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Effective Strategies to Reduce Information Overload in the Workplace

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Walden University
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Abstract

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MBA, Trident University, 2014

BS, Thomas Edison College, 2011

Doctoral Study Submitted in Partial Fulfillment

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Abstract

Healthcare organizations may incur significant costs from information overload on employees. The high workload and information overload in healthcare can increase burnout, stress, depression, and aggression and reduce productivity and motivation. Grounded in cognitive load theory conceptual framework, the purpose of this qualitative single case study was to explore strategies operational healthcare leaders in the Southeast region of the United States used to reduce information overload in the workplace. Data were collected through phone conferencing from semistructured interviews with five leaders and a focus group discussion with three leaders working in a healthcare organization. Four themes emerged from the thematic data analysis: use of different communication methods, breaks from information, providing information in bits, and observation of employee countenance. A key recommendation for operational leaders is to increase communication through employee forums and dialogues. The implications for positive social change include the potential to develop efficient work environments, enhance innovation, improve productivity, increase employee retention, and provide job sustainability.

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Dedication

This doctoral study is dedicated to the Almighty God above for His love, guidance, blessings, and for giving me the knowledge, patience, and understanding to complete this doctoral program.

First, I dedicate this study to my mother, Zena McDowall, for her sacrifice, patience, prayers, and unfailing love which enabled me the opportunity to achieve this goal.

Second, I dedicate this to study to my first mentor, role model, and grandfather, William McDowall, whose legacy I aim to exceed and honor for a lifetime.

Third, I dedicate this study to my siblings, Fernando Jackson, Mike Jackson, Roselee St. Germain, and Jeff Mathis, for their prayers and support in achieving this goal.

Lastly, I dedicate this degree to my amazing children, Chelsie Jackson, Alexis Jackson, Kendol Jackson, Isaiah McDowall, and Nathaniel McDowall. Thank you for your support and patience throughout this doctoral journey. Remember to always cultivate a very positive mind and make no excuses for living your purpose.

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Section 1: Foundation of the Study

Exploring strategies healthcare leaders use to reduce information overload on employees may help in addressing the problem of burnout, stress, decreased productivity, and turnover cost within healthcare organizations. The growth of information provides unprecedented opportunities for organizations. However, the abundance of information could result in increased competition for attention of the user (Van Knippenberg et al., 2015). The impact of information overload has implications on the health of employees and the turnover of healthcare organizations. Researchers found burnout in healthcare workers could have an adverse effect on their well-being and patient care, increase turnover, and destabilize the workforce (Shanafelt et al., 2017). In an average organization with 200 physicians, the turnover and reduced hours cost the organization approximately $1.5 million per year (Dyrbye et al., 2019). Operational leaders in organizations need to implement strategies to reduce information overload and minimize the cost to the organization.

Background of the Problem

The modern technological era is a unique period of history in which information overload is possible because of exposure to many new sources of information and technology (Benselin & Ragsdell, 2016). Sources of information overload can result in increased stress (Florea & Florea, 2016), burnout (Bonneville & Grosjean, 2016), and reduced employee performance (Chiu et al., 2015). The presence of information overload on employees affects every business organization. Benselin and Ragsdell (2016) found information overload constitutes a phenomenon among many professions. The healthcare

industry is no exception to this phenomenon. The workload in healthcare is very high, and more than 60% of physicians and clinical staff in the United States report a high level of burnout, leading to high turnover for organizations (Willard-Grace et al., 2019). High demand along with information overload results in burnout, stress, and loss of motivation (Couto et al., 2019; Saleem et al., 2015). Effective strategies implemented as a daily practice may reduce the demands and information overload on employees.

Technology, time pressures, workload, information overload, and reduced productivity have major implications in adding costs to an organization (Benselin & Ragsdell, 2016). Healthcare operation leaders need to understand what strategies they can implement to reduce information overload, burnout, stress, and the turnover cost to their organization. Therefore, in this study, I explored effective strategies operational leaders in the healthcare industry used to reduce information overload on employees.

Problem Statement

Information overload is increasingly prevalent and frustrating to employees in the workplace (Yin et al., 2018, pp. 1189, 1195). In an effort to retaliate against management's continued efforts to expose employees to information overload, disgruntled employees spend approximately 30% to 50% of the workday conducting personal business instead of focusing on work-related tasks (Borkovich & Skovira, 2017, p. 153). The general business problem is employees in the healthcare industry constantly face information overload during daily business operations reducing their productivity. The specific business problem is healthcare industry operational leaders lack strategies to reduce employee information overload.

Purpose Statement

The purpose of this qualitative single case study was to explore strategies healthcare industry operational leaders use to reduce employee information overload. The target population consisted of eight healthcare industry operational leaders from one organization located in the Southeast region of the United States with successful experience in reducing employee information overload. The implications for positive social change included efficient work environments, which may decrease turnover, enhance innovation, improve productivity, increase employee retention, and provide for job sustainability, as well as alleviate employee stressors and emotional exhaustion, improving the overall quality of life for employees and their families.

Nature of the Study

I chose the qualitative method to explore strategies healthcare industry operational leaders use to reduce employee information overload. Researchers use the quantitative, qualitative, or mixed methods approach to conduct research (Edmunds & Kennedy, 2017). Researchers use the qualitative research method to get an in-depth understanding of peoples ’attitudes, reasons, behaviors, and actions (Rosenthal, 2016). The justification for using the qualitative method stems from the need to understand the effective strategies operational leaders use to reduce information overload on employees. Barnwell (2015) and Richardson (2014) used the qualitative method to explore strategies used to improve employee performance in the workplace. Researchers use the quantitative method to examine numerical data for testing hypotheses and analyze variables (Saunders et al., 2016). I did not use the quantitative method for this study because implementing

effective strategies to reduce employee information overload does not require testing variables ’relationships through numerical data. Researchers use the mixed method approach to collect and analyze both qualitative and quantitative data (McCusker & Gunaydin, 2014; Turner et al., 2017). The mixed method was not appropriate for the study because there is no need to test hypotheses about relationships or differences between groups or variables through analysis of statistical data.

Four qualitative research designs considered for this study included the case study, narrative, ethnography, and phenomenological design. Researchers use an exploratory single case study design to gain an in-depth and real-life understanding of a phenomenon by collecting data from a variety of sources, including documents, archival records, interviews, direct observations, participant observations, and physical artifacts (Rule & John, 2015; Yin, 2018). I used a single case study design because it allowed the exploration of the real-life situations of information overload in the workplace.

A narrative research design was not applicable for this study because, as Yin (2018) stated, the narrative research design is more appropriate for researchers seeking to understand the lives of individuals told through participants ’life stories. Researchers use the ethnographic research design to focus on culture-sharing of a group, exploring the culture of its members (Cincotta, 2015; Morgan-Trimmer & Wood, 2016). The ethnographic research design was not appropriate for this study because the focus of this study is not on culture-sharing of a group. Researchers use the phenomenological research design when focusing on people-in-society settings and identifying participants ’ personal perceptions of their own life experiences with phenomena (Butina, 2015;

Jarzabkowski et al., 2015). The phenomenological research design was not an appropriate design because the purpose of this study was not to focus on the personal meanings of participants 'perceptions of their own life experiences.

Researchers use a case study design to understand the how, what, and why of a phenomenon from various viewpoints (Manley et al., 2016). A researcher who focuses on understanding the "why" question in more than one case and constructs a comprehensive picture of the phenomena engages in a multiple case study (Yin, 2018). A researcher, however, may not be able to commit the time or afford the extensive resources required for a multiple case study. One of the rationales for using a single study is a common case, which involves the observation of common everyday situations and conditions where limitation may be evident between phenomenon and context (Harrison & Mills, 2016; Yin, 2018). A single case study design was an appropriate approach for the study because it allowed the exploration of the common everyday situation of information overload in the workplace.

Research Question

What strategies do healthcare industry operational leaders use to reduce employee information overload?

Interview Questions

1. From your experience, what symptoms do employees exhibit from information overload?
2. What methods do you use to recognize information overload on employees?

3. What strategies have you implemented to reduce employee information overload?
4. How did you address the key challenges to implementing your strategies for mitigating information overload in your organization?
5. How is the failure and success of strategies for mitigating information overload measured?
6. What strategies failed to mitigate the impact of employee information overload circumstances?
7. Based on your experiences, why did they fail?
8. What strategies were most successful in mitigating the impact of employee information overload?
9. Based upon your experiences, why were they successful?
10. What additional information would you like to provide about organizations strategies for reducing employee information overload I have not already asked?

Conceptual Framework

I chose the cognitive load theory (CLT) as the conceptual framework for this study. Cleland and Durning (2015) postulated CLT to address conditions where people must contend with a heavy information-processing load. Sweller (1988) developed CLT out of the study of problem-solving, after recognizing Miller (1956) information-processing research. Sweller noted CLT addresses the limited capacity of the working memory of an individual and stated the human mind has unlimited storage capacity for

long-term memory. At any given time, only a few discrete items are processed and stored by the working memory of an individual. Cognitive load is the combination of three sources called intrinsic cognitive load (ICL), extraneous cognitive load (ECL), and germane cognitive load (GCL; Leppink & van den Heuvel, 2015; Sweller, 1988).

Park et al. (1999) posited the demands of life affect the cognitive performance of an individual. Researchers in the areas of psychology and organizational sciences suggested due to the limited capacity of humans, information received that exceeds their capacity reduces performance in the individual (Miller, 1956; Simon, 1971). Allocation of attention will result in one of the several states of activation for the information contained within the working memory (D'Esposito & Postle, 2015). The CLT is potentially relevant to this study because successful operational leaders may provide insights into managing strategies to effectively leverage the limited capacity of employees 'working memory.

Operational Definitions

The definition of terms are as follows:

Cognitive load: Cognitive load is the working memory required during the process of solving a complex task or learning new information, and comprised of intrinsic load, extraneous load, and germane load (Leppink & van den Heuvel, 2015; Sweller, 1988).

Information overload: Information overload occurs when an individual has received an abundance of information and achieves a level where they are incapable of processing the information (Eppler & Mengis, 2004).

Information-communication technologies: Information-communication technologies includes electronic communication tools (e.g., faxes, email, or instant messaging), electronic conferencing tools, social networking tools, and collaborative work management tools (Bonneville & Grosjean, 2016; Oldham & Da Silva, 2015).

Schema: Schema are elements or chunks of organized information (Miller, 1956).

Technostress: Technostress is a negative psychological state that is spiraling and results in deterioration to current or future use of technology (Salanova et al., 2014).

Assumptions, Limitations, and Delimitations

Assumptions

Assumptions are a researcher's perspective of all research efforts seen as facts prior to verification of its theoretical validity (Schoenung & Dikova, 2016). In this study, there were four assumptions. The first assumption was all participants in the study would provide honest and accurate responses to the questionnaire and interview questions. The second assumption was all participants were successful in using the strategies to reduce employee information overload. The third assumption was all participants in the study answered questions voluntarily and were not influenced by others. The fourth assumption was the interviews and focus group are the best method to collect the data.

Limitations

Yin (2018) posited limitations are potential gaps in methodology of the study. Limitations are external factors represented as barriers to the research method employed and can have a negative effect on the study's believability. Limitations are not within a researcher's control and are unavoidable. A researcher must ensure the reliability and

validity of their research methods follow accepted processes and used as designed (Leedy & Ormrod, 2010; Singh, 2015). The first limitation was participants may not have the knowledge on all strategies. The second limitation was the selected organization may not have the experiences shared among like businesses. The third limitation was some participants used only a portion of the company's strategies. The fourth limitation was the sample size was constrained to front-line leaders who are not as experienced in these strategies as senior leaders in the organization.

Delimitations

Delimitations are the boundaries of the conscious exclusionary and inclusionary choices made by the researcher during the scope of the study (Marshall & Rossman, 2016). The choices include the type of research questions to ask, the objectives of the study, and the theoretical perspectives used in the study (Simon & Goes, 2013). Asanda et al. (2016) asserted delimitations can provide researchers a manageable amount of data for research analysis and interpretation. The delimitations were the sample size, the target area, and the geographical area. The sample size consisted of eight healthcare industry leaders who used mitigation strategies in reducing information overload on their employees. The target population included operational leaders having a minimum of 2 years of experience in the healthcare industry. The geographical area chosen was the Southeast area of the United States.

Significance of the Study

Contributions to Business Practice

The potential beneficiaries of the findings of this study are leaders of large organizations seeking to enhance performance in a competitive business environment. These organizational leaders could provide information or knowledge support in healthcare or logistics. Corporate information overload causes paralytic culture shock reducing the efficiency of an employee at work (Borkovich & Skovira, 2017). From a psychological perspective, the most frequent symptoms are stress and exhaustion (Reinke & Chamorro-Premuzic, 2014). Managing work-related stress is key for any organization trying to reduce the health issues in the workplace (Mellor et al., 2013). Findings contributing to reducing employee stress and exhaustion may translate into increasing operational efficiencies and enhanced financial performance.

Implications for Social Change

Individuals with information overload could experience a variety of challenges such as exhaustion, burnout, poor decision-making, impaired judgment, and lower productivity (Van Knippenberg et al., 2015). Bonneville and Grosjean (2016) asserted burnout and distress exist among healthcare professionals. Business leaders may use the result of this study to develop and execute strategies to bring positive changes to their employees, helping to alleviate their stressors and emotional exhaustion and to indirectly affect social change in the community by improving the overall quality of life for employees and their families.

Review of the Professional and Academic Literature

This section includes a review of professional and academic literature. A review of the literature is imperative to enable enrichment and insight to the research study. Marshall and Rossman (2016) posited a literature review support a researcher's argument in the study. The purpose of this qualitative single-case explorative study was to explore strategies some healthcare industry operational leaders use to reduce employee information overload. Literature related to information overload provided support for the basis of this study.

The research may contribute to strategies organizational leaders use when dealing with their respective healthcare organizations and help to navigate the heavy demands placed upon employees. Researchers suggest information overload contribute to both stress and exhaustion (Reinke & Chamorro-Premuzic, 2014). Mellor et al. (2013) posited a relationship exist between work related stress, poor health outcomes, and sickness absences. Marinaccio et al. (2013) recognized a correlation between work-related stress risk factors and physical health outcomes. To ensure implementation of strategies, leaders need to engage employees within their organization. Leaders play a significant role in the formation and effective implement of organizational strategies (Jabbar & Hussein, 2017). The findings of this study on strategies healthcare industry operational leaders use to reduce employee information overload may help limit the impact of work-related stress and health concerns.

Organization of the Literature Review

The organization of the literature review contains analysis and synthesis of various components of published research related to strategies successful healthcare industry operational leaders use to reduce employee information overload. Some components of the literature I addressed are CLT, concepts of working memory, and relevant and contrasting theories. I explored information overload effect on various businesses, covering the causes and consequences of information overload. Finally, I explored literature on hospitals as a business and the impact of information overload on the hospital employees.

The primary strategy for searching the literature was to identify significant key words and relevant ideas available in electronic databases, examine each material for credibility, limit the scope of research through selection of only pertinent information related to the study, and review current advances in the field providing significance to the research. The key search words I used to search the literature and help explore the research question includes the following: *business intelligence, business and problem solving, decision-making, healthcare industry, healthcare industry as a business, information-communication technology, information overload, information overload and burnout, information overload factors, information overload and decision-making, information overload and employee performance, information overload and productivity, information overload and safety information overload and workplace efficiency, information leadership theory, systems theory, multitasking, working memory, working memory capacity, management strategies, information glut,* and *healthcare leaders.*

The literature review contains analysis and synthesis of published research comprising of both current and seminal peer-reviewed research on the conceptual framework of CLT. The primary sources are scholarly peer-reviewed articles found in the following databases: ProQuest, Thoreau, EBSCOhost, Google Scholar, Academy of Management, Emerald Insight, JSTOR, SAGE journals, Science Direct, Springer Link, Taylor & Francis Online, Walden Online Library, and other online sources. I presented all information in an organized manner. The literature review draws mostly from peer-reviewed journal articles. However, the literature review also drew from seminal books and dissertations. The period of literature under review consisted mainly of literature drawn from 2016 to 2019. However, literature from earlier periods when considered foundational and of particular importance were also a part of the literature review. The literature reviewed for this study totaled 136 relevant sources to support the research question, method, and design of the study. There were 55 (40%) relevant peer-reviewed sources published in 2017 or later. The remaining 81 (60%) relevant peer-reviewed articles were from before 2017 (see Table 1).

Table 1

Summary of Sources in the Literature Review

Reference type	Total	< 5 yr	> 5 yr
Peer-reviewed articles	125	46	79
Dissertations	2	2	2
Published books	9	7	2
Totals	136	55	81

In this literature review, I outlined the outcomes of information overload and the leadership theories employed to address employee management. The literature resources are organized under the following topics: (a) CLT, (b) contrasting theory, (c) information-communication technologies, (d) healthcare industry as a business, (e) information overload and decision making in business, (f) healthcare leader's role in change, (g) multitasking, (h) causes of information overload, and (i) consequences of information overload.

Cognitive Load Theory (CLT)

This section begins with a discussion of CLT and the separate ways earlier researchers applied the theory. Roetzel (2018) described CLT as one of the most-used theories as a conceptual framework model for research related to information overload. Sweller (1988) developed CLT out of the study of problem-solving. Sweller noted CLT is a limited capacity of the working memory of the human mind. The human memory is divided into working memory and long-term memory with unlimited storage capacity. At any given time, only a few discrete items are processed and stored by the working memory. The information stored in long-term memory takes the form of schemas, and therefore, the processing of new information results in cognitive load on working memory (Sweller, 1988). In the workplace, the average employee faces a plethora of resource-consuming tasks in the environment, representing a significant source of cognitive load (Gilbert & Osborne, 1989). CLT is the conceptual framework for understanding the impact of information overload on employees and how it can help

operational leaders create and implement strategies to alleviate the impact of information overload on employees.

Iskander (2018), Parte et al. (2018), and Yin et al. (2018) applied CLT in three different ways: (a) knowledge workers in the workplace, (b) financial accounting and reporting, and (c) physician burnout. Yin et al. conducted a study using CLT as part of a comprehensive conceptual model to understand the direct impact information overload has on knowledge workers in the workplace. The study included data collected from a sample of 178 employees working in China. The researchers found the impact of information overload significantly reduced job satisfaction, while interruption overload did not impact job satisfaction. Yin et al. concluded increasing information could contribute to people experiencing information overload. Operational leaders need to understand the impact of information overload on their employees.

Researchers applied CLT framework to financial accounting and reporting. Parte et al. (2018) took a slightly different approach and applied CLT in financial accounting and reporting to ascertain how individuals conceptualize and process financial information. Additionally, Parte et al. examined whether international business financial presentation formats provided relevancy for understanding financial information. Efficient financial reporting is an essential factor in improving international business (Parte et al., 2018). The researchers concluded CLT may alleviate some of the issues in the level of details for a presentation, presentation of individual financial statements, and help both sophisticated and unsophisticated users to develop a greater understanding of financial information for decision-making (Parte et al., 2018). Similarly, CLT may help

leaders understand how information presentation can cause information overload on employees.

Iskander (2018) used CLT as a framework to gain insight into the burnout of physicians. Iskander posited cognitive load occurs when an individual experienced the overall burden of task-specific demands, various sensory, psychological, and emotional factors. Iskander concluded when the emotional investment, consistently high demands, and personal stress reach or exceed the cognitive load capacity, the physician may exhibit cognitive overload symptoms. The symptoms may vary from an increased rate of errors to a more subtle sign of a decrease in communication skills. Iskander recommended the inclusion of metacognitive training in medical students 'curricula to minimize cognitive overload and physician's burnout. Metacognitive skills could protect doctors from burnout because this executive cognitive function serves to integrate and evaluate information and actions taken (Iskander, 2018). By implementing effective strategies, operation leaders can reduce the cognitive overload on employees and minimize burnout.

Applying CLT as the conceptual framework to this study allows for the exploration of some strategies healthcare industry operational leaders use to reduce employee information overload. Young et al. (2016) asserted CLT helps identify different factors that impose unnecessary load on a task. Researchers use sources of CLT to gain a deeper understanding of the limited resources of the working memory. The cognitive load framework combines three sources called ICL, ECL, and GCL (Leppink & van den Heuvel, 2015; Sweller, 1988). Leaders must understand the impact of these sources on the individual employee who experiences information overload while on the job.

ICL is one of the three sources of CLT. ICL is the lack of development or incompleteness of a person's cognitive schemas when faced with new information they are about to learn. ICL is dependent on the individual, their experience in a particular area, and the process in which they learn (Sweller, 1988). Hultberg et al. (2018) asserted the level of element interactivity, the complexity, and the nature of the task determines ICL. An element is any piece of information that needs learning. There are low-element and high-element interactivity representing the number of elements in the working memory. An example of low-element interactivity is the learning of basic facts serially and separately. High-element interactivity is a task processed simultaneously to facilitate learning or understanding (Hultberg et al., 2018). The levels of element interactivity exist in the workplace and are present in various learning activities, such as understanding new concepts or learning new tasks.

The workplace is a learning environment where employees can experience changes to their intrinsic load, which can lead to information overload. Mancinetti et al. (2019) noted in a clinical work environment, clinical leaders encounter many situations that leads to educating medical trainees. Learning opportunities are a job resource that stimulates intrinsic and extrinsic motivational processes, resulting in higher employee engagement and job performance (Idris et al., 2015). Learning in the workplace is vital to strategic competitiveness for any organizations (Manuti et al., 2015). It is not natural for learning to occur inside the mind automatically; it is heavily dependent upon two factors: (a) the manner of presentation of information, and (b) the degree of intricacy of the new information presented for processing (Leppink & van den Heuvel, 2015). Parte et al.

(2018) found reducing the complexity of the material presented to the individual reduced intrinsic load. Leaders need to optimize strategies to reduce the intrinsic load on employees.

ECL is a second source of CLT not essential to a task engaged by an individual. ECL is the load triggered by the manner or environment of the presented task to the individual (Sweller, 1988). Such an opportunity is unnecessary tasks or redundant information. Texts or visual presentations manipulate ECL (Hultberg et al., 2018; Sweller & Chandler, 1994). Parte et al. (2018) examined extraneous load to understand how participants are affected by the presentation of information and whether the information can affect their decision-making capacity. Parte et al. focused their study on improving extraneous load through enhancing and simplifying the presentation of financial information. Reducing the complexity of the extraneous load impacted the reduction of the intrinsic and extraneous load. When ECL is at a minimum and ICL at an excessive high administration, the result is a high overall cognitive load or a cognitive overload condition (Leppink & van den Heuvel, 2015). The more the working memory capacity is necessary to accommodate the information presented to an individual, the less working memory capacity available for the ICL (Sweller & Chandler, 1994). Young et al. (2016) posited both intrinsic and extraneous are additive. An employee is unable to function effectively with an exceeded working memory capacity. Reducing the complexity of the information presented can alleviate cognitive overload and positively impact an individual's decision-making capacity.

GCL is the third source of CLT. GCL assists in the building process and automation of schemas and is effective in processing information (Hultberg et al., 2018). Parte et al. (2018) and Mancinetti et al. (2019) conducted a study to examine how germane load enables learners to process information in their cognitive load capacity. GCL is a distinct cognitive load that is a deliberate engagement in cognitive processes and in memorizing new information, along with bolster of learning (Hu et al., 2017; Sweller et al., 1998). GCL assists in learning new skills and information because it automates the process by which a person integrates current information. Everyone has schemas and scripts for various routines, from interacting with people to engaging with the latest information. GCL helps individuals anticipate how to react to the information presented and anticipates how to engage with it, which is particularly helpful when presented with added information. GCL is particularly essential when encountering the latest information since there is no existing schema to interpret it. In its capacity, GCL indicates the expectation of the newly presented information, helping individuals anticipate how to engage with it (Hu et al., 2017; Hultberg et al., 2018). Leaders need to understand how GCL enables their employees to process information and its impact on their cognitive load capacity.

Working memory is a dynamic processing system and essential component of CLT. It proficiently retains and manipulates small quantities of information to facilitate planning, problem-solving, comprehending, and reasoning (Cowan, 2017). The idea behind information processing is the human brain operates in the capacity as a computer to process, store, and receive information and create feedback responses from the

information processed (Gurbin, 2015; Miller, 1956; Wong et al., 2015). Current literature indicates there is a relationship between working memory resources and CLT. In healthcare, Young et al. (2016) applied CLT in the learning and performance of patient transfer from one physician to another by managing working memory resources. The overall goal of patient transfer is to create a mutually shared mental model between the giver and receiver responsible for the patient's care (Young et al., 2016). In patient transfer, Young et al. found the amount of working memory engaged equals the sum of the three types of cognitive load: intrinsic, extraneous, and germane. Understanding working memory is appropriate for this study because the three types of cognitive loads can consume working memory.

Tremblay et al. (2016) suggested a work environment filled with distractors can consume working memory resources. When working memory is overloaded, it prevents new information from connecting with previous knowledge (Pacauskas & Rajala, 2017). Sweller et al. (2011) asserted working memory is the primary structure that facilitates the information coming in from the environment. At any given time, the working memory can process no more than two to three items of new information (Sweller et al., 2011). If an individual must process additional information, their working memory processing capacity overloads, resulting in memory system break down.

Young et al. (2016) posited when an individual's attention identifies sensory information, the information enters the domain of their working memory. The working memory, therefore, efficiently organizes or reorganizes the information into storage in long-term memory. The sensory and long-term memory can deal with large volumes of

information, but the working memory is minimal in comparison (Cowan, 2016; Young et al., 2016). Long-term memory holds a large amount of information, but an individual is only conscious of a tiny portion of information at any given time (Sweller et al., 2011). At any time, the working memory holds a small portion of information, and the remainder lies unconscious until transferred into working memory (Sweller et al., 2011). Leaders should engage in strategies that accurately present information without overloading an individual's working memory. When individuals receive too much at once, they are unable to retain the information.

The working memory is limited in capacity and duration. Working memory holds new information for a few seconds before losing it, and after 20 seconds, almost no information remains (Sweller et al., 2011). For example, if new information received is processed as part of an explanation or problem and not processed almost immediately, no information remains. The loss may severely hinder comprehension or problem-solving. It is vital to rehearse the new material, which aids in transforming it into long-term memory (Sweller et al., 2011). The overload dilemma affects the teaching of complex material and higher-order thinking. Complex learning tasks, such as problem-focused learning, can cause overload for students or employees and result in ineffective information processing and storing. Using collaborative tasks, both in the study and working environments, can enhance working memory by sharing the task impact on the working memory of students or employees. Collaboration can facilitate higher-order learning and problem-solving without the danger of cognitive overload (Sweller et al., 2011). Due to working memory

limited in capacity and duration, cognitive overload can occur in employees if organizations do not engage in appropriate strategies to address it.

Managing the working memory improves performance. Two groups of researchers conducted studies on the role of attention in managing working memory function and found it leads to a higher degree of performance (Chow & Conway, 2015; Shipstead et al., 2015). Such studies provide insights into management strategies to effectively leverage the limited capacity of employees 'working memory and improve work performance. Shipstead et al. (2015) used two data sets to study two aspects of working memory: visual array tasks, and attention control. The researchers found visual arrays and complex span equally influenced variances in fluid intelligence and both of these working memory tasks displayed significant links to attention control. Shipstead et al. concluded attention control is critical in working memory capacity irrespective of the task type. In this study, I explored strategies some operational leaders use to manage working memory function and improve employee performance.

Working memory is a limited form of memory, and the limit on the amount of information held in working memory is known as working memory capacity (WMC). Often, WMC measures include an individual's ability to recall random collections of words, digits, or letters (Sweller et al., 2011). Oberauer et al. (2016) examined WMC and determined multiple explanations for explaining the decay of information but some of these assumptions have better explanative power than others. These explanations include verbal, resource, and interference-based views. Verbal memoranda assume that preventing rehearsal of information has an additive effect and impacts memory outcomes,

while the resource-based view assumes processing two tasks at once will impact memory (Oberauer et al., 2016). However, the researchers indicated decay did not have a sufficient role in explaining retention; instead, a combination of interference and resource limitations led to working capacity limits. In other words, affecting the limit of the WMC of an individual is not by one source but two sources.

Emotions may have an interference role in WMC. Moran (2016) reported anxiety restricts WMC because it competes with processes more relevant to the task an individual engages in. Moran provided a meta-analysis that drew upon 22,061 individuals using self-reported measures indicating anxiety consistently associated with poor performance in WMC. Moran also reported experiments included anxiety, whether naturally arising or induced, lead to poor performance on multiple kinds of tasks. Consequently, emotional states seemed to play a role in WMC. Therefore, an individual's emotional state of mind affects how they manage information overload in the workplace.

The ability to suppress salient distractors also connects to WMC. Gaspar et al. (2016) noted salient distractors predicted inadequate assessments of WMC. These researchers indicated visual working memory functioned slightly different from other forms of working memory and humans typically remembered three to four visual objects for a short period. Gaspar et al. found low-ability individuals could not prevent distractors from capturing their attention, but high-ability individuals maintained a close focus on their task. Therefore, the ability to dedicate attention to working memory is also associated with retention (Gaspar et al., 2016). According to the researchers, training

addresses the visual working memory would be vital in helping increase an individual's working memory.

Working memory is not entirely static. In a study of both humans and nonhuman primates, Constantinidis and Klingberg (2016) found changes in connectivity between the prefrontal cortex and the parietal cortex are related to WMC. In the study, imaging of the brain indicated training helped improve the connectivity between these two parts of the brain and dopaminergic transmission could facilitate interaction between these parts of the brain, leading to improvements in WMC. Nonhuman subjects (i.e., rodents and monkeys) completed most of the working memory training, and a correlation established with human subjects (Constantinidis & Klingberg, 2016). Training is one means of improving WMC within the workplace. Effective training measures to increase employees' working memory are necessary to lower the information overload of employees.

Learners process information differently and one type of training does not fit all individuals. Given the importance of working memory to learning, since immediate information processing is a requirement for learning, it is also essential extraneous information does not present interference with the working memory process (Constantinidis & Klingberg, 2016). In contrast, Cowan (2016) noted it is not easy to isolate working memory for training and the popular training approaches do not benefit all learners. Learning tasks impact the WMC of learners and teachers, and the limitations in one may influence the other. Cowan pleaded for higher tolerance for differences in recipients' working memory and for further research to find more effective ways to

communicate with and educate individuals. Everyone learns and retains new information differently and available methods or combination of techniques may help all individuals.

Contrasting Theory

A theory considered as a conceptual framework for this study was system theory. Business leaders use system theory to predict, explain, and clarify real-world business issues (Adams et al., 2014). Systems theory, developed by von Bertalanffy (1950), is different from CLT developed by Sweller (1988). CLT is associated with individual learning and used in generating a variety of instructional designs (Kirschner et al., 2018). In contrast, system theory is associated with areas in biology and founded on the principle of studying complex, holistic conditions (von Bertalanffy, 1950). Systems theory is an interdisciplinary study of systems in which the system is a framework of how interrelated and interdependent parts function as a cohesive system (Beven, 2006). According to systems theory, systems demonstrate reliable, habitual behavior and serve divergent functions (Broks, 2016; Sayin, 2016). A researcher uses systems theory to describe the dynamics of a system, what it is capable of, and how to measure the performance of the system (Beven, 2006). The entire system works appropriately when all subsystems are in alignment (Belinfanti & Stout, 2018). However, the health of the system remains contingent upon the health of each subsystem (Belinfanti & Stout, 2018). Leaders of organizations can use system theory to understand and resolve problems within the system of their organization. However, system theory is not appropriate to reduce employee information overload.

Belinfanti and Stout (2018) asserted researchers use the tenets of system theory to more deeply understand how each part of the entire system interacts with each other and promotes accountability and sustainability. The tenets of system theory include (a) holistic approach, (b) interconnection, and (c) controlling the system (Belinfanti & Stout, 2018). Systems theory is used in multiple contexts: family therapy (Becvar & Becvar, 2017), learning (Kumaran et al., 2016), evolutionary studies (Badcock et al., 2017), inside schools (Burdern, 2018), and when in relation to finances. The diverse application of system theory reveals the flexibility of the system. Systems theory is significantly distinct from CLT in systems theory focuses on the behavior of a system resulting from its subsystems. At the same time, CLT is useful to explain organizational behavior while under strain from inputs. System theory is not as suitable as a framework for this study as CLT. CLT is suitable for this study because it has relevance to human memory, the elements of interactivity, and the factors contributing to the cognitive load of employees.

Information-Communication Technologies

Information technology provides significant advantage against business competitors. The advancement of information technology is a pivotal and a strategic tool for competitive advantage and business success (Berisha-Shaqiri, 2015; Maceli & Burke, 2016; Ramrathan & Sibanda, 2017). Berisha-Shaqiri and Berisha-Namani (2015) showed the essential resource for any country's economic development was the use of digitalization and information technology. Technological devices included in the definition of information-communication technologies (ICT) include electronic communication tools (e.g., faxes, e-mail, or instant messaging), electronic conferencing

tools, social networking tools, and collaborative work management tools (Oldham & Da Silva, 2015). Employees across many industries manage and use ICT in their daily work. The use of ICT is to help employees work more effectively and productively in teams; however, with their use, employees face the demand of timely responses from multiple directions and expected to complete a variety of tasks simultaneously (Atanasoff & Venable, 2017). Cao et al. (2016) and Jeske and Axtell (2014) agreed the physical constraints of traditional business interactions ease the use of ICT. The use of ICT plays a significant role in the dynamics of information overload (Bonneville & Grosjean, 2016). Researchers suggested the concept of information overload was not prevalent before the 20th century, and the idea grew in prominence with the growth of technology. Consequently, they concluded information overload might partly be a product of the growth of technology, which has led to humans' exposure to almost unending information (Benselin & Ragsdell, 2016). Leaders must implement strategies that balance the use of ICT in their efforts to reduce information overload.

The accessibility of new and diverse information from numerous sources has the potential to provide fresh and creative new ideas. As a result, organizational success is possible because employees are more engaged and are likely to experiment with ideas for improving the organization (Oldham & Da Silva, 2015). Atanasoff and Venable (2017) asserted while there are advantages of improved productivity and efficiency within the workplace, there are negative effects on employee satisfaction, commitment, cognitive, psychological, and physical health. Information technology may contribute to business

success and improvement; however, it can come at the cost of an employee's health or overall well-being.

A potential side effect of technological devices is the exposure to latest information and generation of new ideas, resulting in information overload (Oldham & Da Silva, 2015). Borkovich (2017) found an overwhelming amount of information arriving in the organization under study due to uncontrollable digital collection points. Individuals dedicate extensive time to collecting abundant information, generating too many ideas to effectively process and integrate (Oldham & Da Silva, 2015). ICT may not always represent the sole source of increased problems on a routine basis for workers; however, used daily, ICT can potentially create increased demands on employees (Bonneville & Grosjean, 2016). Conversely, the implication of information technology focuses on improving the business process, adding value to the organization, and providing accessibility for its customers (Kim et al., 2017). ICT could help the businesses to operate more effectively, but when used daily, it can negatively impact employees. The strategies operational leaders implement must effectively address ICT.

Healthcare Industry as a Business

Healthcare operates as a business to make a profit and while providing affordable patient care. Sawyer (2018) asserted healthcare in the U.S is a business term. Sawyer stated doctors and patients are organized into a system where money is extracted from the relationship between both parties in the system. Billions of dollars are shifted from the healthcare system to expand capacity, increasing market share for the hospitals (Sawyer, 2018). There were remarkable spending patterns in the health sector following the onset

of the Great Recession in late 2007 and the reason for the change in spending patterns stems from economic effects on healthcare services and major reforms in healthcare policy (Hartman et al., 2018). The spending of Medicaid risk-mitigation payments impacted the market-price premium prices and the overall spending patterns observed in 2017 and 2018 (Cuckler et al., 2018). National expenditure on healthcare may grow at an expected average of 5.5% per year from 2017 to 2026, and the growth will reach $5.7 trillion by 2026 (Cuckler et al., 2018). The expected increase in healthcare spending provides the potential for hospitals to make a profit and stay in the business of taking care of patients. Garrity and Fiedler (2016) asserted profits are an excellent incentive for hospitals to provide affordable and efficient services to patients. However, there is a need for healthcare leaders to redefine traditional policies and strategies in a changing healthcare environment (Chemers, 2014). If hospitals reduce the impact of information overload on their employees and increase employee performance, they may positively impact patient care and maintain financial stability.

The quality of patient care impacts a hospital's financial performance. The quality of healthcare provided to patients potentially affects the hospital's financial performance and productivity (Wang et al., 2018). Richter and Muhlestein (2017) conducted a study to show the relationship between healthcare quality and financial performance. The researchers found increases in healthcare quality positively affect profitability and conversely, reduced quality with decreased profitability. The operational leader in the healthcare setting has the challenge of balancing the goals of improving patients' health outcomes while maintaining the institution's financial viability (Myers et al., 2019).

Beauvais et al. (2017) suggested hospital organizations taking proactive steps to improve patient safety can reduce costs due to medical errors, incorrect care, and complications of diseases. Additionally, improved patient safety can maximize limited resources, provide additional capital, and enhance the hospital's financial performance.

Hospital departments face demands that impacts operational efficiency. In the healthcare industry, the medical domain is a complex, adaptive system (Leppink & van den Heuvel, 2015). Leaders in healthcare organizations continue to strive for increased efficiency in departments with high-throughput services, and one critical department with high-throughput services is the emergency department (Westbrook et al., 2018). In patients' diagnoses, medical practitioners use multiple sources containing patient information to process and integrate information (Leppink & van den Heuvel, 2015). For example, emergency department physicians must manage the tasks involved in treating patients and apply various strategies to manage their workload, including frequent unpredictable demands (Westbrook et al., 2018). Westbrook et al. (2018) found emergency physicians had high interruption rates and frequently had to multitask to handle the volume of competing demands. Frequent unpredictable demands and constant multitasking impacts efficiency in hospital departments with high throughput.

Exploring strategies to reduce information overload is of value to the healthcare business. Haight et al. (2018) conducted a study of technicians who monitor the health status of patients in their hospitals via telemetry and portable bedside units. The monitoring technician's job is to look for bed alarm conditions triggered by patients. The job is cognitively demanding and must communicate accurately as a preassessment for

the nurses (Haight et al., 2018). The researcher's objective was to ascertain the monitoring technician's information processing workload and whether the large volume of data was too high for error-free operation. Equipment alarms, misinterpretation of alarms notification, late response to alarms, and incorrect reading of electrocardiogram strips represent examples of staffing errors (Haight et al., 2018). Haight et al. found over 748,000 alarms recorded in nearly a month, resulted in significant information processed by a technician to make appropriate decisions. Information processing load, fatigue, and vigilance were a concern. The researchers recommended strategies to reduce information overload on employees who manage critical information in the workplace. All humans have limits to their attention, memory, and information processing; therefore, the recommendation applies across all industries where there is an expectation for employees to respond to upset conditions (Haight et al., 2018). Operational leaders across many industries can benefit from strategies to reduce information overload on employees.

Causes of Information Overload

Employees face exposure to a myriad of information daily in the performance of their work. Information overload is the result when an individual has too much information needed for decision-making (Roetzel, 2018). Buckland (2017) asserted information overload could occur from exposure to excessive data daily. The notion of information overload describes everyday communication situations, which involves too much information in limited time for any individual to manage (Eppler & Mengis, 2004). Any source of information can contribute to information overload. The causes of information overload in an organization's environment are classified into five groups by

Eppler and Mengis (2004) including (a) personal factors, (b) information characteristics, (c) task and process parameters, (d) organizational design factors, and (e) information technologies. A mixture of all the five groups results in information overload, not one by itself (Eppler & Mengis, 2004). The different wealth of information represents the resource-consuming tasks that are significant sources of cognitive load.

Contribution to information overload comes in a variety of forms and not limited to a lone source. Personal traits (e.g., age, skill, and the like), such as motivation, personal situations, and the information-processing capacities of an individual contribute to information overload (Eppler & Mengis, 2003). Chae et al. (2016) agreed the qualitative or quantitative aspects of information are not the only factor to cause information overload. In other words, the presence of information overload is least likely to affect an individual no matter the quantity and quality of the information. However, Chae et al. found individual ability, motivation, family history, and education of the participants contributed to information overload. Leaders need to consider strategies to mitigate the impact of personal factors on information overload.

Information characteristics itself is a cause of information overload. Schneider (1987) emphasized the amount of information is not the only determining cause of information overload but the specific characteristics such as the level of uncertainty, ambiguity, novelty, and complexity. Lee et al., (2016) expressed ambiguity of information between people results in more effort to process information. Paul and Nazareth (2010) found individuals can process information efficiently with increased complexity until information processing capacity is exceeded. The information

characteristics can contribute to overload or reduce it. Also, information relevance can cause information overload (Schneider, 1987). However, contrary to expectations, Graf and Antoni (2020) found information relevance is not a negative factor but rich in value. The higher the information relevance, the lower the information overload on the user due to ability to manage more information.

Task and process parameters contribute to information overload. Task and process parameters are an influential cause of information overload because tasks and processes depend on the use of information. Kirschner et al. (2018) noted a task takes various forms. A task is either convergent or divergent and well-structured or ill-structured. The complexity of the tasks is an individual's perception of the task (Sia & Appu, 2015). Task interruptions are common in the modern work environment. Lee and Duffy (2015) conducted a study using computer-based human behavior tasks to investigate the effects of interruptions using four types of human tasks. Lee and Duffy found interruption significantly negative in cognitive task sets and increases the time to complete those tasks. However, there were minimal effects on the task completion time for the skill/cognitive task sets. Lee and Duffy also found interruptions resulted in increased time to complete cognitive tasks, and interruption resulted in more errors in skill tasks. In contrast, Lebbon and Sigurjónsson (2016) found increasing occurrences of interruptions do not affect organizational performance or productivity. Additionally, Lankton et al., (2012) found lowered perceived information overload in low-complexity tasks with predefined guidance. In high-complexity task, Lankton et al. found lowered perceived information overload in situation involving participative guidance.

Organizational design contributes to information overload. Organizational design, especially the organizational structure of a company, is an essential factor that causes information overload in a company (Galbraith, 1974; Tushman & Nadler, 1978). Galbraith (2014) described organization design as the way one manages a business and organizes it to achieve its goals. Galbraith further added organization design balances the information-processing capacity and the information-processing demands of the organization. Organizational design changes in such a manner its centralization can result in the need to process more information due to increase communication and coordination (Schneider, 1987). Burton and Obel (2018) asserted communication is a critical part of the coordination process in the organization, and its choice of coordination subsequently affects the information flow within the organization and its members. Due to the organization's design, managers may engage in collaborative work or involved with information search (Burton & Obel, 2018). In the initial stage of collaborative work, information overload appears especially prevalent because members connect and learn about each other, exchanging information, and brainstorming ideas (Koh & Lim, 2012). Communication and coordination are the critical components of organizational design because information not communicated and coordinated correctly, can lead to information overload.

Information technologies contribute to information overload. Hoq (2016) referred to information overload as *information glut* and stated it could arise from a variety of sources such as print, online, and digital sources (Hoq, 2016). Information technologies are useful in the workplace to help with productivity. de Wet and Koekemoer (2016) and

Karr-Wisniewski and Lu (2010) found information technologies is partially responsible for lower productivity due to the association of information overload and technology overload. Sbaffi et al., (2020) explained the rise in mobile technologies has exacerbated the issue of information overload. Furthermore, information technologies created a unique type of anxiety related to the difference between what a person knows versus what they feel they should know. Hoq indicated information overload led to negative outcomes not only because of the stress associated with negotiating too much information but because of feeling anxious about what a person does not know. Consequently, Benselin and Ragsdell (2016) concluded information overload might partly be a product of the growth of technology that led to humans exposed to almost unending sources of information. Managing information technologies can help reduce information overload on employees.

Communication technology adds to information overload because it extends beyond the work hours and has overwhelmed employees. Saxena and Lamest (2018) explained managers felt overwhelmed by the volume of digital information available at their disposal. Specifically, the high volume and speed of the digital data coupled with the qualitative and unsolicited nature of the information were distressing, causing an increase in information overload to managers. The advent of information technologies resulted in an overwhelming volume of information available to employees and contribute to information overload.

Consequences of Information Overload

Information overload has consequences that affect employees daily. The consequences associated with information overload are diverse and impacts many people. The consequences of information overload are both emotional and motivational. Such consequences seen through symptoms of occurrence include stress, anxiety, inefficient performance, and tiredness (Bawden & Robinson, 2009; Edmunds & Morris, 2000). Stress, burnout, safety issues, and employee performance are a few of the consequences of information overload discussed in this study.

Stress

Stress within an organization is common in various positions in different industries, and it disrupts the employees (Florea & Florea, 2016). Misra et al. (2020) stated in the case of public managerial settings that perceived information overload is significantly linked to perceived stress level. Stress can cause a lack of engagement, lost productivity, and work dissatisfaction (Burnett & Pettijohn, 2015). Saleem et al., (2015) found stress in the hospital setting is terrible enough to decrease motivation. The thought of stress or the perception of stress seen in others can reduce motivation and increase the stress in nurses (Saleem et al., 2015). Stress and associated problems can lead to an employee seeking relief through employment with another organization, affecting the current organization's turnover rate (Burnett & Pettijohn, 2015). Too much stress in the workplace can negatively affect the organization, impacting retention, work performance, satisfaction, and motivation.

Burnout

Burnout is a consequence of information overload impacting health professional. In recent years, documented studies and reported cases in the media of psychological distress, fatigue, and burnout among health professionals exist which included nurses (Bonneville & Grosjean, 2016). Couto et al. (2019) identified burnout as high demands on personnel combined with information overload, leading to feelings of guilt, and not doing or performing to standards. Overwhelming amounts of content communicated within too short of a period could exceed the receiver's ability to process all information (Cho et al., 2019). Burnout is prevalent among health professionals due to extremely high demands on personnel. One of the main causes to burnout for healthcare professionals are the repetitive nature of administrative tasks (Ozkula & Durukan, 2017). Dyrbye et al. (2019) found in an average organization with 200 physicians, the turnover and reduced hours cost the organization $1.5 million per year. Such profound economic cost is grounds to seek strategies to mitigate the cost.

Once the cognitive capacity is exceeded, an individual will experience burnout. An individual's cognitive capacity is not adaptable to change (Iskander, 2018). Adding to the emotive strain as the occupational complexity and demands increase, is the increasing total load placed on an individual's cognitive capacity. When an individual reaches a level of cognitive overload, the result is the immediate predecessor of burnout (Iskander, 2018). Burnout can impact depression in employees. In past studies, researchers found a connection between depression and burnout (Montero-Marin et al., 2016; Wurm et al., 2016). Both depression and burnout can reduce an individual's ability to function

effectively (Iskander, 2018). As the workplace increases in demands and complexity, it increases cognitive load, leading to burnout, and depression. Leaders will need to implement strategies to reduce information overload, subsequently reducing the load on an individual's cognitive capacity.

Safety Issues

Information overload is of concern because it can create safety issues within the workplace. In recent times, Felstead et al. (2016) indicated information overload may have a role in creating the sort of workplace pressure that leads to safety concerns. In healthcare, compromising patient safety is a major consequence of medical information overload (Sbaffi et al. 2020). Sbaffi et al. (2020) found the culture of always available mindset, email handling, and multidisciplinary communication were the main reasons for information overload. Amir et al. (2018) suggested when trying to communicate critical information for an individual's safety; information overload may prevent adequate communication. During a crisis, effective communication is necessary to promote safety, and so communication efforts should partly consider how information communicated will prevent overload.

Employee Performance

Gilbert (2007) recognized an organization is a complex system where performance resides in individuals. No sufficient research exists concerning the examination of employee performance and information overload; however, researchers found in multiple studies a link between stress and poorer performance outcomes. At times, employees may have to deal with stressful conditions that hurt their ability to

perform their tasks (Chiu et al., 2015). Navigating both job duties and dealing with stressors from information overload, results in exhaustion and energy depletion. Other outcomes related to stress include burnout, depression, and aggression (Hobfoll et al., 2003). Brooks and Califf (2016) noted stress may result from various forms of information overload and subsequently create a more unsatisfactory productivity outcome. Work requirements combined with workplace stressors contribute to information overload, resulting in more reduced job performance.

Changes in organizational performance or management of information to effectively operate a team are symptoms of information overload (Ellwart et al., 2015). The change in internal and external factors impacts an individual's motivation and drives their overall productivity (Yeheyis et al., 2016). Changes must occur not solely on the workers but their work environment to improve their performance (Gilbert, 2007; Pershing, 2016). To see an overall positive change in organizational performance, leaders must find strategies to reduce information overload in the work environment.

Use of technology in the workplace impacts employee performance. Technostress influences both employee and organization performance (Suh & Lee, 2017). Salanova et al. (2014) posited technostress is a negative psychological state that is spiraling and results in deterioration to current or future use of technology. Tarafdar et al. (2015) explained one of the main reasons for increased effect of technostress is the rapid proliferation of ICTs and the cognitive and social demands relevant to use in the workplace. Gaudioso et al. (2017) observed in their study technostress contributed to work exhaustion. Strain arising from new forms of technology, including social networks,

falls into the category of a strain known as technostress. Technostress is particularly likely to arise when people are uncomfortable with the implementation of technology in the workplace (Ansah et al., 2016). Brooks and Califf (2016) and Tarafdar et al. (2015) linked the use of social media in tandem with completing work tasks to information and work overload, resulting in reduced job performance. Ansah et al. (2016) investigation of technostress by employees in the banking industry revealed using such technologies led to anxiety, pessimism toward the job, and mental pressure. The employees struggled to adapt to the technology. Technostress adds to information overload, impacting performance, anxiety, negative attitude, and mental pressure in the workplace.

Information Overload and Decision-Making in Business

Information overload in the workplace has an effect on employees 'decision-making. Eppler and Mengis (2004) listed delayed and inferior decision-making as one of the 25 symptoms of information overload. Information overload situations include sensory overload, data smog, information overkill, information flow, information explosion, or document tsunami (Eppler & Mengis, 2004). Too much information may present concerns to individuals, but the collection of information provides value to both decision-making and problem-solving (Moy et al., 2018). Due to an individual's limited attention span, it is natural to ignore lengthy textual information (Moy et al., 2018). Too much information will negatively impact an individual's decision-making process by causing feelings of stress, confusion, anxiety, or loss of motivation (Eppler & Mengis, 2004). In contrast, too little information can also lead to negative outcomes in decision-

making (Moy et al., 2018). The collection of information can aid in decision-making, but too much or too little can adversely affect the outcome.

The growth of information in the workplace affects healthcare leaders. Klerings et al. (2015) noted the rapid growth of available information in healthcare affects all levels of the healthcare system. Healthcare leaders must simultaneously process and filter information in a short period to decide and engage in an informed decision-making manner with their patients. The decision-making process of these healthcare leaders occurs while subjected to information overload (Klerings et al., 2015). It is difficult for healthcare leaders to filter information effectively. Clarke et al. (2013) posited the three main factors affecting healthcare personnel to filter information effectively are lack of time, lack of skills to search effectively, and inability to integrate information into their workflow. In an environment of information growth, the ability to filter information impacts the healthcare leader's decision-making process. Healthcare leaders need to find strategies to help them accurately filter information to avoid overloading employees.

Information can take different forms and affect the decision-making of an individual faced with diverse cues and information sources (Moy et al., 2018). When an overabundance of information is available, it presents a challenge to the individual faced with the data. The individual cannot process every single data, regardless of whether it could lead to higher decision quality (Moy et al., 2018). An individual's performance during decision-making gradually improves as additional information is provided but declines when data input is excessive, leading to information overload (Eppler & Mengis, 2004). Those individuals who excel at making an appropriate decision in the face of

information overloads are superior decision-makers (Moy et al., 2018). Information can improve decision-making capacity, but in excess, it can have an opposite effect.

In circumstances where information complexity is high, the amount of information alone will exhaust the decision-maker's information processing capacity before other factors (Roetzel, 2018). Simon and Newell (1971) noted in circumstances of information overload; a decision-maker could not process an abundance of information in limited time due to two factors: (a) limited short-term memory, and (b) inadequate information processing capacity for each time unit. Time is a critical, decisive factor on most occasions in managerial decision-making, but extreme examples exist with the availability of unlimited time (Roetzel, 2018). With a gradual increase in information and appropriate length of time to process the available information, an individual will find their performance during decision-making is positively impacted.

Healthcare Leader's Role in Change

Leadership is necessary to ensure the implementation of strategies in an organization. Leaders play a significant role in the formation and effective implementation of organizational strategies (Jabbar & Hussein, 2017). Along the lines of a leader's capacity, there is no one best way to lead. The variety of leadership strategies assessed must determine which one is the most effective in any given situation (Dinh et al., 2014). It is necessary to use different leadership strategies in the management of information overload in the workplace.

Bendell et al. (2017) summarized leadership as a persuasive behavior that influences groups of people to achieve a worthy goal that is pleasing and would have not

otherwise achieved. The key to leadership is recognizing leadership is not associated with power or position but with behavior (Bendell et al., 2017). The core of a leader's behavior is its power. However, for a leader to be effective, they must enlist the participation of their subordinates (Lo et al., 2015). Alavi and Gill (2016) noted authentic leadership contributes to success in today's complex organizational change. Many leadership strategies are possible, but leaders must find the ones right for themselves, their subordinates, and their situation or environment.

Healthcare industry operational leaders are responsible for deciding on a variety of operational issues within a healthcare organization workplace. A leader's actions and behaviors do not go unchecked in healthcare organizations, and their performance is equally important as the results they provide (Walshe & Smith, 2006). In healthcare, leaders use a myriad of resources to process and integrate information to conduct diagnosis and solve problems (Leppink & van den Heuvel, 2015). Therefore, healthcare leaders must implement strategies to manage the resource-consuming tasks, reducing information overload on employees.

Healthcare organizations exist in a hostile, demanding, fast-changing environment, and to survive, leaders must balance competing demands from a wide variety of stakeholders (Walshe & Smith, 2006). In healthcare organizations, patient safety is the leaders' chief responsibility. Therefore, healthcare leaders are the key to managing staff in reducing harm to patients and save lives while effectively managing billions of dollars (Conway et al., 2017). Healthcare leaders also manage information behavior within the organization to improve the overall effectiveness of information in

the environment (Davenport & Prusak, 1997). Operation leaders in healthcare control the flow of business in the workplace, with actions and behaviors closely monitored, they balance demands from stakeholders, manage patient safety, maintain financial efficiency, and improve information flow.

Multitasking

Multitasking is a phenomenon linked to WMC and information overload. Sweller (1988) posited the increase of cognitive load on an individual occurs when the interruptions and multitasking to process information unrelated to their primary task make demands on WMC. Multitasking involves an individual performing multiple concurrent tasks (Gruszka & Nęcka, 2017; Monsell, 2003), or as a way of using a specific time to accomplish a set of task goals by frequently alternating between tasks (Delbridge, 2000). Pollard and Courage (2017) indicated multitasking performance is influenced by working memory to a significant degree. Understanding the impact of multitasking on the working memory may be beneficial to reduce employee information overload.

Multitasking negatively impacts an individual and their performance when involved in a variety of different tasks. In their research, Weaver et al. (2014) investigated forced task-switching on participants who were expecting to switch tasks voluntarily. Initially, the participants began their desired task to perform and later given an unwelcome task. The result was longer reaction time and higher errors during the performance of tasks. The overall result is if an individual chooses to multitask, they can do it in such a way that reduces their cognitive load. However, the individual will take a long time and have more errors (Weaver et al., 2014). Multitasking and unexpected

interruptions negatively impact cognitive load. However, an individual can still multitask but at a level that reduces their cognitive load.

In healthcare, multitasking is an important skill; however, it is poorly understood and received limited research attention (Douglas et al., 2017). Colligan and Bass (2012) found in their qualitative study of pediatric nurses and medication administration that nurses were required to multitask when prompted to speak with the pediatric consultant. The asynchronous communication between nurse and pediatric consultant resulted in a cost to efficiency of the process. In contrary, there are benefits of multitasking when placed in context of multiple objectives involving stakeholders in healthcare (Douglas et al., 2017). Weigl et al. (2015) posited there are positive association between multitasking by emergency department staff and the rated quality of patient information transfer when working with another hospital department. Leaders should carefully consider multitasking for its negative and positive impacts on healthcare workers.

In several studies, researchers found multitasking impacted the working memory of individuals. In their study, Pollard and Courage (2017) found students asked to attend to both texts and video contents were more likely to demonstrate poorer recall from both media. Pollard and Courage also found students were able to ignore the video learned to the same degree as undistracted students, indicating the importance of working memory to learning, and the importance of being able to commit attention to a single source when necessary. In another study to find the impact of multitasking on diagnostic decision-making, Cao and Liu (2013) found participants showed reduced performance when asked to listen and remember verbal patient updates of information provided about other

patients. The ability to control attention links to the ability to maintain information. Engle (2018) noted being able to control an individual's attention, a phenomenon known as executive attention, is essential to working memory. Engle also indicated working memory is necessary for the maintenance of information over time. In studies, researchers noted the importance of fostering executive attention. Redick et al. (2016) also suggested the importance of controlling attention. Redick et al. examined performance on complex tasks designed to gauge multitasking ability. Multitasking impacts the working memory by limiting an individual's ability to maintain control of their attention. Therefore, multitasking affected the level of performance of an individual.

Transition

Section 1 started with the foundation of the problem of information overload in the workplace and the need for further research, the problem statement, the purpose of this study, and the nature of the study. Section 1 also included a description and justification for using cognitive load theory as the conceptual framework for this study. Furthermore, Section 1 contained the assumptions, limitations, delimitations, and the significance of the study. The literature review includes support for additional research exploring and identifying strategies healthcare industry operational leaders use to reduce employee information overload.

Section 2 addresses the purpose of the study, my role as the researcher, and the participants' selection. Additional components of Section 2 include the research method and design, population and sampling, and ethical research. The final components of Section 2 include data collection instruments and techniques, data organization

techniques, and analysis, reliability and validity, and the transition statement and summary of the study. Section 3, reports the findings and results collected during the study, offers recommendations for business application and further research, provides the implications for social change, lists recommendations for future research, and conclude the study with a summary statement.

Section 2: The Project

In Section 1, I conveyed the foundation, background, and current literature addressing information overload in the workplace. In Section 2, I recap the purpose statement, role of the researcher, participants, research method and design, population and sampling, ethical research, data collection instruments, data collection technique, data organization technique, data analysis, reliability and validity, and transition and summary.

Purpose Statement

The purpose of this qualitative single case study was to explore strategies healthcare industry operational leaders use to reduce employee information overload. The target population consisted of eight healthcare industry operational leaders from one organization located in the Southeast region of the United States with successful experience in reducing employee information overload. The implications for positive social change included efficient work environments, which may decrease turnover, enhance innovation, improve productivity, increase employee retention, and provide for job sustainability. The results of this study may also help alleviate employee stressors and emotional exhaustion, improving the overall quality of life for employees and their families.

Role of the Researcher

My role as the primary researcher was to collect and analyze the data provided by the research participants in an ethical and professional manner. A researcher's role is complex and involves various activities in a qualitative study (Postholm & Skrøvset,

2013; Stake, 2013). The responsibilities of the qualitative researcher are to gather, organize, and analyze the most innovative data and main study themes. Qualitative researchers effectively (a) establish themselves as the primary data collection instrument; (b) interpret data from a representative sample and complete qualitative data analysis; and (c) preserve ethical standards during high-quality research and presentation of study findings (Alshenqeeti, 2014; Marshall & Rossman, 2016; Pacho, 2015). Malone et al. (2014) suggested during the data collection process, the researcher must engage the use of prepared interview protocols to reduce the influence of personal bias. Cypress (2017) emphasized the use of reflexivity and bracketing to prevent biases during any stage of the research process. I mitigated personal bias that may have coerced participants 'responses and skewed the data analysis by following the interview protocol.

Unbiased, evidence-based practices are essential to allow readers to review the data and suboptimal treatments critically. An understanding of bias and its impact on the study results is vital. Cypress (2017) noted a researcher's bias is a potential threat to validity. Rikli and Jones (2013) suggested validity and reliability determine the accuracy of report findings. Houser (2013) noted in a qualitative research, rigor and truth are a concern and challenge in the 21st century. According to Morse et al. (2002), research is worthless in the absence of rigor. The authors identified rigor as the strength of the research design in which the criteria deliver a higher level of study and ideal methodological quality.

In addition to serving as the primary researcher, my responsibilities included designing the study, selecting the participants, and collecting, organizing, and analyzing

the data. To preserve the ethical standards of the study, I followed the models of the program that fit well with a qualitative inquiry and meet the standards as prescribed by the Belmont Report Protocol (1979). Brody et al. (2015) stated the Belmont Report protocol requires researchers to adhere to the three fundamental ethical principles of respect for persons, beneficence, and justice during research that includes human participants. Combs (2017) and Madeira (2015) recommended researchers use consent forms to assure study participants of the researcher's affiliation with a credible institution of ethical compliance, and the forms also allow participants the option to decline or participate. I provided participants an informed consent form.

Yin (2018) recommended that qualitative researchers take careful consideration in in the collection, analysis, and reporting of data to eliminate or reduce bias in the research. I used objectivity and not personal experiences, interests, or beliefs to influence the results of my research. Researchers develop interview protocols with a methodology toward data collection that improves the accuracy of subjects, dependent on the interview process and informational follow-up techniques (Marshall & Rossman, 2016; Patton, 2015; Yin, 2013). To avoid inconsistencies, I followed an interview protocol.

The primary research tool was a semistructured personal interview process because face-to-face interaction provides a higher quality of data that yields the most insight. With direct human interaction, there is more communication of information on several levels beyond verbal expression. Body language and facial expressions uncover deep emotions, attitudes, and motivations (Irvine et al., 2012; Smith & Noble, 2014). However, due to the 2019 coronavirus disease (COVID-19) pandemic, interviews

occurred virtually. Interviews and focus group discussion occurred telephonically. During the interview process, I also maintained integrity and objectivity that protected my subjects from harm through the preservation of confidentiality, informed consent, respect for privacy, and full disclosure of acknowledged collaboration of subjects.

Participants

The sample population for the study came from an organization located in the Southeast region of the United States. The selection criteria for the participants in the study includes a minimum of 2 years of experience in employees 'current job positions so they could effectively answer the interview questions. Eligible participants for this study included operational leaders who worked for the selected healthcare organization. The study participants were appropriate because they represented the larger population of the organization, and their characteristics are in alignment with this study (Marshall & Rossman, 2016; Sangster-Gormley, 2013; Yin, 2013). Also, I selected participants responsible for the successful implementation of strategies that reduce employee information overload and improve employee productivity.

Upon receiving the approval by the Institutional Review Board (IRB) for the study, I contacted potential participants via email. Combs (2017) explained researchers provide a consent form to participants to join the study or decline participation. I sent detailed information about the study, providing a letter of invitation informed consent form, and provided the participants with the opportunity to consent or withdraw from the study at any time. Participants willing to participate in the study replied with "I Consent" in their email response.

Research Method and Design

There are three research methods: qualitative, quantitative, and mixed methods (Almalki, 2016; Maxwell, 2016). The qualitative research method is one of the most popular and diverse methodologies in business studies (Chandra & Shang, 2017). A qualitative research method is appropriate for a well-established foundation and aligns with the study's best approach and outcomes (Yin, 2015). Researchers use a quantitative research method to collect and measure numerical data that depicts the relationship between variables using experimental or nonexperimental designs (Cooper, 2016; McCusker & Gunaydin, 2014). I did not use the quantitative research method in this study because it would not yield an in-depth understanding of the people experiencing the phenomenon of research interest. The mixed method research is the application of both narrative and numerical data used to investigate the phenomenon of study (Brown et al., 2016; Stake, 2013). The mixed method approach was not appropriate for the study because hypotheses did not need testing through statistical data analysis.

Research Method

I used a qualitative research method for the study. The qualitative research method is the most appropriate for this study because it allows for exploration and questioning of the participants'circumstances of lived experiences. In the qualitative method approach, a researcher uses semistructured interviews to collect data and focuses on discoveries aligned with the researcher's questions (Gioia et al., 2013). Researchers conducting a qualitative research method study engage in an open-ended question to collect data from participants and interpret data to achieve a comprehensive

understanding of the phenomenon of study (Almalki, 2016; Baskarada, 2014). Guercinie (2014) suggested qualitative data provides the opportunity for richness and complexity found in thick descriptions. The choice of a qualitative research method for this study was appropriate to understand the effective strategies operational leaders use to reduce information overload on employees.

A quantitative research method was not appropriate for this study because I did not assess hypotheses or explore relationships between variables using statistical data. Goertzen (2017) agreed the quantitative research method allows researchers to collect data and analyze quantifiable numerical data. Researchers using quantitative research methods to establish the relational validity of existing theories and generalizing outcomes may not provide detailed descriptions of the phenomenon of study (Demishkevich, 2015; Zyphur & Pierides, 2017). In mixed method research, researchers combine qualitative and quantitative techniques and involve observation of hypotheses (Stake, 2013; Turner et al., 2017). Researchers use a mixed method approach to collect and analyze qualitative and quantitative data to seek concise answers to research questions (Bazeley, 2015; Brown et al., 2016; Goertzen, 2017; Turner et al., 2017). Mixed method research is time-consuming and costly for the researcher (Kaczynak et al., 2014; Turner et al., 2017). A mixed method approach was not suitable for this study because I did not examine hypotheses by analyzing quantitative data.

Research Design

The designs for qualitative research methods include case study, ethnographic, and phenomenological (Demishkevich, 2015; Yin, 2018). A case study design is useful

when discovering unique experiences about a situation (Merriam & Tisdell, 2016). Two main methods exit for case studies: single and multiple (Yin, 2018). A single case study design was the chosen design for this study because it allowed the exploration of real-world situations involving information overload in the workplace.

A researcher who focuses on understanding the "why" question in more than one case, and constructs a comprehensive picture of the phenomena, engages in a multiple case study (Yin, 2018). A researcher may not be able to commit the time or afford the extensive resources necessary for a multiple case study. Hence, the multiple case study design is impractical in exploring strategies to reduce information overload and may slow progress in the research due to the organization's busy environment. Another rationale for using a single study is a common case that involves the observation of common everyday situations and conditions (Yin, 2018). A single case study design was an appropriate approach for the study because I am interested in the common everyday situation of information overload in the workplace.

I made a careful consideration in selecting this research design over the other design methods such as narrative, phenomenology, and ethnographic. The narrative research design is more appropriate for researchers seeking to understand the lives of individuals told through participants 'life stories (Marshall & Rossman, 2016; Yin, 2018). A narrative research design is not applicable to this study because this is not a collection of stories or life experiences. Data collection is retrieved from interviews and a focus group. The phenomenological research design is appropriate for researchers focused on people-in-society settings and identifying participants 'perceptions of their own life

experiences with phenomena (Butina, 2015; Jarzabkowski et al., 2015; Marshall & Rossman, 2016). I did not use a phenomenological research design because the study does not focus on the personal meanings of participants 'perceptions of their own life experiences. The ethnographic research design is appropriate for researchers focused on culture-sharing of a group and exploring the culture of its members (Crandall et al., 2016; Morgan-Trimmer & Wood, 2016). The ethnographic research design was not appropriate for this study because the focus of this study is not on the culture-sharing of a group.

It is critical for a researcher to ensure data saturation in qualitative studies. A researcher achieves data saturation through thorough sampling of data to produce themes, and when no additional themes are possible (Acaster et al., 2015; Fusch & Ness, 2015). Tai and Ajjawi (2016) posited researchers use data saturation until no new theme occurs and enhance the credibility of qualitative research to achieve data saturation. I conducted semistructured interviews until there were no additional themes. I also engaged member checking with each participant for additional information until I achieved data saturation.

Population and Sampling

Population

The study population consisted of eight healthcare industry operational leaders from one organization in the Southeast region of the United States with successful experience in reducing employee information overload. Qualitative researchers use a sample size consisting of five to 50 participants, but a large sample size does not guarantee richness and depth in collected data for the study (Boddy, 2016; Dworkin,

2012; Yin, 2018). The overarching research question for this study is: What strategies do healthcare industry operational leaders use to reduce employee information overload?

Data Saturation and Sampling

Sampling is an essential process of the qualitative research design and used for selecting research participants from a specified population to represent the population (El-Masri, 2017; Robinson, 2014). Purposeful sampling is widely used in qualitative research to represent a population and affords the researcher to focus on selecting individuals or groups who are experienced and knowledgeable about the topic of study (Patton 2002; Ritchie et al., 2013). In purposeful sampling, the researcher attains rich and in-depth answers with smaller sample sizes (Tran et al., 2016). Palinkas et al. (2015) posited researchers use purposeful sampling in qualitative research and random sampling for quantitative research. I used purposeful sampling to conduct this single case qualitative study on an organization in which strategies to reduce information overload were successfully implemented. I selected participants with a minimum of 2 years of experience implementing strategies to reduce information overload. Interviews for the study occurred telephonically to protect the participants and me from the COVID-19 virus. I asked participants initial questions on their length of employment with their employer and their experience implementing strategies to reduce information overload.

Ethical Research

Ethical behavior is essential in conducting research, and researchers must ensure the privacy, protection, and respect to all participants involved in the research study (Wallace & Sheldon, 2015). Walton (2016) suggested researchers present their proposals

to a research ethics committee before engaging in collecting data for their study. I initiated data collection after I received approval from Walden University's IRB. The approval number for this study is 06-11-21-0595359 with an expiration of June 10, 2022.

I emailed the participant an informed consent form to communicate the purpose of the study, participant's rights, benefits for participation, any associated risks, and follow-up procedures. I informed participant that participation is voluntary, and they can withdraw from the research at any time. Participants were also notified they will not receive any monetary enticement or gifts for their participation in this study. Yin (2018) recommends researchers inform participants of their rights to withdrawal before conducting their interviews. Interested participants returned the signed informed consent form through email.

To ensure privacy and confidentiality, I replaced all identifying information for interview participants with pseudonyms such as *PR1, PR2, PR3, PR4,* and *PR5*. The letters *PR* signifies the study participants and a number sequence starting with *1* as the first participants, followed by *2, 3, 4, 5*. Similarly, I replaced all identifying information for focus group participants with pseudonyms such as FG1, FG2, and FG3. Noble and Smith (2015) stated the participants 'confidentiality is vital in achieving credibility. I secured all data collected during the research process from unauthorized access in a locked and fireproof box for five years. At the end of five years, I will destroy the data using a cross-shredding device.

Data Collection Instruments

In qualitative case study, I was the primary data collection instrument collecting the data and making analysis. Researchers who select the qualitative research method attain essential contextual information and an in-depth comprehension of a participant's viewpoint (Vass et al., 2017). A researcher can use participants 'observations, focus groups, and interviews to understand meanings, ideas, and experiences shared in the study (Baran & Jones, 2016). In case studies, data should come from at least two sources, collected in real-time, and real-world context, providing exploration, and understanding of the phenomena (Harrison & Mills, 2016; Yin, 2018). Multiple data sources provide various perspectives and are beneficial to strengthen findings in a case study (Johnston, 2017; Tibben, 2015). In this study, I collected data from both interviews and focus group discussions to generate valid information for analysis and triangulation of data.

I engaged the data collection process through a semistructured interview using open-ended questions throughout the communication with participants. The researcher leads the dialogue with open-ended questions, which allows participants to respond and elaborate on questions freely, and the researcher collects rich descriptions of the respondent's experience (Yates & Leggett, 2016). Through the interview process, researchers can ask follow-up questions, which adds depth to the collected data (Gelling, 2015). Researchers can employ a variety of methods to record interview data accurately, such as digital recording and written notes. A concise recording is a key component of data analysis (Vass et al., 2017). I used an interview protocol, outlined in Appendix A, asking the same questions to each participant while ensuring their right to confidentiality.

I collaborated with an authorized representative to identify three potential participants to be part of a focus group for the study. Stewart and Shamdasani (1990) posited focus groups can work successfully with a minimum of three participants. The focus group discussion was conducted via telephone conferencing. I used an interview protocol to facilitate the focus group discussion (see Appendix A). The focus group participants received notice in advance about the recording of the focus group discussion. Participants were notified they can request I stop the recording at any time during the discussion.

Researchers use member checking as a technique for exploring the credibility of the research interview output with respondents' involvement (Birt et al., 2016; Smith & McGannon, 2017). Researchers involve participants in providing feedback on the summary of the interview transcript to ensure accuracy and vigor in collected data (Yin, 2017). Member checking includes a range of activities as brief follow-up interviews to correct possible misrepresentation, enhance data interpretation, and provide analyzed synthesized data (Birt et al., 2016). Member checking occurred using a written transcript of interpretations of the interview sent to the participant through email. I emailed the transcript to the participant to verify the accuracy and request additional information for data saturation.

Data Collection Technique

In this qualitative single case study, I was the primary data collection instrument. A researcher can select a primary and secondary data source for data collection (Hyett et al., 2014). A primary data source is an interview, and a secondary data source is a review

of organizational documents (Oltmann, 2016). I used semistructured virtual interviews and a focus group discussion as data collection techniques to explore strategies healthcare industry operational leaders use to reduce employee information overload. I asked each participant 10 interview questions about the study (see Appendix B).

The researcher conducting qualitative research has two options for interviews: structured and unstructured (Rowley, 2012). Structured interviews involve questions of limited range resulting in "Yes" or "No" answers from participants (Ottmann & Crosbie, 2013; Qu & Dumay, 2011). Semistructured interviews involve prepared open-ended questions, observation, active listening, and recording good notes (Yates & Leggett, 2016). The richest form of collecting quality data is in a qualitative study through face-to-face semistructured interviews (Yin, 2018). A strong case study consists of the methodological triangulation of multiple data sources collected during observation, interviews, and review of organizational documents (Archibald, 2016; Kern, 2016; Teshuva et al., 2016). Due to restrictions of Covid-19 pandemic, I collected data using telephonic interviews.

Data collection using semistructured face-to-face interviews has advantages and disadvantages. Advantages of interviews are the opportunities for unknown information to emerge and flexibility to ask additional questions based on new information (O'Keeffe et al., 2016; Young et al., 2016). Other advantages of semistructured face-to-face interviews include observation of participant's attitudes and emotions, easy participation, detail answers, consistency, and enhancing free expression of participant's thoughts (Brooks & Normore, 2015; Padgett et al., 2017). A disadvantage of the data collection

technique of using semistructured interviews is the participants making a mistake altering the provided information, focused on pleasing the interviewer, or showing bias (Onwuegbuzie & Byers, 2014). Another disadvantage of a semistructured face-to-face interview is participants providing false or incorrect information (Anderson & Holloway-Libell, 2014). Lastly, a disadvantage of semistructured interviews is the amount of time required for the interview (Bodoh et al., 2015; Young et al., 2016). I considered the advantages and disadvantages of my approach to the data collection technique.

I used member checking as a validation method of data collection and analysis. Member checking ensures the accuracy of the participant's perspective, provide clarification of intended meaning, and authenticate the study (Harvey, 2015; Hays et al., 2016). Member checking completes triangulation and is effective in eliminating misrepresentation of data (Caretta, 2016). Researchers engage the use of member checking to provide a summary of data interpretation of the interview to the participant to ensure accuracy, ensuring rigor and validity (Birt et al., 2016; Marshall & Rossman, 2016). In the post-interview process, each participant received a transcribed Microsoft Word document attached to an email with a request to provide feedback within seven days.

Data Organization Technique

Qualitative researchers use multiple data sources such as documents, recordings, interview notes, and observation to collect descriptive data and triangulate the information (Alderfer & Sood, 2016; Houghton et al., 2013; Vaughn & Turner, 2016). I used an audio recording device to ensure the accuracy of the participant's voice recorded

during each interview. Birt et al. (2016) confirmed the use of recordings to ensure accuracy and avoid omission of key and relevant information revealed during the interview. The use of technology was beneficial to the study. However, there is one key concern for privacy. The researcher can achieve success in the organization and management of data using technology when diligent in safeguarding participants' privacy (Moylan et al., 2015; Paulus et al., 2013). I created a research log of all data collected on a portable hard drive that is locked in a safe location.

In accordance with Walden University's IRB requirements for protecting human subjects 'rights during a study, I ensured the participants 'privacy and confidentiality. I stored all electronic recording on a password protected device and lock it away in a safe place. As the researcher, I securely stored the raw data obtained from the interviews and will destroyed after five years.

Each participant was protected with a pseudonym to identify each one with an alphanumeric code. Gläser and Laudel (2013) noted researchers use codes to protect the identities of participants. I replaced all identifying information for interview participants with pseudonyms such as PR1, PR2, PR3, PR4, and PR5. Similarly, I replaced all identifying information for focus group participants with pseudonyms such as FG1, FG2, and FG3.

Data Analysis

Qualitative researchers complete a data analysis systematically aligning to the research method (Moylan et al., 2015; Munn et al., 2014). During data analysis, the researcher documents synthesized findings from themes and patterns found in the data to

the study's research question (Munn et al., 2014; Nielsen & Hjørland, 2014). To help accurately integrate all data collected in this study, I used one of the four triangulation methods. Kern (2016) indicated triangulation assures accurate data analysis. Denzin and Giardina (2016) posited the four types of triangulation methods include: (a) investigator triangulation – using several investigators in the same research study; (b) data source triangulation – investigator collecting identical data from different sources and circumstances; (c) theory triangulation – investigator using different theory to interpret the same data; (d) methodological triangulation – investigator using multiple approaches to data collection, ensuring accuracy in data interpretation. I used methodological triangulation to validate data in the study.

Joslin and Müller (2016) asserted in the four types of triangulation methods used, methodological triangulation is the most widely method for qualitative research. A researcher selecting methodological triangulation over the other triangulation types ensures the data collected were complete (Denzin & Giardina, 2016). Researchers engaging in methodological triangulation uses multiple data collection sources on the same phenomenon (Carter et al., 2014). Abdalla et al. (2018) posited methodological triangulation combines methods, as a face-to-face interview, observation, and focus group to understand a given phenomenon better. In this study, methodological triangulation was the best for analyzing information from focus groups and virtual interviews. The information collected from both data collection sources ensured proper interpretation of the research question.

After the interviews, I transcribed recordings and holistically reviewed the transcribed documentation and related hand notes. Rowley (2012) outlined data analysis in four steps of (a) data organization, (b) data familiarity, (c) data interpretation and coding, and (d) result annotation and using software to help with data coding. Birks and Mills (2015) agreed all collected data can reveal important patterns that may emerge from participants. I used the four steps outlined by Rowley (2012) and the NVivo 12 software to organize and code phrases or words to categorize data into themes and help to determine trends in data. Paulus et al. (2017) asserted researchers can use the efficient and user-friendly NVivo 12 software programs to sort and organize data from the study. I used an Excel spreadsheet and NVivo 12 software to organize code phrases or words before categorizing data into themes. The NVivo 12 software allowed me to upload the transcribed file to its coding segment to code my raw data. Once the data was coded, I grouped codes into themes in a separate file. I focused on important themes by comparing the key themes found in the literature review, align them with the conceptual framework of CLT, and use the comparable themes found during the data analysis.

Reliability and Validity

Reliability refers to the dependability of the results of the research conducted by other researchers (Aravamudhan & Krishnaveni, 2015; Waring et al., 2015). Valid and reliable results are possible when there is an understanding of data (Waring et al., 2015). Validity refers to the accuracy of the results from the research (Moustakas, 1994). To ensure dependability and validity, researchers carry out member checking and interview transcript reviews (Onen, 2016; Yin, 2018). Houghton et al. (2013) identified the four

aspects of reliability as dependability, confirmability, transferability, and credibility. I ensured compliance to reliability and validity in this study to maintain the quality of the qualitative research.

Reliability and Dependability

To ensure dependability, I used member checking. Dependability is the replicability of the results of the study (Grossoehme, 2014; Leung, 2015). In qualitative research, trustworthiness, and transparency in the conduct of the study are critical to the integrity of the findings (Leung, 2015). Onen (2016) noted researchers assess the consistency of the results of the study through its dependability. Member checking involves following up with participants to allow for a review of the researcher's interpretation, solicit additional information, and confirm the accuracy of the interview transcript (Birt et al., 2016; Chang, 2014; Cypress, 2017). After the interview process, I emailed each participant the transcript of their recording.

Validity

Confirmability

To ensure the study's confirmability, I used an audio recording device for each interview and used reflective notes to ensure accuracy and limit personal bias. Confirmability is the researcher's ability to show the data is accurate of the participant's response and not reflective of the researcher's biases (Cope, 2014). The researcher ensures confirmability through comparison of raw data and conclusions (Alparslan & İcbay, 2017). Researchers engage in reflexivity as a continuous process of analyzing their subjective role to ensure dependability and conformity of data (Darawsheh, 2014).

Researchers use the reflexivity approach to make the appropriate adjustment to ensure the credibility of their findings (Darawsheh, 2014).

Transferability

To ensure transferability in the study, all documentation collections, and analysis of the data occurred objectively and achieved the credibility of findings. Moon et al. (2016) described transferability as a vital criterion for applying research findings to future studies. A qualitative study is aligned with transferability requirements when the findings have significant meaning for readers outside the study who can relate to the findings in the study (Cope, 2014). I provided detailed-rich data from participants 'experiences in strategies to reduce employee information overload.

Credibility

To ensure the credibility of the research findings, I used member checking with each research participant to confirm the accuracy of each interview's data. In research, creditability represents the truth of the data findings (Cope, 2014). Amankwaa (2016) noted credibility is critical to a researcher's findings. Researchers analyze different sources of data across a vast range of subjects while providing credibility to the study (Yin, 2018). I collected data from interviews and focus group discussion and used member checking to ensure credibility.

Data Saturation

It is critical for a researcher to ensure data saturation in qualitative studies. A researcher achieves data saturation when information is repetitive, no new data emerges, and additional coding is not possible (Fusch & Ness, 2015; Marshall et al. 2013).

Researchers who cannot reach data saturation impact the quality and content validity of the research (Fusch & Ness, 2015). To ensure data saturation, the interviews continued until the information was repetitive.

Transition and Summary

The purpose of this study was to focus on the effective strategies healthcare operational leaders use to reduce information overload in the workplace. In section 2, the discussion included the components of the research project. The components include role of the researcher, selected participants, research method and design, population and sampling, and ethical research. Also, provided was written information on data collection instrument, data collection technique, data organization technique, data analysis, and the factors of reliability and validity in research.

In Section 3, I present a comprehensive analysis of the findings of this study and provide the application to business practice and implications for social change, recommendation for action from my findings, recommendations for future research, reflections, and conclusion of the study. The findings of this study aligned with the research questions and conceptual framework. The results in the findings obtained from interviews with the participants provided insight into effective business strategies to reduce information overload in the workplace and beneficial to the success and sustainability of most business industries.

Section 3: Application to Professional Practice and Implications for Change

Introduction

The purpose of this qualitative single case study was to identify and explore the effective strategies healthcare operational leaders use to reduce information overload in the workplace. Data were collected through semistructured interviews and a focus group discussion. In this time of the COVID-19 pandemic, the interviews and discussions with participants were conducted virtually to protect participants and me from the coronavirus disease. Upon completing the interviews, I transcribed the data, conducted member checking, and performed data analysis.

Four themes emerged from the qualitative data analysis. Interview and focus group data were imported to the NVivo 12 software application after transcription and member checking. I triangulated collected data from interview transcripts and the focus group discussion. The two data collection methods supported the results of the common themes that emerged from the data analysis. I coded the data into different nodes which resulted in common themes. Most themes aligned with the conceptual framework used for this study. The four main themes of this study: (a) use of different communication methods, (b) breaks from information, (c) providing information in bits, and (d) observation of employee countenance. The findings are effective strategies healthcare operational leaders use to reduce information overload in the workplace.

Presentation of the Findings

The overarching research question that guided this research was “What strategies do healthcare industry operational leaders use to reduce employee information overload?”

The result of the data analysis showed prominent emergent themes and strategies (see Table 2). The four main themes of this study: (a) use of different communication methods, (b) breaks from information, (c) providing information in bits, and (d) observation of employee countenance. The following sections describe all four themes and strategies generated from the findings.

Table 2

Frequency of Themes Identifying Strategies to Reduce Employee Information Overload

Theme	*n*	*nx*	% Interviews
Use of different communication methods	41	3	100%
Breaks from information	26	1	100%
Providing information in bits	15	10	100%
Observation of employee countenance	15	6	100%

Note. n = interview frequency; nx = focus group frequency

Theme 1: Use of Different Communication Methods

The first theme that emerged as a strategy to effectively reduce employee information overload was the use of different communication methods. The communication can be in-person or electronic communication. In organization design, communication and coordination are the critical components and, if not correctly communicated and coordinated, can lead to information overload. Burton and Obel (2018) asserted communication is a critical part of the coordination process within an organization. The organization's choice of coordination subsequently affects its information flow and members.

There are 44 unique quotes from participants related to this strategy (see Table 2). Participant PR5 noted an effective strategy to reduce employee information overload is to use different communication methods to share information with their team. Participant PR2 mentioned constant communication through employee forums and dialogues. In contrast, participant PR3 recommended fitting information into emails versus meetings. The participants in the focus group stressed in-person communication to share information and as a strategy to recognize the impact of email information overload on the employees. Specifically, the focus group implored effective strategies using rounding in-person to communicate with employees, in an effort to reduce information overload caused by electronic communication. This assertion resonated with McMurtry (2014) encouraging more interpersonal communication to decrease the volume of electronic communication.

Participant PR5 expressed that in our current world, communication is engaged more through Zoom or email. PR5 added that employees expressed, “It’s too much emails.” Participant PR2 agreed that employees are “extremely overwhelmed.” The findings in the study correlate with the research of Saxena and Lamest (2018), who explained managers felt overwhelmed by the volume of digital information available at their disposal. Specifically, the high volume and speed of the digital data coupled with the qualitative and unsolicited nature of the information were distressing, causing an increase in information overload for managers. Participant PR5 summed up the consensus of the participants that leaders in the healthcare industry can effectively reduce information overload by balancing in-person and electronic communication methods.

The theme corresponded with the working memory component of CLT. Working memory is a dynamic processing system and an essential component of CLT. It works proficiently to retain and manipulate small quantities of information to facilitate planning, problem-solving, comprehending, and reasoning (Cowan, 2017). Young et al. (2016) posited that an employee is unable to function effectively with an exceeded working memory capacity. Therefore, reducing the complexity of the information presented can alleviate cognitive overload and positively impact an individual's decision-making capacity. The next theme focused on breaks from information.

Theme 2: Breaks From Information

Breaks from information was the second theme that appeared from a detailed analysis of the interview participants 'responses and the focus group discussion of strategies used to reduce employee information overload. The theme is directly associated with CLT's ICL. It is defined as the lack of development or incompleteness of a person's cognitive schemas when faced with new information. ICL is dependent on each individual, their experience in a particular area, and the process in which they learn (Sweller, 1988). Hultberg et al. (2018) asserted the level of element interactivity of a task, the complexity, and the nature of the task determines ICL.

Providing breaks from information overload appears important for healthcare leaders. There are 27 unique quotes from participants related to this strategy (see Table 2). Five participants agree that breaks played a vital role in implementing strategies to reduce employee information overload. Participant PR4 noted, "Strategies I have implemented to reduce employee information overload involves giving breaks on topics

discussed." Participant PR1 reported, "Breaks were one of the most successful strategies." Participant FG1 added, "If we have multiple objectives, multiple things going on, we put something else on the backburner, so we are not pushing every piece of information to our team at the same time." The responses of the participants implied that breaks successfully reduce information overload on employees.

Acknowledging the importance of reducing employee information overload, some participants (i.e., PR1, PR2, and PR4) mentioned the different types of breaks, including 60 seconds to close your eyes and zone out, go for a walk, a minute of daydreaming, switching focus from the topic, and 10-minute breaks. Participant PR1 encouraged "allowing people time to reset." Participant PR2 noted that "if leaders are having long training, they should have a gap in training for their employees to truly take in that information." Participant PR3 emphasized, "As leaders, we need to afford time for our employees to be effective." Based on participants responses, there are a variety of breaks from information leaders can implement to effectively reduce the impact of information on employees.

In the current research, one participant highlighted the importance of attention and breaks from overload. Participant PR2 stated, "Leaders must be able to grasp employee attention, get the work done, but also find work/life balance." In the role of attention, managing working memory function leads to a higher degree of performance (Chow & Conway, 2015; Shipstead et al., 2015). Leaders can use strategies to effectively leverage the limited capacity of employees 'working memory and improve work performance. This study also aligns with Leahy and Sweller's (2019) contention that working memory

resources can be restored with periods of cognitive rest after depletion due to cognitive activity. Based on the analysis of the data, healthcare operational leaders can minimize the overload of the working memory capacity by providing breaks in between the presentation of information. The next theme focused on providing information in bits.

Theme 3: Providing Information in Bits

The third theme that emerged from the interview responses was providing information in bits. The theme directly associates with CLT's ICL, which is defined as the lack of development or incompleteness of a person's cognitive schemas when faced with new information. At any given time, the working memory can process no more than two to three items of new information (Sweller et al., 2011). An individual processing additional information will overload their working memory processing capacity, breaking down the memory system. This assertion resonated with Parte et al.'s (2018) conclusion that reducing the complexity of the material presented to the individual will help to reduce the intrinsic load on the individual.

A successful strategy of providing information in bits appears important for healthcare leaders. All participants agree that providing information in bits is one of the most effective strategies to reduce employee information overload. There are 25 unique quotes from participants related to this strategy (see Table 2). Participant PR3 noted, "Give employees information in bite-size pieces and allow them the opportunity to digest the information shared." Participant PR3 recounted their experience with information unfolding all at once during the early stage of the COVID-19 pandemic: "I changed from the previous strategy and started presenting information in chunks. I also refer my team

back to previous emails if they missed anything, or if there is something else they want to read about, and to contact me if they have any further questions." Participant PR3 added, "Strategies were also most successful because providing information in bits allowed the team to receive the information in bits, allowing for easy digest and processing of information." Participant PR5 shared, "It is not about random information they do not need, but it is the easy-to-digest information that is most important to capture their attention." All focus group participants agreed that "We are combing through it for them ahead of time and giving them the important items." The responses from study participants indicated that providing bits of information to employees influences the reduction of individual intrinsic load, therefore, reducing information overload. The next theme focused on the observation of employee countenance.

Theme 4: Observation of Employee Countenance

The fourth theme that emerged from the interview responses was the observation of employee countenance. The theme emerged unexpectedly and is not related to the conceptual framework. There are 21 unique quotes from participants related to this strategy (see Table 2). All participants agreed that observing the employees to identify signs of information overload was a good strategy to aid in reducing employee information overload. Participant PR5 stated that "knowing your staff is important because you will learn what ways team members 'process information."

Participant PR4 mentioned:

> Listening is key to identify the theme in the message from the employees when particular topics are presented to them. Recognizing how engaged employees

> respond to a topic can tell us a lot about how they feel about it, because it is either they've heard it too much, or they don't know what it is. We have to be in tune with the theme to know which one of those things it is.

Participant PR3 emphasized:

> When you have a good rapport with your team, you understand their level of function at high, low, or no stress levels, understand their general countenance, and it is easy to pick up the subtle signs of information overload. You can compare normal performance levels to the variation in their standard practice. Employees may be a little overwhelmed, look at you with a blank stare, slow to respond, or not able to respond to the questions asked of them. Their responses are signs they are getting to the point of information overload."

Acknowledging the importance of reducing employee information overload, all participants observed the following signs: the rate of response to information, accuracy, alertness, facial expression, body language, change in voice tone, mannerism, and change in work performance. All participants added that observation was accomplished through department rounding, performance metrics, after-action reviews, pre-tests and post-tests, good rapport, and listening.

Applications to Professional Practice

Operational leaders can apply the findings from this study to professional practice by establishing strategies to improve productivity and efficiency, which are critical financial assets in healthcare organizations. Healthcare leaders, like most organizational leaders, have strategic goals to achieve projected financial outcomes. To successfully

achieve these outcomes, leaders must promote routines that help employees avoid the problems of burnout, stress, depression, and decreased productivity. Continued focus and attention to these problems through annual training and awareness will provide a positive return on investment. Mitigating the impact of these problems can also reduce turnover costs within the organization, leading to increased profit and productivity. Professionals and consultants can help organizations develop best practices and share the strategies with their colleagues across the industry.

Operational leaders may apply the findings from this study to implement strategies to improve operations by developing an organizational culture that promotes a healthy work/life balance. Employee stress and burnout must be anticipated, and contingencies planned to ensure a balance of work that supports operations. Leaders in healthcare organizations continue to strive for increased efficiency in departments with high-throughput services (Westbrook et al., 2018). However, managing work-related stress is key for any organization trying to reduce health issues in the workplace (Mellor et al., 2013). Participants in this study confirmed that through the use of different communication methods, breaks from information, providing information in bits, and observation of employee countenance, leaders can reduce employee stress and exhaustion, increasing operational efficiencies and enhancing financial performance.

Implications for Social Change

The implication for social change includes strategies that may result in leaders developing efficient work environments that benefit both the employers and the employees with reducing information overload. Organizational leaders must devote

financial resources and managerial time to developing and implementing strategies to make the best use of available information (Van Knippenberg et al., 2015). Employers can benefit from decreased turnover, enhanced innovation, improved productivity, increased employee retention, reduced cost, and job sustainability. In addition, strategies may effectively help alleviate employee stressors and emotional exhaustion and indirectly affect social change in the community by improving the overall quality of life for employees and their families.

Another potential social change implication is providing training in a variety of coping strategies to avoid information overload. Bawden and Robinson (2009) stated that the best way to individually and socially avoid information overload is through a variety of coping strategies. Gaudioso et al. (2017) found in their study that it is important for organizations to consider the relationship between stressors, strain, and coping strategies. Developing training in coping strategies to avoid information overload reduces the pressures of work time, minimizes workplace stress, limits spillage of work into home time, and increases the quality of life. Employees and their families could view businesses portraying success and care based on positive social change within their local communities.

Recommendations for Action

The information shared by the participants during the interviews and the focus group discussion may provide healthcare operational leaders with new insights they could use to effectively reduce information overload in the workplace. The failure of healthcare operational leaders to implement effective strategies to reduce information overload in

the workplace might have an adverse effect on overall business operations. The high workload in healthcare along with information overload results in burnout, stress, and loss of motivation (Couto et al., 2019; Saleem et al., 2015). The knowledge shared by the participants in the current study may benefit businesses in effectively reducing information overload. The interviews with participants produced four themes: (a) use of different communication methods (b) breaks from information, (c) providing information in bits, and (d) observation of employee countenance. Based on the emerging themes, I propose three recommendations for operational leaders.

The first recommendation is for operational leaders to educate their employees on information overload and strategies to effectively reduce its impact. Internal to the organization, business leaders could include presentations during onboarding and annual refresher training. At least once a year, leaders could provide a workshop to present in detail and provide published informational literature to employees. Additional information can be made available on the company intranet page. External to the organization, operational leaders could host community events in coordination with community partners that can benefit from information overload strategies.

The second recommendation is for operational leaders to involve employees in the development of policies to manage the communication of information in the workplace. Use of different communication methods is the most significant recommendation based on study results. Operational leaders should solicit input from employees through questionnaires, surveys, focus groups, or meetings. Moreover, leaders

can obtain a consensus of what matters to individual departments in formulating the details of the policies.

The third recommendation is for operational leaders to develop and implement workflow designs, schedules, and programs that encourage breaks in work activities. Breaks are the second significant recommendation based on study results. Operational leaders could involve employees in the development and active participation of the programs. Continuous involvement of employees and operational leaders after implementation would be essential for success.

The recommendations stated above could be disseminated through presentations to the target audience in the organization. I will share the results of this research with healthcare industry leaders through scholarly journals and business publications. I will also deliver the findings of this research through conferences. Finally, I will share the results of this research through formal and informal meetings with interested managers, colleagues, and friends in my professional network.

Recommendations for Further Research

This study is not without limitations. Based on the results found in this research, I offer five recommendations worthy for possible research direction. There is a multitude of research avenues that could develop from these five recommendations. The focus of this study can be extended in future research.

- The first recommendation is this research should be repeated with larger demographics; using multiple case studies might achieve additional knowledge on effective strategies to reduce information overload.

- The second recommendation is to repeat this research to focus on effective training strategies to manage information overload in the workplace.
- The third recommendation is to repeat this research using different industries and target populations to reduce information overload. This study focused on the healthcare industry in the Southeast region of the United States.
- The fourth recommendation is to repeat this research with a focus on the impact of information overload on the older generation versus the younger generation. This study did not account for the difference in the age group of employees in the workplace.
- The fifth recommendation is to repeat this research to focus on the communication strategies to reduce information overload. Use of different communication methods is the most significant strategy based on the study results.

Reflections

The Doctor of Business Administration program at Walden University was both challenging and rewarding. Each approval stage was worth some type of celebration to make it over each hurdle. I started the journey with two main goals: to achieve a higher education degree that refine the capabilities inside me and to expand my business horizons for the future. The two most essential competencies I achieved in this journey are critical thinking and problem-solving skills. In every step of the program, I developed greater confidence in the processes of professional academic research. Through the

journey towards completion, I engaged the use of many resources available at Walden University.

The topic of this research, effective strategies to reduce information overload in the workplace, was selected due to personal and professional interest while I was in the military. I started my career in the U.S Army healthcare system and experienced the challenge of information overload in the workplace. When I retired from the military, working for two companies in the civilian healthcare system, I observed the same challenges with information overload. However, no one was addressing the problem in either organization. I was convinced this was my focus to explore and publish research that would help operational leaders implement strategies to effectively reduce information overload in the healthcare industry.

Conclusion

The purpose of this research was to explore effective strategies healthcare operational leaders use to reduce information overload in the workplace. The specific business problem was investigated from the perspective of operational leaders in the healthcare industry. The data were collected using semistructured interviews and a focus group discussion. Semistructured interviews comprising five operational leaders and a focus group comprising three operational leaders provided data for the study.

In this study, I was able to obtain relevant strategies from participants in reducing information overload in the workplace. Four themes emerged from the research interviews and the focus group discussion with participants: (a) use of different communication methods (b) breaks from information, (c) providing information in bits,

and (d) observation of employee countenance. Participants confirmed communication as the most significant strategy to effectively reduce information overload in the workplace. This study's findings contribute to the existing knowledge regarding information overload and can be useful to operational leaders in other industries. Additionally, the findings can promote positive social change by providing coping strategies to avoid information overload to reduce workplace stress, limit spillage of work into home life, and increase the quality of life for employees.

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Appendix A: Interview Protocol

Participant's Numeric Identifier: _____

Date of Interview: _____

1. I will introduce myself to the participant(s).
2. I will provide a copy of the consent form to each participant (s).
3. I will address contents, answer questions, and concerns of the participant(s).
4. I will request permission to turn on the audio-recording device. Turn on the audio-recording device.
5. I will introduce participant(s) with pre-identified alias (*PR1, PR2,* etc.) and coded identification; will note the date and time on my notes.
6. The interview question will begin with *PR1* and progress through on the final question until last participants are interviewed.
7. I will follow up with additional questions and collect company documents related to the study.
8. I will end interview sequence and discuss member checking with the participant(s).
9. Will recap contact numbers for follow up questions and concerns from participants.
10. At the conclusion of the interview, I will thank the participant(s) for their contribution to the study.

Appendix B: Interview Questions

1. From your experience, what symptoms do employees exhibit from information overload?
2. What methods do you use to recognize information overload on employees?
3. What strategies have you implemented to reduce employee information overload?
4. How did you address the key challenges to implementing your strategies for mitigating information overload in your organization?
5. How is the failure and success of strategies for mitigating information overload measured?
6. What strategies failed to mitigate the impact of employee information overload circumstances?
7. Based on your experiences, why did they fail?
8. What strategies were most successful in mitigating the impact of employee information overload?
9. Based upon your experiences, why were they successful?
10. What additional information would you like to provide about organizations strategies for reducing employee information overload that I have not already asked?