014a; Baskerville & Myers, 2015; Bliss, 2016). Researchers use the narrative inquiry design to document a narration of the life stories, activities, tendencies, etc. of one or more participants in a chronological sequence. The purpose of this study did not include a chronological narrative of the life story of the participants.

Fusch and Ness (2015), Suen et al. (2014), Molenberghs et al. (2014) emphasized the need for qualitative case study researchers to reach data saturation in the course of carrying out a study. Data saturation occurs when questioning of participants no longer produced any new information, code, or themes and the ability to replicate the study (providing one asks the same participants the same questions in the same timeframe (Fusch & Ness, 2015). To ensure data saturation, I presented the same set of interview questions (see Appendix D) to all the participants in a private meeting room in a public

library. I provided each of the participants with a copy of the summarized versions of their responses to the interview questions and asked for additional information. Offering the participants the opportunity to add to their responses helped me to reach data saturation and achieve validity.

Population and Sampling

I used purposeful sampling technique to recruit participants for this study. Researchers use purposeful sampling to selectively choose a set of participants the researcher considers to be knowledgeable and eligible for the study based on the purpose of the study and the overarching research question (Duan et al., 2015; Kennedy, Gallo, & Latkin, 2015; Mead et al., 2015). I purposefully selected participants because of who they were and what they did based on certain preset criteria. In this study, I used a set of criteria to select five retail pharmacy managers who doubled as pharmacy owners and who had successfully increased profitability by reducing prescription errors from the population of retail pharmacy managers in Miami, Florida. Before sending out letters of invitation to the potential participants, I used an initial telephone script to determine the pharmacy managers who had successfully increased profitability by reducing prescription errors based on the Florida Board of Pharmacy mandatory, quarterly continuing quality improvement incident reporting system. The initial telephone script had the same wording for consistency (see Appendix E).

The other types of sampling methods that I considered were convenience sampling, snowball sampling, and census sampling (Valerie, 2016). The difference

between purposeful, convenience, snowball, and census sampling techniques is that in the case of a purposeful sampling technique, the researcher narrows down the participants in a study using a set of predetermined criteria to select a sample size out of the total population of potential participants (Valerio, 2016). Researchers adopt the convenience sampling technique as a fast and easy way of recruiting participants (Valerie, 2016). Researchers use the convenience sampling technique because of the ease and convenience of recruiting participants (Valerie, 2016). The convenience sampling technique was not appropriate for this study because qualitative researchers require the participants in a case study research to possess some relevant specialized knowledge. The snowball sampling technique is a sampling technique where the already recruited participants suggest some other participants that they know of to the researcher (Valerio, 2016). Researchers use the snowball method when recruiting participants prove difficult. I did not use census sampling because of the potential availability of retail pharmacy managers for this study. The census sampling technique was a sampling technique that entails the use of every available sample in a given population. Researchers use the census sampling technique in situations where the sample population was equal to the total population (Valerio, 2016). I did not use the census sampling technique because the number of retail pharmacy managers in my population size exceeded the potential sample size of five retail pharmacy managers.

Palinkas et al. (2015) noted that a sample size is a group of people who developed strategies that successfully addressed the research question. A qualitative multiple case

study research with a small sample size is acceptable if the researcher takes adequate measures to address possible personal biases (Kirk, 2017; McQuarrie & McIntyre, 2014; Valerie, 2016). Kirk (2017) conducted a qualitative case study within the pharmacy industry using five participants. Miller (2017) conducted a similar study in a hospital pharmacy with five participants. Taylor-Hyde (2017) attained data saturation using a sample size of five participants in a study conducted within the pharmacy sector. I attained data saturation in this study with five participants. The mandatory, quarterly continuous quality improvement incident reporting system of the Florida Board of was the documentation that I used to measure the level of prescription error recorded in each retail pharmacy.

A qualitative case study researcher must attain data saturation (Fusch & Ness, 2015; Suen et al., 2014; Molenberghs et al., 2014). Data saturation occurs when questioning of participants no longer produce any new information, codes, or themes and the ability to replicate the study (providing one asks the same participants the same questions in the same timeframe (Fusch & Ness, 2015). To ensure data saturation, I presented the same set of interview questions to all the participants in the private meeting room in a public library. I provided each of the participants with a copy of the summarized versions of their responses to the interview questions and asked for additional information. Offering the participants the opportunity to add to their responses helped me to reach data saturation (Yin, 2014).

A qualitative case study researcher must establish the eligibility criteria for potential participants (Fusch & Ness, 2015; Suen et al., 2014; Molenberghs et al., 2014). To be eligible as a prospective participant in this study, I established two criteria: (a) the participants must be retail pharmacy managers and pharmacy owners who practiced within the Miami area of Florida, and (b) the participants must have successfully implemented strategies that increased the profitability of their businesses by reducing prescription errors. I used the mandatory, quarterly continuous quality improvement incident reporting system of the Florida Board of pharmacy to verify the level of prescription error recorded in each retail pharmacy.

Ethical Research

The objective of ethical research in a qualitative study is to protect the participants in a research from any potential physical and psychological harm that may occur consequent to a research study (Oliver & Barr, 2014). I commenced contacts with the potential participants for this study after receiving the Walden University Institutional Review Board's (IRB) approval. Oquendo et al. (2014) noted that participants should sign informed consent forms to indicate their willingness to participate in a research study before participating in the study. An informed consent form is a document that itemizes the specific details of a research study that will enable each participant to make informed decisions about their willingness to participate in the study (Oguendo et al., 2014). I presented an informed consent form via e-mail to each of the participants in this study to help them make an informed decision concerning their willingness to participate

in this study. I informed the participants on their prerogative of choice to withdraw from the research for any reason by simply informing me either in person, by telephone or by e-mail.

Researchers have a responsibility to inform the participants in a research study about the presence or absence of incentives for participation (Fiske & Hauser, 2014). I informed the participants that there were no monetary or nonmonetary incentives for participation in this research study. Researchers use The Belmont Report as a guideline for establishing ethical boundaries in a research study (Stanley, Ellis, & Mann, 2014). The Belmont report is a code of conduct established to maintain ethical standards in the course of interviewing research participants for the purpose of maintaining the protection and privacy of the participants in a research study (Stanley et al., 2014). I abided by the standards of The Belmont Report in this study. Researchers maintain the privacy of the participants in a research study by using assigned identification numbers and codes (Morse & Coulehan, 2015). I maintained the confidentiality and privacy of each of the participants and companies in this study by assigning identification numbers to each of them. I used the following code names: P1, P2, P3, P4, and P5 to identify participants and code names: C1, C2, C3, C4, and C5 to identify companies.

Researchers have a responsibility to retain research documents in a safe and retrievable place for a period of 5 years (Oliver & Barr, 2014). I recorded and retained transcriptions, summarized versions of participants' responses, written notes, and other relevant documents in paper files and electronic files. I have stored both the paper file

and the electronic files in a fire and waterproof locked safe and in a password protected digital file and an external flash drive for a period of 5 years. I will be the only person with access to the locked safe and digital file for a period of 5 years. After 5 years, I will destroy the paper files, external flash drive, and permanently delete the digital files. The Walden University IRB approval number is number for this study is **12-07-17-0487369** and it expires on **December 6, 2018.**

Data Collection Instruments

The primary data collection instrument in qualitative research is the researcher (Yin, 2014). I functioned as the primary data collection instrument, researcher, and interviewer in this research. Semistructured, open-ended interview questions (see Appendix E) were qualitative research instruments that helps the participants in a research study to recall their knowledge and experience with better clarity (McIntosh & Morse, 2015). Some researchers use pilot studies to determine either the preliminary feasibility of a larger study, an aspect of a larger study, or the predetermination of the validity of a particular research instrument (Yin, 2014). I did conduct a pilot study because I did not need to conduct a small-scale preliminary study to prepare for a larger study. I used open-ended questions within semistructured interviews to solicit first-hand responses from the participants in this study regarding the strategies they used to increase profitability through reduced prescription errors in their organizations. Researchers may use open-ended questions to find out the *how* and *what* behind the strategies of the participants (McIntosh & Morse, 2015). Researchers may clarify the responses of

participants to questions using open-ended questions and follow-up questions when necessary. Qualitative researchers use interview protocols to ensure consistency in the interview process (Yin, 2014). I used an interview protocol to ensure stability and consistency before, during, and after the interviews (see Appendix B). I asked each participant the same questions in the same order. Qualitative researchers must observe and document the responses of their participants without bias (Morse & McEvoy, 2014). I minimized bias in the course of interviewing participants by using a digital tape recorder to record the interview sessions, and take manually written notes to record the major points of the session, reflexive nonverbal responses from participants, or any other information that was not digitally recordable. I used the notepad to document my personal thoughts and biases to ensure avoidance during data analysis and interpretation.

Yin (2014) posited that for the purpose of achieving methodical data triangulation, case study researchers may obtain company documentation or third party documentation in addition to the person-to-person interview sessions. I obtained company documentations to show that the participants implemented successful strategies that increased profitability through reduced prescription errors. Qualitative researchers may also use the member-checking technique to reduce personal bias after an interview session (Marshall & Rossman, 2016). Member checking is the process of presenting a synthesized, interpreted summary of the transcript of an interview session to the respondents for the purpose of accuracy verification and data saturation (Marshall & Rossman, 2016). I used member checking to reduce personal bias and achieve data

saturation by presenting the summarized interview responses to the participants for confirmation that I captured their intent and responses accurately for validity and reliability purposes. I also asked them if they had any new information to add. I obtained additional information from participants during member checking.

Data Collection Technique

Describing and documenting the data collection technique of a research study establishes the trustworthiness of the data collection process (Battistella, 2014; Elo et al, 2014; Seitz, 2015). After receiving the approval of the Walden University IRB, I commenced the process of collecting data from the participants of this study using face-to-face interview sessions. The advantage of using a face-to-face interview strategy to gather data is that researchers have the opportunity of asking follow-up questions to arrive at better clarifications about what the real meanings and intents of the respondents are (Fusch & Ness, 2015; Rowlands, Waddell, & Mckenna, 2015; Yin, 2014). A potential disadvantage of using interviews to gather data is that the personal biases of the researcher may compromise the responses of the participants. Researchers overcome the issue of personal bias by identifying and documenting their own personal biases, use interview protocols during interview sessions, and member checking the responses of the participants for accuracy and exhaustiveness (Fusch & Ness, 2015; Rowlands et al., 2015; Yin, 2014). Researchers may commence the initial recruitment of participants for a research study through professional contacts and associations (Battistella, 2014; Butler, 2014; Seitz, 2015). I searched the website of the Florida Board of Pharmacy for a list of

the pharmacy managers in Miami, Florida. I used the Florida Board of Pharmacy quarterly continuous quality improvement incident reporting system to identify pharmacy managers who had successfully implemented strategies that helped them to increase organizational profit through the reduction of prescription errors. After identifying the contacts of the potential participants in this study through the website of the Florida Board of Pharmacy, I called them on the telephone using an initial telephone script (see Appendix E) to determine if the prospective participants had successfully implemented strategies that increased organizational profit through the reduction of prescription errors based on the documentation on their Florida Board of Pharmacy quarterly continuous quality improvement incident reporting system. After determining the qualified prospective participants, I e-mailed them a letter of invitation (see Appendix C) and an informed consent form. A qualitative researcher uses an informed consent form to provide the details of the roles of a participant in a study to potential participants (Marshall & Rossmann, 2016; Newington & Metcalf, 2014; Suen et al., 2014). Presenting an informed consent form to my prospective participants enabled them to make informed decisions about their roles in the study.

I received responses from five of the prospective participants who were willing to participate in the study within 5 days of invitation through e-mail. The five participants indicated their willingness to participate by replying to the informed consent with these words, “I consent.” I subsequently scheduled a 30-45 minutes face-to-face interview session with each of the participant in the private meeting room of a public library around

Miami area of Florida. The advantage of using a quiet, neutral off-site location such as the private meeting room in a public library was that the researcher would not need a site permit, and the participants would remain better focused for the interview.

Researchers use interview protocols for the purpose of standardizing the interview process (Battistella, 2014; Butler, 2014; Yin, 2014). I commenced the interview sessions using an interview protocol as a guideline (see Appendix B). Researchers must inform participants of their rights to withdraw from the research study at any time and for any reason (Battistella, 2014; Butler, 2014; Seitz, 2015). I reminded the potential participants of this study of their rights to either continue or discontinue the interview process for any reason and at any time by informing me either personally, by telephone, or through an e-mail. Researchers may document interview sessions using note taking, audio recording devices, video recording devices, or a combination of them (Battistella, 2014; Butler, 2014; Seitz, 2015). I collected and documented data from the participants using: (a) the digital audio-recording device application in an iPhone 7-plus cellphone, and (b) through note taking using a journal. I took notes of the body language of the participants during the interview sessions. I also backed up the recording process using a second digital recording device. Qualitative researchers who gather data through interview sessions must attain data saturation (Battistella, 2014; Hoyland, Hollund, & Olsen, 2015; Seitz, 2015). I used member checking, presenting a summarized version of participant responses to each participant and asked follow up questions where needed until I reached data saturation. Data saturation is that point in which further questioning of participants

no longer lead to the emergence of new themes from the responses of the participants, and the responses can be replicated provided that the participants were asked the same question within the same time frame.

Qualitative researchers engage more than one source of data to achieve triangulation. I used methodical triangulation in this study. Methodical triangulation involves using more than one option to gather data, such as interviews, observations, documents, questionnaires (Battistella, 2014; Butler, 2014; Yin, 2014). I augmented the data from the face-to-face semistructured interview questions with a review of archival pharmacy records and documents such as the Florida Board of Pharmacy mandatory internal incident reporting system, company policy statements on prescription errors and incident reports, and the company balance sheet reports between 2012 and 2016. I transcribed the recorded interview data using the Nuance Dragon Speak, a digital software program for transcription. I summarized the participant's responses and sent the summarized version of participants' responses to the respective participants for member checking. Member checking is a process where participants review a summarized version of their interview responses to validate that the researcher had accurately and succinctly documented their real intentions (Battistella, 2014). Researchers collect data using semistructured interview sessions because of the advantage of being able to ask open-ended, follow-up questions to achieve clarity. The potential disadvantage of gathering data using interview sessions is the possibility of transcribing data through the personal biases of the researcher. I reduced personal biases by documenting all my personal biases

in a journal. I followed the itemized steps in the interview protocol during each interview session, asking every participant the same question in the same way. I maintained a neutral expectation, documented every fact, statistic, and body language, focused on only the research question, interpreted data only from the perspective of the participant, and used member checking to establish the objectivity of my documentations.

Data Organization Techniques

Researchers organize the raw data from their interview sessions into emerging concepts and themes (Fusch & Ness, 2015; Rowlands et al., 2015; Yin, 2014). I imported all the relevant document like the member-checked versions of the participants' responses to interview questions, journal notes, and company records into NVivo for Mac version 11 for coding, analysis, and storage. NVivo for Mac version 11 is an online data analysis software used to identify themes and concepts in a document (Fusch & Ness, 2015; Rowlands et al., 2015; Yin, 2014). Rowlands et al. (2015) noted that many researchers prefer NVivo for Mac version 11 over other types of data analysis software such as Atlas.ti, and MAXQDA because NVivo is more user friendly, supports both small and large data sizes, and is very specific for qualitative research works. I preferred NVivo for Mac version 11 because of the small sample size of this qualitative study and because NVivo for Mac version 11 is more user friendly than Atlas.ti and MAXQDA. I coded the interview data based on the emerging themes from NVivo. Coding includes the identification of the themes and concepts in an interview.

Researchers store the raw data of their studies in secured and protected locations (Yin, 2014). I created a physical folder and a digital folder for the purpose of organizing and tracking the raw data and emerging understandings from this study. I filed the handwritten and summarized interview notes into a physical folder with locks that will be stored in a fireproof and waterproof safe for a period of 5 years. I will be the only one that can open the lock. I preserved company documents in a password-protected digital folder in a laptop and external flash drive. After 5 years, I will retrieve and shred the contents of the physical folder and destroy the electronic files. Researchers use coding techniques to preserve the anonymity and confidentiality of the participants in a research (Fusch & Ness, 2015; Rowlands et al., 2015; Yin, 2014). I used the following code names: P1, P2, P3, P4, and P5 to identify participants 1, 2, 3, 4, and 5 respectively, and code names: C1, C2, C3, C4, and C5 to identify companies 1, 2, 3, 4, and 5 respectively.

Data Analysis Technique

Data analysis is the process of attaching meanings to raw data (Fusch & Ness, 2015). Qualitative researches commence the process of data analysis after conducting and collating the raw data from their semistructured interview sessions (Yin, 2014). Yin (2014) identified the following five-step data analysis process to be an effective data analysis procedure for qualitative research: (a). compile data, (b) disassemble data, (c) reassemble data, (d) interpret data, and (e) draw conclusion.

Compiling Data

Researchers organize raw data in the compiling phase of data analysis in an orderly form for the purpose of creating a database (Rowlands et al., 2015; Thomas, 2015; Yin, 2014). I compiled the data from this study by importing member-checked interview responses from five pharmacy managers, note takings from personal direct observation of pharmacy activities, and archived company documents relevant to this study into the NVivo for Mac version 11 software for categorization as indicated by Leech and Onwuegbuzie (2011). NVivo for Mac version 11 was the data analysis software that I used to analyze the data from this study.

Disassembling Data

Researchers divide their compiled data into fragments and labels at the disassembling data phase of data analysis through a coding process (Rowlands et al., 2015; Thomas, 2015; Yin, 2014). The data coding process included naming, describing, and grouping the compiled data using NVivo into codes. The data coding process included the identification of fragments of data, specific written excerpts with references to create core themes. Researchers create core themes in the NVivo software by labeling all the data with codes to identify relationships, patterns, organized thoughts, and themes. The disassembling process also included using visualization techniques in the NVivo software to interpret relationships among codes. Researchers can also identify the responses from the different respondents with labels for the purpose of establishing emerging themes in their responses.

Reassembling Data

Researchers cluster and categorize the labels into sequencing and groups in the reassembling data phase (Rowlands et al., 2015; Thomas, 2015; Yin, 2014). I reassembled the data from this study using key functionalities in the NVivo software process of sequencing and grouping to arrange the emerging common patterns and themes in the data into sequences and groups of data.

Interpreting Data

Researchers create narratives from the sequences and groups in the interpreting data phase (Rowlands et al., 2015; Thomas, 2015; Yin, 2014). My focus at the interpreting of data phase was to establish narratives and meanings using the NVivo software between the sequences and groupings in the data to the strategies retail pharmacy managers used to increase organizational profitability through reduced prescription errors. This process helped me to establish links and attachment of meanings to the emerged sequences and groups from the reassembled data. Qualitative researchers validate their process of data analysis through the process of methodological triangulation (Edwards-Jones, 2014; Thomas, 2015; Yin, 2014). Methodological triangulation is the process of using multiple sources of data to increase the validity of a study (Yin, 2014). To accomplish methodological triangulation in this study, I relied on the member checked, summarized versions of participants responses from the semistructured interview sessions I had conducted and the evidence from relevant company documents, and my own direct observation of participants during interview sessions, findings from

previously researched works, findings from current research studies and their relationship to the performance prism theory which is the conceptual framework for this study.

Draw Conclusions

Researchers aspire to link core themes from interview results with other sources of data like direct observations and company documents that authenticate or support the conceptual framework theory of the study to triangulate their interpretations (Rowlands et al., 2015; Thomas, 2015; Yin, 2014). To conclude my data analysis, I checked for common patterns and themes from the emerging data that: (a) were in alignment with the performance prism theory which is the conceptual theory on which this study was based, (b) the common themes that helped to indicate the strategies some retail pharmacy managers successfully used to increase profitability through reduced prescription errors in their pharmacies, (c) the evidences from previously published literature, and (d) evidences from newly published research studies.

Software Plan

Researchers use computer software programs for coding, mind mapping, and theme identification (Houghton, Murphy, Shaw, & Caseym, 2014; Rushing & Powell, 2014; Yin, 2014). I used the NVivo for Mac version 11 data analysis software for this study to code, label, categorize, count, and tabulate themes and patterns into useful information like figures and tables. Houghton et al. (2014) cautioned that computer aided software products such as NVivo function to identify the common themes and patterns in a data more effectively after the researcher performs the following four stages of data

analysis on the raw data: comprehending, synthesizing, theorizing, and recontextualizing. I engaged the participants in member checking within 3 days after each interview, presenting each participant a summarized version of their responses to the interview questions for verification. I asked the participants for additional information. After member checking, comprehending, synthesizing, theorizing, and recontextualizing of the raw data, I imported the member-checked data, pharmacy records or documents, and notes from direct observations of the participants into NVivo as indicated by Leech and Onwuegbuzie (2011) for the purpose of coding and identification of common themes. I studied the data to establish data categories and sub categories in alignment with the research question of my study.

Key Themes

To import data into the NVivo software, I did the following: (a) download the NVivo for Mac version 11software into my computer (b) create different subfolders with names such as interview transcripts, interview notes, archived company documents, and other data that were relevant to this study by right-clicking on a manufacturer preinstalled folder called *internals folder*. I imported data from my computer by clicking on the file menu and a relevant subfolder. After importing data into the NVivo software, I concluded my data analysis with a focus on the core and main themes that I identified from the imported data from participant interviews, direct observations, and company documents. I established links between the core themes and the subcore themes from the data that I had imported into the NVivo software and the research question of this study as they

related to the performance prism theory which was the conceptual framework of this study. I also linked the core themes and sub-core themes to previous literature and to the newly published literature as they related to prescription errors and profitability in a retail pharmacy.

Reliability and Validity

Reliability in a qualitative study refers to the dependability of the findings of the study while validity refers to the credibility, confirmability, and transferability of the findings of the study (Morse, 2015). Barry, Chany, Piazza-Gardner, and Chavarria (2014) indicated that a qualitative researcher must conform the findings of a study to the demands of reliability and validity. I discussed reliability under the subheading of dependability, and discussed validity under the sub-headings of credibility, confirmability, and transferability.

Dependability

Qualitative researchers equate reliability with the process of enhancing the concept of dependability (Trochim, 2012). Dependability in a qualitative research refers to the stability, consistency, and reproducibility of data over time and over conditions (Trochim, 2012). Expert review of interview questions, interview protocols, transcript review, member checking of data interpretation, methodological data triangulation, and ensuring data saturation are strategies used to enhance dependability in a qualitative research (Barry et al., 2014; Chetty, Patann, Rasmussesn, & Servais, 2014; Morse, 2015). I enhanced dependability in this study by asking each participant the specific interview

questions that aligned with the research question. I followed the stepwise approach of an interview protocol during every interview session (see Appendix B), transcribe the responses of the participants verbatim using Dragon Dictation without personal bias, summarized the responses of the participants, used member checking to ensure that I captured the exact meaning each participant conveyed, used methodological triangulation to collect data from more than one source, and ensured the attainment of data saturation. Member checking is the process of presenting a synthesized summary of the responses of the participants for the purpose of establishing accuracy and a possible addition of more information in order to achieve data saturation (Morse, 2015). Data saturation is that point in data gathering where the questioning of participants fails to produce any new insights to the interview questions (Morse, 2015).

Credibility

Credibility is the level of accuracy of the findings in a study as documented from the perspective of the participants (Cope, 2014; Fusch & Ness, 2015; Morse, 2015). Yin (2014) suggested that researchers can enhance the credibility of their studies through the use of member checking, data saturation, and data triangulation. I achieved credibility in this study by ensuring that the participants checked the summary of their responses for accuracy and exhaustiveness. I probed for more responses during member checking to ascertain that the participants exhaustively responded to the interview questions. I gave each participant the opportunity to verify my interpretation of their company documents to establish validity and accuracy.

Confirmability

Confirmability is the ability of other readers to corroborate or support the results of the study (Morse, 2015). Qualitative researchers must ensure that the findings of their studies are confirmable. (Yin, 2014; Cope, 2014; Morse, 2015). I achieved confirmability through transcript review, data triangulation, and reflexivity. Reflexivity has to do with the disclosure of the personal biases of the researcher in the study (Cope, 2014). I used reflexivity to ensure that my personal opinions remained undisclosed to the participants. I did not interfere with or alter the opinions of the participants. I documented every data through the lens of the participant.

Transferability

Transferability is the degree to which future researchers may apply the findings from a particular qualitative research study to other research settings in the course of future researches (Morse, 2015). Current qualitative researchers enhance the potential for the transferability of a research finding for the purpose of future researchers who may want to apply the findings of a particular study to other settings. Researchers who thickly describe and document their research procedures in a sequential way enhance the potential transferability of their research findings by future researchers (Cope, 2014; Morse, 2015; Yin, 2014). I enhanced the transferability of this study by documenting and describing the entire research process of this study in a sequential format for the purpose of encouraging the possible replication of similar results in different population settings by future researchers. I described every stage of the research process starting from my

role as the researcher to the findings of the study in a clear sequence for easy comprehension and possible replication in other settings by future researchers.

Data Saturation

Qualitative researchers aspire to achieve data saturation in the course of a research study (Cope, 2014; Fusch & Ness, 2015; Morse, 2015). Data saturation is that point in data gathering where the questioning of participants fails to produce any new insights to the interview questions (Morse, 2015). Failure to achieve data saturation in a study may have a negative impact on the dependability, credibility, confirmability, and transferability of the findings of the study (Cope, 2014; Fusch & Ness, 2015; Morse, 2015). To achieve data saturation in this study, I used member checking. I presented a summarized version of the interview responses of the participants to the participants for accuracy and asked them if they had any additional information to add. Probing for questions after a respondent had verified the accuracy of the summary of their previous responses increased the chances of achieving data saturation (Fusch & Ness, 2015).

Transition and Summary

The purpose of this qualitative multiple case study was to explore the strategies retail pharmacy managers used to increase profit through reduced prescription errors in the Miami area of Florida. The focus of the discussion in Section 2 of this study was a detailed analysis of the methodology and design of the study, responsibilities, and role of the researcher, requirements for participants, and population sampling methods. The discussion in Section 2 also involved the privacy of the participants of this study under

the section of ethical research. The remaining subsections in Section 2 included data collection instruments, data collection techniques, data organization methods, data analysis, reliability, and validity, then finally the transition and summary. In Section 3, I will focus on the presentation of the findings of the study, applications to professional practice, implications for social change, recommendations for action, recommendations for research, reflections, and the conclusion of the study.

Section 3: Application to Professional Practice and Implications for Change

Introduction

The purpose of this qualitative multiple case study was to explore strategies that some retail pharmacy managers used to increase pharmacy profits by reducing prescription errors among pharmacy employees. From December 15, 2017 to December 24, 2017, I collected data from five retail pharmacy managers during face-to-face interview sessions. I engaged the five participants in member checking so that they could verify whether I had succinctly documented and interpreted their responses to the interview questions. I gained additional insight from the participants during member checking, and continued this process until no new themes, patterns, or codes emerged. I also collected data from the following company documents: quarterly continuous quality improvement (CQI) incident reports, income statements, and balance sheets.

To analyze data, I engaged in methodological triangulation using Yin's (2014) five-step process of compiling, disassembling, reassembling, interpreting, and concluding the data. I used NVivo for Macbook software version 11 for theme identification. My research question was: What strategies do some retail pharmacy managers use to increase profit through a reduction in prescription errors among pharmacy employees? Three strategies emerged as key themes (a) prescription error reducing strategy, (b) profitability improvement strategy through reduced prescription errors, and (c) technology strategy to reduce prescription error. Findings showed that an increase in the number of prescription errors in a retail pharmacy business had a negative effect on organizational profitability.

The findings also indicated that (a) prescription error reducing strategies were essential for retail pharmacy managers to increase organizational profit, (b) consistent pharmacy employee training was essential for developing prescription error reducing strategies, and (c) automating the pharmacy workflow using technological advancement strategies was necessary for reducing the number of prescription errors in retail pharmacies. Section 3 contains the findings of the study and includes (a) an introduction, (b) presentation of the findings, (c) applications to professional practice, (d) implications for social change, (e) recommendations for action, (f) recommendations for further study, (g) reflections, and (h) a conclusion.

Presentation of the Findings

The overarching research question was: What strategies do some retail pharmacy managers use to increase profit by reducing prescription errors among pharmacy employees? In the literature review subsection of Section 1, I addressed the different causes of prescription error and the various strategies for reducing prescription errors through the lens of the performance prism theory (Neely et al., 2001). Each of the five retail pharmacy managers interviewed had a unique business model. Yet, three strategies emerged as key themes from the strategies the participants used for increasing profit by reducing prescription errors among pharmacy employees: (a) prescription error reducing strategy, (b) profitability improvement strategy through reduced prescription errors, and (c) technology strategy to reduce prescription error.

I used the first theme, prescription error reducing strategy, to answer the research question as well as reflect on the importance of reducing prescription errors in a pharmacy. I used the second theme, profitability improvement strategy through reduced prescription errors, to analyze the negative outcome an increasing incidence of prescription error can have on organizational profitability. I used the third theme, technology strategy to reduce prescription error, to demonstrate the positive role of technological advancements in reducing prescription errors. Table 1 displays the themes I identified from my interviews with the retail pharmacy managers who participated in this study.

Table 1

Themes Representing Pharmacy Managers' Perspectives

Themes	Percentage of participants' perspectives
1. Prescription error reducing strategy	100%
2. Profitability improvement strategy through reduced prescription errors	100%
3. Technology strategy to reduce prescription errors	100%

Theme 1: Prescription Error Reducing Strategy

The five participants in this study adopted various tactics to facilitate the reduction of prescription errors. Tactics refer to the specific methods the participants in this study had used to reduce prescription errors in their different practices. Many pharmacy managers agree that the adoption of practice-based research findings with actionable tactics may serve as a resourceful tool in assisting other practitioners in solving similar problems within their own practice settings (Fasset, 2011; Kaestli et al., 2014). After data analysis, I identified 10 tactics that the participants had used to implement their prescription error reduction strategy. Table 2 displays the 10 tactics and the percentage of participants who had used the tactics to implement the strategy.

Table 2

Tactics for Implementing a Prescription Error Reduction Strategy

Tactics	Participants with each perspective (percentage)
Automate the workplace	P1, P2, P3, P4, P5 (100%)
Avoid cellphone distractions	P3, P5 (40%)
Avoid guesswork with prescriptions	P1, P2, P3, P4, P5 (100%)
Balance the workload	P1, P2, P3, P4, P5 (100%)
Be accountable	P2, P5 (40%)
Counsel the patient	P1, P2, P3, P4, P5 (100%)
Discuss and document every incident among peers	P1, P2, P3, P4, P5 (100%)
Embrace technological advancements	P1, P2, P3, P4, P5 (100%)
Properly identify the customer	P1, P2, P3, P4, P5 (100%)
Train the workforce on a continuing basis	P1, P2, P3, P4, P5 (100%)

Automate the workflow. All participants reported that automating the workflow in their pharmacies helped them to reduce prescription errors. The benefit of an automated pharmacy workflow is that it connects the different workstations in a retail pharmacy into a single system (Thamir, 2016). Automating the pharmacy workflow has the benefit of helping pharmacy employees to reduce prescription errors that may occur without automation (Thamir, 2016). Participant 3 agreed and said, "My investment in the automation of the pharmacy system helped me to reduce prescription errors." This finding is consistent with the findings of Albarrak et al. (2014) in that automating the pharmacy workflow improved the efficiency of the pharmacy workforce. Participant 5 reported, "When I started my pharmacy, I operated manually due to cash crunch. But in the course of time, I began to reduce errors by automating the pharmacy workflow." Participants 1, 2, and 4 also ascribed the reduction in the number of prescription errors in their pharmacies to the automation of their pharmacy systems. These findings confirm the findings of Albarrak et al. in that pharmacy managers who automate their work process can help to reduce prescription errors.

Avoid distractions. Participants 2 and 5 noted that pharmacy employees must avoid telephone related distractions such as text-messaging, private cell-phone conversations, and nonprofessional chats in the course of filling prescriptions. Participant 5 reported, "We insist that employees must avoid cellphone distractions by avoiding text-messaging and nonwork related phone calls when filling prescriptions." Participant 2 stated, "We have a company policy that only allows pharmacy employees to use their

cellphones only during their break times." This finding confirms the findings of Galanter et al. (2014) in that focus is an essential attribute a pharmacy employee must demonstrate when filling a prescription.

Avoid guesswork with prescriptions. All participants reported that guesswork can increase the occurrence of prescription errors in the pharmacy. The participants noted that a common area where they had trained their employees to avoid guesswork was in the area of typing a prescription with an illegible doctor's handwriting. Participant 1 stated, "Guesswork is not allowed here at all" Participant 2 emphasized, "Guessing on a prescription can lead to the death of somebody." Participant 3 simply said, "Guesswork is not allowed, employees must call the prescriber to verify the prescription." Participant 4 indicated, "Guessing with a prescription is a dangerous game to play," and Participant 5 responded, "Avoid guesswork when you have a prescription in your hand." These findings were consistent with the findings of Smith and Sprecher (2017 in that illegible doctors' handwriting was a major cause of prescription error. Smith and Sprecher further noted that while the use of electronic prescriptions may help pharmacy employees to overcome the problem of illegible doctor's handwritings, electronic prescriptions may contain some errors too. Both Smith and Sprecher and Olukoya et al. (2014) warned that pharmacy employees must pay close attention to the observation that electronic prescriptions may contain errors because of wrong prescription inputs that may emanate from the employees who work at the doctors' offices during the process of imputing and transmitting the prescriptions to the pharmacy.

Balance the workload. Pharmacy managers who balance the workload in a pharmacy help to reduce work-related stress (Boyle et al., 2015). Prescription errors decrease when pharmacy employees experience less work-related stress (Johnson et al., 2014). Participant 1 responded, "We endeavor to balance our workload through proper job delegations to avoid prescription errors." Participant 2 said, "We try as much as possible not to overload the members of staff with excessive workload." Participant 3 reported, "Improper scheduling of pharmacy staff can lead to an overworked team member." Participant 4 indicated, "If you don't balance the workload in a pharmacy, you end up with a disgruntled team." Participant 5 stated, "Creating balanced schedules helped us to reduce prescription errors in our pharmacy." These findings agree with the findings of Boyle et al. and Johnson et al. in that an increasing workload has a negative impact on work-related stress, and work-related stress is one of the major causes of prescription error in a retail pharmacy.

Be accountable. Personal accountability matters in the course of filling a prescription. Pharmacy employees must include their initials to any pharmacy operation for the purpose of accountability. Participant 2 noted, "Each employee is held accountable for any error committed. If you go above 10% error within a certain range of time, you may be out of the company." Participant 5 reported, "We use both punitive and incentive approaches in holding employees accountable when it comes to reducing prescription errors we are not here to punish anyone. Mistakes are human; but too much mistakes are reprimanded with a cautionary write-up." Participants P1, P3, and P4 did not

support the use of punitive measures to hold pharmacy employees accountable for prescription errors.

Literature review findings indicate that existing knowledge concerning the goal of accountability in reducing prescription error favored the use of peer-review learning approach than a punitive one (Kaestli et al., 2014). Both Kaestli et al. (2014) and Fassett (2011) agreed that the purpose of peer reviewed root-cause analysis of prescription errors was not to apportion blames or find faults with pharmacy employees, but to identify the system issues that could have led to the error. During member checking, Participants 2 and 5 responded to their divergent perspectives from the findings of Kaestli et al. and Fassett with the response that they only used the punitive option when the affected employees did not respond positively to the peer-review learning option.

Counsel the patient. Patient counseling is the final step in the process of dispensing a prescription to a patient or customer. All participants noted that the Florida Board of Pharmacy rule mandates every Florida licensed pharmacist to counsel every pharmacy customer, except if the customer declines the offer to counsel. The benefit of patient counseling is that the counseling pharmacist has the final opportunity to detect any prescription error just before the customer steps out of the pharmacy store (Davies, Barber, & Taylor, 2014; Harrison et al., 2016). Participant 1 stated, “Patient-counseling was very useful to me in catching some last minute errors.” Participant 2 indicated, “Patient-counseling is a must for me. I have used it to detect some last-minute errors.” Participant 3 noted, “Patient counseling was the most effective strategy that helped us to

reduce prescription errors." Participant 4 reported, "A pharmacist who forgets to counsel a patient, may have canceled an opportunity to catch a possible error." Participant 5 stated, "As I counsel patients, I go through their medications with them and look out for any prescription error." These findings align with the findings of Davies et al. (2014) and Harrison et al. in that patient counseling helps to improve the level of prescription accuracy, customer trust, and brand loyalty.

Discuss and document every incident among peers. All the participants stated that the strategy of discussing and documenting every prescription incident that occurred in their pharmacies during their quarterly Continuous Quality Improvement (CQI) meetings helped them to reduce prescription errors. Participants P1, P2, P3, P4, and P5 agreed that the CQI meeting is a mandatory, Florida Board of Pharmacy instituted, quarterly meetings that every pharmacy manager must hold with the pharmacy employees to discuss quality improvements in the pharmacy. Participant 1 reported, "We discuss every incident during our quarterly peer-reviewed, CQI meetings." Participant 2 noted, "We strategize against prescription errors during our CQI meetings." Participant 3 indicated, "in order to prevent reoccurrence of prescription errors, we discussed the strategies of improvement in our quarterly CQI meetings." Participant 4 stated, "Errors were usually analyzed during the quarterly CQI meetings of the company." Participant 5 noted, "One of my goals is to prevent a re-occurrence of any error. I achieve that by discussing the incident during our quarterly CQI peer-reviewed meetings." These findings are consistent with the findings of Kaestli et al. (2014) in that organizations that

create conducive atmospheres for discussing the root-cause of prescription errors without punitive intentions on employees achieve better cooperation from their employees. The five participants noted that apart from discussing every prescription error that occurred in the pharmacy in the previous quarter during their CQI meetings with team members, they also documented every new prescription-error reducing strategy in the minutes of their CQI meetings. All participants stated that they use the minutes of their CQI meetings to track the number of prescription incidents, and the strategies for preventing them in future. The five participants reported that based on the Florida Board of Pharmacy rules, they file the minutes of the CQI meetings in a binder and keep them in the pharmacy for inspection purposes. The five participants indicated that documenting their peer-reviewed strategies of improvement helped their team members to prevent the re-occurrence of the same type of error in the future.

Embrace technological advancements. The five participants reported that embracing technological advancements in pharmacy practice was a major strategy that contributed to the outcome of reducing prescription errors in their pharmacies. The five participants agreed that the efficiency of the pharmacy dispensing process in their practices had been boosted through the use of technological gadgets like, barcode scanners; sophisticated dispensing software; automatic counting machines, prescription filling robots, verification trays, and prescription pick-up apps. During member checking when I asked the participants this follow-up question: “Between technological advancement and patient counseling, which would you consider to have been more

effective in helping you to reduce prescription errors? All the participants stated that technological advancement was more effective than patient counseling. Participant 5 buttressed his position with this statement, "Even patient counseling is now technology-assisted because of the computer-aided alert system in my dispensing software that helps us to highlight the patient counseling talking points." This finding is consistent with the findings of Thamir (2016) in that pharmacy managers who use technological advancement strategies to reduce prescription errors achieve their goals at a faster rate. I will discuss more on technological advancements under the heading, *Theme 3: Prescription Error and Technological Impact.*

Properly identify the customer. The five participants noted that a common prescription error was to type a prescription under a wrong customer's profile. In order to overcome this type of error, the five participants reported that they trained the pharmacy employees who received the prescription hardcopies either in person, electronically, by fax or over the phone to form the habit of confirming the correct customer by matching the names of the customers with either their dates of birth, addresses, or telephone numbers respectively. Kauppinen, Ahonen and Timonen (2017) noted that improper identification of pharmacy customers was a major cause of prescription error in a retail pharmacy store. Participant 4 reported, "Customers with similar first and last names could be tricky to identify sometimes. We match them with their dates of birth." Participant 5 noted, "I trained my staff to properly identify the customers. The verifying pharmacist must confirm that the technician typed the prescription under the correct

patient's profile." Participant 1 stated, "Apart from properly identifying the customers at drop-off, we also used our improved point-of-sale register to confirm that either the correct customer or customer's representative was picking up the prescription during pick-up." Participant 2 indicated, "We never accept a prescription at drop-off or release a prescription at pick-up without asking for the customer's date of birth." Participant 3 added, "We didn't assume that every patient information in an electronically sent prescription was up to date. We confirmed them with what we had on file." These findings confirm the findings of Olukoya et al. in that properly identifying a customer both at the pharmacy drop off and pick up helps to reduce prescription errors.

Train the workforce on a continuing basis. The five participants reported similar views on the need to train the pharmacy workforce on a continuing basis for the purpose of reducing prescription errors. Edgeman et al. (2015) emphasized that a key question business leaders must answer was, "What are the capabilities we need to execute our processes?" Participant 1 stated, "I trained my workforce on the need to understand the negative impact the cost of prescription errors can have on our bottom line." Participant 3 stated, "I noticed that those employees who understood the negative impact of an increase in prescription error on our profit margin embraced the goal of reducing prescription error at a faster rate." Despite training the workforce on the negative impact of prescription error on profitability, Participant 4 reported, "Apart from the great gains of technology, it is still the human workforce that will execute the advances of technology."

The implication of Participant 4's submission is that the pharmacy workplace must have a combination of training and learning culture that would help to inculcate the values of dispensing the correct medication to the correct customer in the correct way all the time. Participant 2 noted, "Recognizing that our processes cannot work without the human workforce, I endeavored to train my workforce to appreciate the expectations of our customers on every visit to the store." In order to achieve the customer expectation of receiving the correct prescriptions on every visit to the pharmacy, Participant 5 indicated, "I use compliance trainings, continuing education trainings, journal articles on prescription errors, peer review discussions, and live conferences to train my workforce." The findings of this study are in alignment with the findings of Edgeman et al. (2015) in that effective capacity building through training will help to increase the capacity of team members to achieve organizational goals.

Theme 2: Profitability Improvement Strategy Through Reduced Prescription Errors

The five participants reported that decreasing the number of prescription errors in their pharmacies had a positive effect on the profit levels of their businesses. When I asked each of the participants this question: *How did you confirm that the reduction of prescription errors in your stores had a positive effect on your company's profitability?* The five participants stated that they arrived at their conclusions based on the positive feedbacks from customers and employees, as well as a decreasing trend in the number of prescription errors as documented in their annual continuous quality improvement

incident reports, plus increasing profit postings in their company's annual balance sheet reports. Figure 1 displays that between 2012 and 2016, as the annual number of prescription error for companies C1, C2, C3, C4, and C5 reduced, the annual profit of the companies increased.

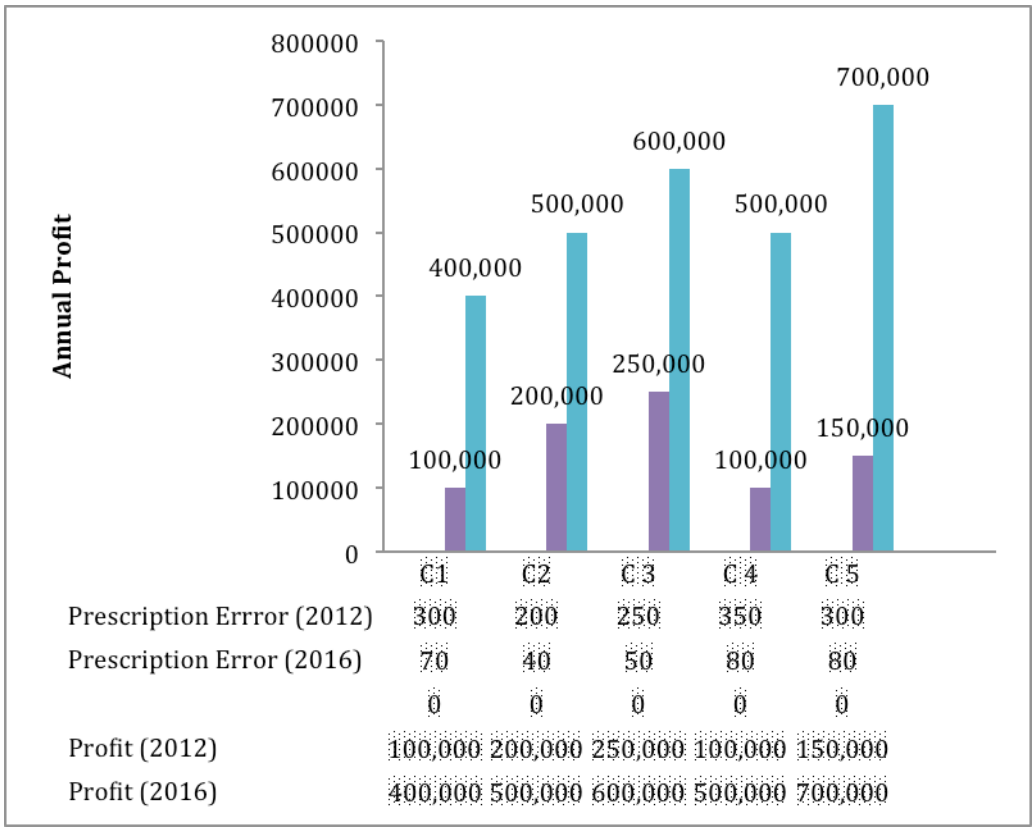

Figure 1. Annual profit and annual number of prescription errors for companies C1, C2, C3, C4, and C5.

Existing body of knowledge support the idea that decreasing number of prescription errors have a positive effect on the profit margin of a retail pharmacy

business (Castaldo et al., 2016; Chan & Tan, 2016; Gavilan et al., 2014; Nitadpakorn, Farris, & Kittisopee, 2017). Nitadpakorn et al. (2017) noted that prescription error negatively affects organizational profit because of the accompanying issues of customer confidence, trust, loyalty, cost of resolving a prescription error, and the cost of possible litigation and indemnity payments (Castaldo et al., 2016; Chan & Tan, 2016; Gavilan et al., 2014; Nitadpakorn et al., 2017). Table 3 displays the tactics the participants in this study used to improve profitability when prescription error occurred in their pharmacies.

Table 3

Participants' Tactics for Improving Profitability After Prescription Errors

Tactics	Participants using tactics
Acknowledge the error	P1, P2, P3, P4, P5
Apologize for the error	P1, P2, P3, P4, P5
Act to correct the error	P1, P2, P3, P4, P5
Offer gift cards to aggrieved customers	P1, P2, P3, P4, P5
Send out an employee to retrieve the wrong prescription	P1, P2, P3, P4, P5
Refund and replace the wrong prescription at no charges to the customer	P1, P2, P3, P4, P5
Document the error	P1, P2, P3, P4, P5
Inform the customer's doctor if the customer had ingested the drug	P1, P2, P3, P4, P5

All the participants reported that they trained their pharmacy workforce to acknowledge prescription errors whenever they occurred in their practices without making excuses for them, to sincerely apologize for their occurrences, and act swiftly to remedy the situations in whatever way they could. The participants indicated that pharmacy employees who acknowledged, apologized, and acted swiftly to remedy prescription error situations in whatever way they could, helped to restore the trust and confidence of their customers in their pharmacies. The participants further noted that they applied other tactics like, offering gift cards to aggrieved customers, sending out pharmacy employees to retrieve and replace the wrong drugs with the correct drugs in situations where the aggrieved customers were reluctant to take another trip back to the pharmacy. The participants indicated that refunding the copayments of the customers and replacing the wrong drugs with the correct drugs at no charges to the customers helped to pacify the aggrieved customers. The participants stated that other tactics such as informing the doctors' offices concerning the prescription incident in situations where the customers had either ingested some or all of the drugs helped to reassure the aggrieved customers that the pharmacy employees were genuinely concerned about their safety, health, and wellbeing. The participants reported that they also documented the incidents in their pharmacy records to help pharmacy employees to strategize more effectively on how to prevent the possible occurrences of future errors during peer review meetings. All the participants agreed that after experiencing prescription incidents in their pharmacies, their goals as pharmacy managers were, to ensure patient safety and wellbeing, prevent

possible lawsuits and indemnity payments, restore customer trust and confidence in their pharmacies, and prevent the occurrence of future errors.

The attendant cost of lawsuits occasioned by dispensing wrong prescriptions and indemnity payments to the victims of prescription errors add to the running cost of a retail pharmacy business (Yasunaga et al., 2016). Participant 4 indicated, "We try as much as possible to avoid litigations." Participant 1 stated, "Litigation is a very expensive process to undertake." Participant 2 noted, "We go the extra mile to ensure the satisfaction of the customers so as to prevent the cost implications of having to face a lawsuit."

During member checking, I sought clarifications from each of the participants using this follow-up question: How could you be improving your company's profitability by: giving out gift cards to your aggrieved customers, refunding their copayments on the wrong medications, sending out pharmacy employees to retrieve the wrong medications in situations where an aggrieved customer refused to make another trip back to the pharmacy as well as replace the wrong medications with the correct ones at no charges to the aggrieved customers? Participant 1 noted, "We do everything to avoid lawsuits considering that the cost of going through a lawsuit is more than the lower costs of offering gift cards and taking a short trip to a customer's location to retrieve and replace a wrong prescription." Participant 2 stated, "If we fail to restore the trust and confidence of any customer with a negative pharmacy experience due to prescription incidents, that customer may take his or her business elsewhere." Participant 3 responded, "We always

want to get our customers to have a lingering positive feeling about their pharmacy experience here." Participant 4 noted, "Failing to handle a prescription incident with professional tact could make us lose future businesses." Participant 5 emphasized, "If you don't restore the trust and loyalty of your customer, that customer can cause you to lose more money by sharing their negative prescription experiences with family and friends." These findings are consistent with the findings of O'Donnell and Vogenberg (2016) in that prescription errors accounted for over 56 % of the closed claims made against pharmaceutical companies between 2002 and 2011. O'Donnell and Vogenberg noted that the victims of prescription errors received more than $14 million as indemnity payments between 2002 and 2011.

These findings aligned with the findings of Nitadpakorn et al. (2017) in that prescription error impacted customer retention negatively in situations where pharmacy employees could not restore the trust of their aggrieved customers. Castaldo et al. (2016) emphasized that an increasing number of prescription error in a pharmacy affects organizational profitability negatively because of the backlash of negative customer experiences on brand loyalty and decreased customer retention. The participants in this study emphasized that applying the tactics of quickly acknowledging, apologizing, and acting swiftly to correct the prescription incidents helped them to restore customer trust and confidence in their pharmacies.

O'Donnell and Vogenberg (2016) reported that pharmacy employees who practiced with the appropriate strategies for preventing prescription errors can assist in

reducing the overhead cost of their business organizations in the long run. Yasunaga et al. (2016) agreed with O'Donnell and Vogenberg concerning the appropriateness of pharmacy employees to practice with the intention of minimizing the cost of prescription errors if they occur as those pharmacy employees attend to the prescription needs of their customers. All participants noted that training their pharmacy employees on the need to minimize the negative impact of prescription error on organizational profitability contributed positively to the realization of their goals of increasing organizational profit through reduced prescription errors.

Theme 3: Technology Strategy for Reducing Prescription Errors

Participants 1, 2, 3, 4, and 5 noted that their investments in upgrading their practice settings, systems, and processes to maximize technological enhancements were the most impactful strategies that helped them to reduce prescription errors in their different practices. Participant 5 stated, "I recorded a lot of errors when I operated a manual system due to cash crunch. Automating our workflow through technological upgrades was a life-saver for us." Participant 1 indicated, "Pharmacy practice cannot be error-free without technological inputs." Participant 2 responded, "What can you do in today's pharmacy practice without technology?" These findings are consistent with the findings of Thamir (2016). Thamir reported that pharmacy leaders and managers who trained their teams on the effective use of current technological advancements to reduce prescription errors recorded better outcomes than their competitors. Table 4 displays that the participants had utilized tools and tactics like: electronically transcribed prescriptions,

automated workflow, portable prescription image scanners, dispensing software with alerts for sound-alike-look-alike drugs, alerts for patient counseling, alerts for drug-utilization reviews; automatic water reconstitution mixers, barcode scanners, automatic pill counters, prescription robots such as script pro, prescription pick-up apps, verification trays, and smart points-of-sales to reduce prescription errors in their various practices.

Table 4

Tactics for Implementing a Technology Strategy

Tactics	Participants
Electronically transcribed prescriptions	P1, P2, P3, P4, P5 (100%)
Automated workflow	P1, P2, P3, P4, P5 (100%)
Portable prescription image scanners	P1, P2, P3, P4, P5 (100%)
Alerts for sound-alike, look-alike drugs	P1, P2, P3, P4, P5 (100%)
Alerts for patient counseling	P1, P2, P3, P4, P5 (100%)
Alerts for drug-utilization reviews	P1, P2, P3, P4, P5 (100%)
Automatic reconstitution mixers	P2, P3, P4 (60%)
Barcode scanners	P2, P3, P4 (60%)
Automatic pill counters	P2, P3, P4, P5 (80%)
Prescription robots such as ScriptPro	P2, P3, P4 (60%)
Prescription pick-up apps	P2, P3, P4 (60%)
Verification trays	P3, P4 (40%)
Smart points-of-sale	P1, P2, P3, P4, P5 (100%)

Participants P1, P2, P3, P4, and P5 reported that electronically transcribed prescriptions helped them to bypass the problem of misreading the handwriting of the prescribing doctors, automating their workflows helped them to detect potential errors at different workstations, investing in portable prescription image scanners helped the verifying pharmacist to see the image of a prescription hardcopy side-by-side with the typed prescription during data and medication verification. All participants noted that investing in dispensing software that flagged alerts for sound-alike-look-alike drugs, patient counseling, and drug-utilization reviews helped the verifying pharmacist to avoid errors due to sound-alike-look-alike drugs and helps flag patients who require counseling regarding a detected drug utilization issue. The five participants indicated that the use of technologically advanced point-of-sale registers during prescription pick-up helped the pick-up technician to avoid the problem of selling correct prescriptions to the wrong customers.

Participants P2, P3, P4, and P5 reported that the use automatic pill counters helped them to avoid the error of incorrect quantity of dispensed tablets and capsules. Participants P2, P3, and P4 stated that the use of automatic reconstitution mixers, barcode scanners, prescription robots, and pick up apps helped them to solve the problems of mixing the wrong quantity of water with children antibiotic medications, pulling the wrong drug from the shelf, labeling vials with the wrong labels, and ensuring that the correct customer picked up the correct medication respectively. Participants P3 and P4 indicated that the use of specially colored verification trays helped the verifying

pharmacists to avoid prescription errors caused by the presence of comingled tablets in a vial. These findings are consisted with the findings of Thamir (2016) in that technologically proficient pharmacy employees who practice in technologically advanced pharmacy-practice settings are better equipped to reduce the incidence of prescription errors more than their competitors who utilize manual processes and strategies.

Confirmation of Existing Knowledge

Koehler and Brown (2017), Nitadpakorn et al. (2017), and Kauppinen et al. (2017) indicated that pharmacy managers have an ongoing responsibility to develop strategies for achieving the goal of increasing organizational profit through the reduction of prescription errors. Koehler and Brown agreed with Traynor (2017) and Nitadpakorn et al. on the observation that pharmacy managers and leaders who developed specific strategies that centered on the need-based model of pharmaceutical service could achieve the organizational goal of increasing profitability through the execution of quality prescription services. Kauppinen et al. stated that pharmacy employees who clarify every aspect of ambiguity in a prescription by communicating directly with the employees at the doctors' offices will offer quality prescription services that could lead to an increase in organizational profit. The findings from this study align with the findings of Koehler and Brown in that pharmacy managers need specific strategies to reduce prescription errors. The findings from this study align with the research of Traynor in that pharmacy managers who develop strategies to meet the prescription needs of pharmacy customers can increase organizational profit. The findings from this study align with the findings of

Nitadpakorn et al. in that the participants of this study attributed the achievement of their goals of increasing profit through the reduction of prescription errors to their abilities to develop and apply the following specific strategies: automate the workflow, avoid cellphone distractions, avoid guesswork with prescriptions, balance the workload, be accountable, counsel the patient, discuss and document every incident among peers, embrace technological advancements, properly identify the customers, and train the workforce on a continuing basis.

Sarwar et al. (2017) noted that prescription errors increased the running cost of a pharmacy business. The findings in this study confirm the research of Sarwar et al. in that the participants in this study reported that the process of resolving prescription errors were both tedious and expensive, yet cheaper than the cost of going through a lawsuit. Nitadpakorn et al. (2017) argued that pharmacy employees who managed prescription errors with the goal of increasing customer retention were able to increase organizational profit. The findings from this study align with the findings of Nitadpakorn et al.in that the participants in this study indicated that the tactics of immediately acknowledging, apologizing, and taking specific actions towards correcting the prescription errors helped to restore the trust, confidence, loyalty, and retention of their customers with an attendant increase in the profit balance of their organizations.

Both Nitadpakorn et al. (2017) and Chan and Tan (2016) indicated that trust for the pharmacist and pharmacy employees was the driving force for customer patronage in a local pharmacy. Nitadpakorn et al. argued that customers rated their trusts in the

pharmacist and other pharmacy employees higher than the physical building and environment of the store. The findings from this study align with the researches of Nitadpakorn et al. as well as Chan and Tan in that the participants in this study reported that pharmacy managers who proactively restored the trust of their customers after a prescription incident were able to retain the patronage of those customers. During member checking, all participants agreed that pharmacy managers who failed to manage prescription incidents effectively could experience a backlash of customer distrust that may lead to a reduction in organizational profit.

Guo and Eschenbrenner (2017) reported that pharmacy managers could use technological enhancements to reduce prescription errors through the establishment of internal checks and controls in the pharmacy dispensing software. Nusair and Guirguis (2017) agreed with Guo and Eschenbrenner on the positive role of electronic transmission of prescriptions directly from the doctors' offices to the pharmacies in reducing prescription errors caused by doctors' illegible handwritings. The findings from this study align with the findings of Nusair and Guirguis as well as Guo and Eschenbrenner in that all the participants agreed that the technological enhancement of their pharmacy practices was the most impactful strategy that helped them to achieve the goal of reducing prescription errors. Thamir (2016) noted that pharmacy leaders who strategically empowered the pharmacy workforce on how to reduce prescription errors using technological advancements recorded better outcomes than their competitors. The findings in this study align with the research of Thamir in that the participants in this

study emphasized how trainings and improvements in the area of technology helped them to achieve their goals of reducing prescription errors.

Edgeman et al. (2015) noted that customers and business owners have mutual expectations: customers expect to receive the best quality service from a business organization and business owners expect to receive financial remuneration, continuous patronage, and loyalty from their customers. The findings from this study align with the findings of Edgeman et al. in that pharmacy customers expected to receive the correct medications prescribed by their doctors on every visit to the pharmacy and the participants expected continuous patronage from their customers, brand loyalty, and financial compensations. Castaldo et al. (2016) noted that backlash from negative customer experiences adversely impacted brand loyalty and the expected customer contributions to a business organization. The findings from this study align with the research of Castaldo et al. in that the participants of this study reported that negative customer experiences like, increasing number of prescription errors, negatively impacted their profit margins. These findings align with the findings of Sipora et al. (2016) who reported that prescription errors can have a negative impact on organizational profitability.

Sultana et al. (2016) observed that the growing responsibility of retail pharmacy practice from just medication dispensers to pharmaceutical care providers placed a new set of training responsibilities on retail pharmacy managers to develop tactics that could help them to improve the proficiencies of their workforce in meeting the task of

increasing organizational profitability. The findings from this study align with the research of Sultana et al. in that the participants in this study stated that they trained their workforce on a continuous basis to be able to meet and exceed the customer expectation of receiving correct and accurate prescription on every visit to the pharmacy. All the participants noted that despite the positive roles of technological advancements in reducing prescription errors, pharmacy managers still had an ongoing responsibility to train the pharmacy employees on how to use technology to execute the corporate goal of increasing profit by reducing prescription errors.

The Performance Prism Theory and Study Findings

The performance prism theory was the conceptual framework for this study. The findings of this study support the five tenets of the performance prism theory. Neely et al (2002) identified the following five tenets of the performance prism theory: (a) stakeholder satisfaction, (b) stakeholder contribution, (c) strategies, (d) processes, and (e) capabilities.

Stakeholder satisfaction. Edgeman et al. (2015) identified stakeholders as those individuals or groups of people who have interests in the organization. Based on the responses of the participants in this study, satisfying the interest and exceeding the expectations of the customer-stakeholders in a retail pharmacy business, positively impacted organizational profitability. All participants indicated that the expectations of the customer stakeholders on every visit to their pharmacies were to receive correct and accurate prescriptions.

Stakeholder contribution. Business owners use the stakeholder contribution tenet in a performance prism through exposing reciprocal expectations from the stakeholders (Edgeman et al., 2015). During member checking, when I asked the participants what they expected from their customers, the five participants noted that they expected compensation in the form of profitability, brand loyalty, and continuous patronage from them. This finding aligns with the performance prism.

Strategies. The strategies construct of the performance prism is the specific policies, plans, and procedures needed by the leaders of an organization to fulfill the needs and wants of their stakeholders (Mishra, 2016). The strategies implemented by the participants in this study for reducing prescription errors aligned with this construct. As the participants applied their strategies for reducing prescription errors, the profit margin of their businesses increased.

Processes. The processes facet of the performance prism theory is the set of activities and practices needed to implement the specific strategies required to satisfy stakeholder expectations (Edgeman et al., 2015). All participants noted that pharmacy employees carry out the set of activities in a retail pharmacy through a process that involves specific workstations. The participants in this study identified those workstations as drop-off, filling, verification, and pick-up workstations.

Capabilities. Capabilities are the combinations of people, practices, strategies, technologies, competencies, abilities, and proficiencies needed to drive the established processes that will satisfy the needs and wants of the stakeholders (Edgeman et al., 2015).

The strategies implemented by the participants indicated alignment with this construct because of their capabilities to reduce prescription errors. The participants increased the capabilities of their workforce through strategic training sessions. All participants indicated that training the pharmacy workforce on a continuous basis can help them to develop the skills and strategies needed to reduce prescription errors.

Applications to Professional Practice

Business leaders and managers within the pharmaceutical sector need current, practice-based research findings to effectively decide the best strategies to execute the corporate goal of increasing organizational profit through the reduction of prescription errors (Sabater-Galindo et al., 2017). In this study, I researched strategies that retail pharmacy managers had successfully used to increase profit by reducing prescription errors in their various pharmacies. The research findings should benefit retail pharmacy leaders, retail pharmacy owners, and retail pharmacy managers who aspire to reduce prescription errors and increase profit in their organization the findings from this study had been demonstrated to achieve organizational goals by the participants in this study. Pharmacy managers who implement the itemized actionable tactics, strategies, and recommendations from the findings of this study will help their pharmacy employees to develop the strategies for increasing profit through the reduction of prescription errors.

The application of the findings from this study can lead to a reduction in prescription error, an increase in pharmacy customer retention with an attendant increase in pharmacy profitability. Nitadpakorn et al. (2017) noted that pharmacy customer

retention had a positive correlation with the perception of the customers on the abilities of the pharmacists and other pharmacy employees to fill their prescriptions correctly without errors. Managers who train their workforce using the findings from this study should increase organizational profit by increasing customer retention. Existing research supports the idea that customer retention and organizational profitability increases as prescription error reduces (Nitadpakorn et al., 2017).

Finally, the findings from this research should benefit retail pharmacy employees such as staff pharmacists, pharmacy technicians, pharmacy interns, and pharmacy clerks who are undergoing trainings on how to reduce prescription errors in their practices. The participants in this study indicated that their pharmacy employees positively embraced their strategies for reducing prescription errors. Pharmacy employees maximize the benefits of corporate strategies for reducing prescription errors when they understand that prior research of such strategies indicated satisfactory outcomes by other practitioners (Sabater-Galindo et al., 2017).

Implications for Social Change

Pervanas et al. (2015) indicated that "drug-related errors can compromise patient care, increase health care costs, and, in worst case scenarios, result in patient deaths" (p. 3). The implications for social change based on the findings of this study include, faster recovery rates from sicknesses and diseases of residents, improved wellbeing and healthy outcomes of the people within the community of the retail pharmacy, coupled with reduced number of ambulatory cases, decreased number of hospital admissions, and even

fewer number of deaths. The reason for the above stated positive outcomes in a community is that, as the pharmacy employees reduce the incidences of prescription error in a community pharmacy, pharmacy customers would receive the correct medications prescribed by their doctors in the correct way. Taking the correct medication in a correct way eventually leads to an improved, positive health outcomes for the affected customers and the community in general.

Another positive social implication of the findings of this study is that communities would experience an improvement in the stability of their local economy and employment margins. As retail pharmacy stores increase profit by reducing prescription errors in a community, the members of the community who work in those stores would stand a higher chance of retaining their jobs for a longer time. Residents in local communities experience a boost in the local economy when profitable and sustainable companies operate in their communities (Pervanas et al., 2015).

Recommendations for Action

I offer recommendations for action to retail pharmacy managers, pharmacy corporate leaders, retail pharmacy owners, and to other pharmacy managers and business leaders who supervise pharmacy practice settings where prescription dispensing occcurs. Pharmacy managers and business leaders who aspire to increase organizational profit through the reduction of prescription errors can use the findings of this study to achieve their goals.

Retail pharmacy managers and pharmacy business leaders should invest in the latest business tools that would help to automate the pharmacy workflow into a process that would be easily executable by the pharmacy workforce with minimum distractions. Retail pharmacy managers and pharmacy business leaders should discourage members of the pharmacy workforce from engaging in distractions such as the use of cellphones, text messaging, and personal telephone calls when filling prescriptions. Managers should remind pharmacy employees on a regular basis that the process of filling a prescription requires maximum concentration. Managers should remind pharmacy employees to restrict their phone calls to job-related activities.

Retail pharmacy managers and pharmacy business leaders should enforce policies and procedures that would mandate pharmacy employees to avoid guesswork of any type when filling prescriptions. Pharmacy employees must be encouraged to verify every area of doubt when filling prescriptions with the appropriate offices. Pharmacy managers should encourage their workforce to document every communication with the doctors' offices either on the prescription hardcopy or through dispensing software-assisted annotations and notes.

Retail pharmacy managers and pharmacy business leaders should allocate enough staff pharmacist and pharmacy technician hours to balance the workload in their pharmacy operations. Pharmacy managers and leaders should understand that imbalance in the pharmaceutical workload could increase work pressure. An increase in work pressure can also increase prescription errors.

Retail pharmacy managers and pharmacy business leaders should encourage and enforce personal and professional accountabilities on the pharmacy workforce in the course of dispensing a prescription. Managers must operate a system that identifies the specific pharmacy staff that processed a specific prescription. Managers should inculcate the principle of personal and professional accountability of pharmacy employees for the purpose of identifying the pharmacy employee who may need retaining on the strategies for reducing prescription errors.

Retail pharmacy managers and pharmacy business leaders should implement policies and strategies that would help to enforce the mandatory requirement of patient counseling. Pharmacy managers should upgrade their Dispensing software to include ways of tracking pharmacists who fail to counsel their patients. Retail pharmacy managers and pharmacy business leaders should discuss and document every incident among pharmacy employees in a peer review format. Managers should operate a zero tolerance policy concerning possible attempts by team members to avoid documenting prescription errors if they occur. Managers must encourage their employees to carry out their pharmaceutical functions with the understanding that the purpose of the peer review analysis of prescription errors is not to punish affected employees but to find out the systemic errors that could have caused the errors. Managers who identify the systemic errors responsible for a prescription error can develop strategies that could prevent future occurrence of similar errors.

Retail pharmacy managers and pharmacy business leaders should be motivated about embracing the latest technological initiatives in the operation of their pharmacy practice. Managers and leaders should be proactive about upgrading their dispensing software to the latest versions. Managers should enhance the process of drug utilization review with enhanced technology.

Retail pharmacy managers and pharmacy business leaders should enact policies that would encourage both the receiving pharmacy technician and the verifying pharmacist to properly identify the customers when receiving their prescriptions and when verifying them respectively. Managers must remind their pharmacy employees that processing a prescription under the wrong customer profile could lead to privacy violations that may lead to lawsuits against the pharmacy. Managers must train the pharmacy workforce to know that the cost of lawsuits decrease the profit margin of a retail pharmacy.

Retail pharmacy managers and pharmacy business leaders should establish training policies and procedures that would assist them to develop an effective pharmacy workforce. An effective retail pharmacy workforce should be proactive, professional, pleasant, and proficiently abreast with the latest information and skills required for reducing prescription errors. Managers should train their workforce to appreciate the negative impact of prescription errors on organizational profitability.

I intend to disseminate the findings of this study through live presentations in pharmaceutical conferences. I also aim to share the information from this study through

publications in peer reviewed pharmaceutical journals such as the Journal of Research in Social and Administrative Pharmacy, Journal of the American Pharmacists Association, and Journal of Pharmaceutical Policy and Practice. I intend to share the findings of this study through pharmacy continuing education presentations both within the United States and some African countries such as Ghana, Nigeria, and South Africa. These recommendations, if applied, can help retail pharmacy managers and pharmacy business leaders to achieve the combined goals of increasing organizational profit and reducing prescription errors.

Recommendations for Research

The results from this research indicate the need for further study of the strategies and improved business practices pharmacy managers use to increase organizational profit through the reduction of prescription errors. I recommend that researchers conduct further studies to address the limitations outlined in this study. Future researchers could expand the scope of this research to incorporate other geographic locations. Expanding the scope of this study would help future researchers to determine the validity and reliability of the identified outcomes in this study as well as test the level of transferability of the current findings to retail pharmacy practice settings situated in other geographic locations outside of the Miami area of Florida.

I recommend that future researchers conduct a mixed-method research study to determine the strategies retail pharmacy managers use to increase organizational profit through reduced prescription errors. In conducting the mixed-method study, future

researchers could collect qualitative data using open discourse with a larger number of participants and collect quantitative data through surveys to help them determine the actual statistical correlation between prescription errors and organizational profitability. Future researchers could use the qualitative aspect of the mixed-method design to identify and explore the prescription error reducing strategies of retail pharmacy managers, and use the quantitative component of the mixed-method design to test a hypothesis that would help the researchers to determine the actual degree of statistic correlation between prescription error and organizational profitability.

I recommend that future researchers conduct research that would incorporate other practice settings such as the outpatient pharmacy in a hospital. Future researchers could use a combination of other social theories such as the leadership theory with the performance prism theory. Researchers using a different practice setting with an expanded conceptual framework could prove beneficial in assisting pharmacy managers and business leaders who work in different practice settings to view the possible interconnectedness of the impact of prescription error organizational profitability with a unique lens.

Reflections

As I reflect on the background, biases, challenges, and benefits of this doctoral pursuit, I marvel at the degree of academic rigor required in the process of writing, researching, collecting and organizing data, and presenting the findings of the study. The purpose of this study was to identify and explore the strategies retail pharmacy managers

within the Miami area of Florida use to increase organizational profit through the reduction of prescription errors. After conducting the literature review, I arrived at a background understanding that prescription error was a major challenge to retail pharmacy managers because of the negative impact of prescription errors on organizational profitability and customer safety.

With over 25 years of practice in the retail pharmacy setting, I had to devise some tactics on how to mitigate the issue of personal bias. The first tactics that I used to identify personal bias was creating a personal journal. I divided every page of the journal with a line in the middle, documenting my personal biases on the left side of the middle line on the journal page, and documenting participants' responses on the right side. I used member checking to confirm with the participants that I had reflected their exact opinions and not my personal biases. I also used methodical triangulation to distinguish my personal biases from the responses of the participants. Apart from the issue of avoiding personal biases, I had to confront some mental challenges to enable me to stay focused on the project.

The challenges that I had to overcome were the issues of (a) having to change to a new topic after having spent about six months on an earlier topic, (b) changing from a quantitative design to a qualitative design, (c) reworking my literature review, and (d) starting afresh with a new research committee chair. I had to reprogram my attitude to see beyond the challenges.

Overcoming the challenges resulted in the benefit of an improved study plan that contributed to my capacity to enlist research participants and convert relevant findings to answer the research question of this study. Another benefit of this process was that I learned how to be a better observer and a listener. After completing the study, I realized the benefit of collecting data from the divergent perspectives of other practitioners and how to distinguish between objective responses and personal biases.

Conclusion

Based on the results from this study, I concluded that retail pharmacy managers who trained their employees to reduce prescription errors in their pharmacy practices increase organizational profit by (a) reducing the cost of running a pharmacy business and (b) increase the brand loyalty of customers to the business. The participants in this study noted that pharmacy customers expect to receive accurate and correct prescriptions on every visit to the pharmacy. The participants further noted that pharmacy customers who received the wrong prescription in a pharmacy may take their prescription businesses to other competing pharmacies. The five participants in this study implemented specific strategies that enabled them to increase organizational profit through the reduction of prescription errors in their businesses. Implementing strategies that reduce prescription errors are not only critical to the profitability of a retail pharmacy business, they also have positive social change implications such as faster recovery times for members of the community when sick, fewer hospitalizations, and reduced deaths.

Considering the responses of the research participants, the negative impact of prescription error not only leads to reduced customer loyalty to a retail pharmacy, prescription error also increases the cost of running a retail pharmacy. The cost of prescription error could be due to (a) the cost in the time it takes a pharmacy employee to resolve an incident, (b) the cost of attending to lawsuits against the pharmacy, and (c) the cost of indemnity payments to the victims of prescription errors. Pharmacy managers and business leaders who implement the recommendations of this study will have a competitive edge over their competitors.

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Appendix A: Summary of Sources

Summary of Total Sources	
Type of Source (Current = 2014 or later; noncurrent = 2013 or earlier)	Number
Current peer-reviewed journal articles	111
Current non peer-reviewed journal articles	1
Noncurrent peer-reviewed journal articles	7
Noncurrent non peer-reviewed journal articles	0
Current dissertations	4
Noncurrent dissertations	0
Current textbooks	3
Noncurrent textbooks	1
Current U.S. Government database	3
Total current sources	127
Total noncurrent sources	8
Total peer-reviewed sources	123
Total Doctoral Study Sources	135
Percentage Current	
Total current sources / Total sources: 127/135 = .94	94%
Percentage Peer-Reviewed	
Total peer-reviewed sources / Total sources: 125/135 = .908	93%
Literature Review Only	
Sources unique to the literature review	61
Total current peer-reviewed journal articles	111
Other sources	11
Total literature review sources	119

Appendix B: Interview Protocol

Topic: Strategies for Pharmacy Managers to Increase Profits by Reducing Prescription Errors

Step 1: Introduction.

Thank the study participant for taking the time to participate in this study

Step 2: Purpose of study.

Introduce that the purpose of this study is to research the strategies retail pharmacy managers use to increase profit through reduced prescription errors.

Step 3: Describe why the participants are participating to them.

Mention that the information supplied by the participant will be of value in supporting the interviewer's partial fulfillment for the award of the degree of Doctor of Business Administration in Walden University.

Step 4: Describe the benefits of participating.

Explain that leaders might leverage the study results for a better understanding of sustainable leadership practices thereby, enabling enterprises to better meet the expectations of the society.

Step 5: Discuss ethics.

For ethical standards and protecting of individual privacy, request permission to keep notes of the entire session including the opening discussion and the interview.

Step 6: Discuss confidentiality.

Mention that information provided will be confidential and that research records will be in a password protected database. The researcher alone will have access to the records. Inform participant that all files pertaining to data supplied will be destroyed 5 years after the completion of the research. Any material resulting from this session will be confidential and only used for the purpose of the study and presented in the doctoral study. Additionally, the notes will be destroyed immediately upon transcription.

Step 7: Ask if the participant has any questions.

Step 8: Transition to the interview questions.

Conduct the interview by asking semistructured questions. Ask probing questions as required, observe body language, and verbal cues.

Step 9: Wrap-up.

Thank you for your time. To ensure that I have interpreted your data correctly, would a follow up interview be acceptable? Would it be acceptable to contact you for any follow up/clarification if needed? Is there a preferred method of communication?

Appendix C: Letter of Invitation

Dear (Participant, Name)

My name is Alphonsus Ike Nwambie. I am pursuing a Doctor of Business Administration (DBA) degree with a concentration in leadership through Walden University in Minneapolis, USA. My doctoral research topic is "Strategies for Pharmacy Managers to Increase Profit by Reducing Prescription Errors."

As a retail pharmacy manager who doubles as a pharmacy owner, you are best situated to help me with this study because you have an understanding of the strategies that helped you to increase organizational profitability through reduced prescription errors.

The interview will be limited to 30-45 minutes and will be scheduled at your convenience. Your participation and information will be protected consistent with Walden University's confidentiality guidelines. Your participation will be instrumental in providing the required data to best analyze the practices/strategies required to reduce prescription errors in retail pharmacy stores and increase organizational profitability.

At the end of this study, I will share results and findings with participants, scholars, and other stakeholders. Participation in the interviews will be voluntary, and the right to decline to take part or stop at any time during the interview will be respected. Please advise if you have any questions or require any additional information. My contact information is redacted.

Thank you for your time and consideration.

Alphonsus I. Nwambie, Walden University DBA student.

Appendix D: Interview Questions

1. What strategies did you use to increase profit through the reduction of prescription errors?
2. What strategies regarding quality assurance did you implement to verify the accuracy of prescription dispensing by pharmacy employees?
3. What strategies worked best to increase profit through the reduction of prescription errors?
4. What strategies were least effective regarding increasing profitability through reduced prescription dispensing errors?
5. How did you know which strategies were most effective?
6. How, if at all, did pharmacy employee training and development complement or affect the strategies you used to increase profit through reduced prescription errors?
7. How did the employees react to the strategies you implemented?
8. What role, if any, did your pharmacy employee recruitment, assessment, and hiring practices play in implementing your strategies?
9. What, if any, strategies did you use to rectify a prescription dispensing error?
10. What additional information regarding the strategies for increasing profit through the reduction of prescription errors would you want to add?

Appendix E: Initial E-Mail/Telephone Script

Hello, my name is Alphonsus Ike Nwambie. I am a DBA student at Walden University doing a doctoral study on the strategies pharmacy managers use to increase profit by reducing prescription errors in the Miami area of Florida. I base my assessment of reduced prescription error and increased profit on the reported metrics on the Florida Board of Pharmacy's mandatory internal reporting system and your company's profit margin. If you meet the above stated criteria, I will send you a formal letter of invitation to participate. Would you be willing to voluntary participate in this study?