

# **Implementation Critical Success Factors and Accounting Standard Codification Topic 606 Implementation Dynamics: A Correlational Study**

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*This study examined implementation critical success factors and ASC 606 implementation dynamics. The study includes organizational dynamics that strengthen change: responsiveness, absorptive capability, and organizational implementation context. The study investigated relationships between implementation critical success factors (CSF) and ASC 606 implementation outcomes to understand mechanisms most likely to cause a change in implementation outcomes. The study adopted the ex post facto nonexperimental correlational quantitative method. Linear regression was used to evaluate the extent to which implementation of CSF predict ASC 606 implementation outcomes. Findings revealed three CSF significantly predicted ASC 606 implementation outcomes: organizational implementation context, absorptive capacity, organizational agility.*

*Keywords: ASC 606 implementation outcomes, implementation critical success factors, organizational implementation context, absorptive capacity, organizational agility*

## **INTRODUCTION**

Accounting Standard Codification Topic 606 (ASC 606) is the novel standard regulating revenue recognition that was born out of a Financial Accounting Standard Board (FASB) and International Accounting Standard Board (IASB) joint project (IASB, 2018; Lemus, 2014). The new revenue recognition guidelines were introduced into U.S. GAAP in Accounting Standards Update 2014-09 as Topic 606, *Revenue from Contracts with Customers* (FASB, 2014). The effective dates for ASC 606 varied, and because it was expected to impact several critical functions of businesses (Tzuo, 2017), its implementation was described as a perfect accounting storm (Pombriant, 2017), and its application likened to walking on a minefield (Bogopolsky, 2019). This sea change in the revenue recognition universe necessitated significant

systems change to cope with ASC 606 complexities. However, management's timorous responsiveness to these upheavals noticed in many organizations was believed would significantly impair ASC 606 implementation outcomes and consequently delegitimize organizations. Hence, this study was set out to investigate the relationship between implementation critical success factors (CSF) and ASC 606 implementation outcomes to gain insights into factors most likely to influence an organization's implementation footprint and to discover mechanisms most likely to cause a change in implementation outcomes.

The ex post facto nonexperimental correlational quantitative method approach, which is ideal for associational and mediation research questions and outcome research, was different from the descriptive and exploratory approaches popularly adopted in related studies. The novel approach predicated on an integrative theoretical framework comprising the institutional theory, change theories, and the normalization process theory introduced new knowledge into the body of existing literature, filling identifiable gaps in the literature and permitting recommendation of best ex ante practices when contemplating implementation and pragmatic ex post implementation strategy approaches based on scientific evidence.

### **Background to the Problem**

Carucci (2017) suggested 67% of policies are not implemented with fidelity, yielding program failures. Implementation failures are attributed to social-behavioral barriers and uncertainties associated with complex transformations (Hidayatno et al., 2020). Obstacles are surmountable by behavioral change initiatives (Fabrizio et al., 2014), and innovation-friendly cultures pivoted on robust organizational structures that adapt quickly to change (Jovana, 2019). Thus, change responsiveness and organization implementation structures have been identified as leading determinants of implementation outcomes (Fabrizio et al., 2014; Lyon et al., 2018; Puchalski Ritchie & Straus, 2019). However, in many organizations the state of inertia and noncommitment to ASC 606 implementation change initiatives was bewildering (Bogopolsky, 2019; Conner, 2017; King, 2016). Bogopolsky (2019) cautioned unpreparedness could result in oversights, which can endanger long-term survivability.

In recognition of ASC 606 implementation challenges and certain technical issues raised by certain companies, FASB embarked on a series of effective date deferrals to give organizations time to organize (Mueller, 2018). Despite the extensions, studies reported an inevitable implementation crisis in the United States (Atwood, 2015). According to Peters (2018), of the nearly 4,000 companies subject to SEC oversight, only 32 (<1%) adopted early during the 2017 calendar year. Of the 32, only 10 chose the more encompassing full retrospective approach. One-third of the 32 early adopters received revenue recognition-related observations from SEC that implied implementation flaws. This timid, and in some cases, chaotic response to ASC 606, resulted in an atmosphere of nervous apprehension in the scholarly accounting community, to the extent that articles trending in accounting journals, such as Dixon et al. (2017), King (2016), and Knachel (2016), sounded admonitions of unreserved conviction to C-suite executives. Studies with exceptionally long titles emphasizing the predicament also emerged.

### **Problem Statement**

The general problem addressed was the possible apathetic response in creating an enabling implementation context for a smooth transition to the new revenue recognition guidelines (ASC 606), resulting in possible ASC 606 implementation outcome impairment and potential loss of organizational legitimacy. Jattin and Ferreiro (2019) postulated financial reporting under ASC 606 is revolutionary and complex, necessitating changes in structures, processes, and the control environment. Arms and Bercik (2015) found that though managers and finance executives were aware of changes required for transitioning to ASC 606, they remained heedless of strategies for translating ASC 606 guidelines into implementation.

According to Jonick and Benson (2018), a survey of 400 finance executives at KPMG's December 2015 Annual Accounting and Financial Reporting Symposium revealed that 71% of companies in the survey had yet to articulate a clear plan for implementing ASC 606. In an earlier study, Dixon et al. (2017) found that delayed and suboptimal ASC 606 implementation could result in material misstatement due to

accounting systems failure, as well as material misstatement due to fraud. Hepp (2018) traced early challenges in implementing ASC 606 to the construction industry in which complacency with antiquated industry-specific revenue recognition approaches threatened legitimacy and long-term survivability.

### **Purpose of the Study**

The purpose of this quantitative correlational study was to provide a deeper understanding of ASC 606 implementation dynamics through a comprehensive investigation into the bearing of implementation CSFs on ASC 606 implementation outcomes. Thus, the research focused on evaluating relationships between absorptive capacity, organizational agility, organizational implementation context, and ASC 606 implementation outcomes in companies within the construction industry in the Mid-Atlantic United States. These relationships provided new perceptions on the values of these predictor CSFs and evidence that their interaction with each other can be reengineered to produce positive impacts on various categories of ASC 606 implementation aftereffects. The knowledge obtained provided the basis for recommending best ex ante approaches for rolling out implementation and ex post strategy selection to enhance implementation. Many studies on ASC 606 implementation thus far have used descriptive and exploratory approaches to primarily study technical aspects, such as instantiating the procedure for recognizing revenue under the new standards, exploring the implementation rate, and investigating ASC 606 impact on reported revenue in designated companies and industries. To date, no study known to this researcher evaluated relationships between implementation CSFs and ASC 606 implementation outcomes, focusing on normative aspects and correlation. This novel holistic approach in studying ASC 606 implementation phenomenon introduced new knowledge and thus filled identifiable gaps in the literature.

### **RESEARCH QUESTIONS**

In an attempt to understand management's timorous steps in creating an enabling ASC 606 implementation environment, three CSFs that could possibly impact ASC 606 implementation outcomes are identified. Through a research question informed by theories and literature, the research queried the extent to which a combination of three implementation CSFs predicted ASC 606 implementation outcomes. Lyon et al. (2018) postulated that implementation outcomes vary considerably among organizations with high-quality routine implementation strategies, suggesting other factors play significant roles in influencing outcomes. In investigating outcomes variability within organizations with formal implementation strategies, studies found characteristics of the inner organizational environment in which implementation takes place substantially impacted innovation use (Lyon et al., 2018, p. 2). Other empirical findings suggested organizations that respond quickly to change produce better organizational outcomes (Nafei, 2016; Puchalski Ritchie & Straus, 2019).

The research question sought evidence of the extent to which ASC 606 implementation outcomes were predicted by a combination of organizational implementation context (OIC), organizational agility (OA), and absorptive capacity (ACAP). Research Questions 1A to 1C sought to know the nature of the relationship between each predictor variable and ASC 606 implementation outcomes.

The following research questions were posed.

**RQ1:** *To what extent does a combination of three implementation CSFs - OA, ACAP, and OIC - predict ASC 606 implementation outcomes?*

**RQ1A:** *What is the relationship between organizational agility and ASC 606 implementation outcomes?*

**RQ1B:** *What is the relationship between organizational absorptive capacity and ASC 606 implementation outcomes?*

**RQ1C:** *What is the relationship between organizational implementation context and ASC 606 implementation outcomes?*

## **Hypotheses**

Three hypotheses, stated in the null and alternative forms, were derived from the research questions.

***H1<sub>o</sub>**: There is no statistically significant evidence that a combination of three implementation CSFs predicts ASC 606 implementation outcomes.*

***H1<sub>a</sub>**: There is statistically significant evidence that a combination of the three implementation CSFs predicts ASC 606 implementation outcomes.*

***H1A<sub>o</sub>**: There is no statistically significant relationship between organizational agility and ASC 606 implementation outcomes.*

***H1A<sub>a</sub>**: There is a statistically significant relationship between organizational agility and ASC 606 implementation outcomes.*

***H1B<sub>o</sub>**: There is no statistically significant relationship between an organization's absorptive capacity and ASC 606 implementation outcomes.*

***H1B<sub>a</sub>**: There is a statistically significant relationship between an organization's absorptive capacity and ASC 606 implementation outcomes.*

***H1C<sub>o</sub>**: There is no statistically significant relationship between organizational implementation context and ASC 606 implementation outcomes.*

***H1C<sub>a</sub>**: There is a statistically significant relationship between organizational implementation context and ASC 606 implementation outcomes.*

## **Discussion of Design**

Several factors were considered in determining the appropriate design and method. The overarching theme of the research questions was how specific implementation CSFs and ASC 606 implementation outcomes covary. Based on the associational nature of the research questions and consistent with Morgan et al. (2013), the quantitative method with a fixed design was adopted. Moreover, because the research was an evaluation study focusing on outcomes, the fixed design was considered the most appropriate (Robson & McCartan, 2016). Another justification for the fixed design is that because the research studied implementation behavior at the organizational level, the fixed design made aggregating individual behaviors possible.

## **Discussion of Method**

The research was conducted using quantitative methods. Of the three types of quantitative methods associated with a fixed design and nonexperimental method, the correlational method is appropriate for this research effort. The appropriateness of correlational method stems from the fact that it determines if changes in a variable (independent) are related to positive or negative changes in another variable (dependent) (Curtis, 2016; Umstead & Mayton, 2018). Morgan et al. (2013) posited correlational design is ideal for studies with independent variables with continuous measurement and many ordered levels.

## **Variables of Interest**

Considering the principal focus of this research is ASC 606 implementation outcomes, it was crucial to identify factors embodied in theories that cause changes in outcomes. Accordingly, the following were identified as variables of interest.

### *Organizational Implementation Context*

OIC is the inner characteristic of an organization that is relevant to innovation implementation. The a priori assumption was that its state either enhances or inhibits innovation implementation. Thus, it was an independent variable and was measured through its three focused subscales: strategic implementation leadership, strategic implementation climate, and implementation citizenship behavior.

### *Absorptive Capacity*

The organization's absorptive capacity determines the quality of implementation outcomes variables. ACAP assumed the status of the independent (predictor) variable. The a priori assumption was that organizations with optimal absorptive capacity would have optimal implementation outcomes.

### *Organizational Agility*

An organization's flexibility responding to turbulence in its external environment has become a critical success factor, which, according to Harraf et al. (2015), distinguishes high-performing organizations from those floundering. Harraf et al. stated that agility measures responsiveness to an anticipated external stimulus that proves an organization's overall flexibility. OA was accordingly treated as a predictor variable.

### *606 Implementation Outcomes*

ASC 606 IO is the extent to which ASC 606 was implemented with fidelity. Implementation outcomes have been used in implementation research as a dependent variable because when implementation is successful, it is hypothesized to optimize the balance between the innovation's quality and its cost (Fulop et al., 2016). Thus, ASC 606 IO was a dependent variable.

## **ASSUMPTIONS, LIMITATIONS, AND DELIMITATIONS**

### **Assumptions**

This study was based on three assumptions: (a) bona fide responses to the questionnaire, (b) participants are homogeneous, like-minded, and have experienced the same ASC 606 implementation phenomenon, and (c) variables are accurately defined and are measurable with a reliable and valid test. The primary assumption was predicated on the belief that participants would respond to the questionnaire in a bona fide and honest manner. To mitigate biased responses, a pledge to uphold anonymity and confidentiality was formally made. In addition, participants were informed they were participating of their free will and could withdraw from the study at any time. All questions were concise, unambiguous, and reasonably captured what the research intended to examine.

Second, if participants were not homogenous and had not experienced the same ASC 606 implementation phenomenon, conclusions drawn from their responses could not accurately depict their reactions to the phenomenon, thus affecting reliability and validity. To mitigate disparities in participants' attributes, selection was based on commonality and shared experience criteria (Ivanoff & Hultberg, 2006). To ensure the sample size was representative of the population, 60 construction companies operating in the Mid-Atlantic United States were solicited to participate in the study. Their managers, chief financial officers, and accounting staff at the supervisory level were actual participants.

The third assumption focused on the definition of variables and their measurability. The researcher assumed variables were correctly operationalized, were measurable, and tested with reliable models that produced reliable and valid results. The effect of this assumption was mitigated by reviewing several peer-reviewed articles that guided the operationalization of variables. Reliability and validity of the test were ensured by adopting reliable measurement scales, the most appropriate statistical test, and ensuring data had the right attributes and conformed to the statistical test assumptions.

## **Limitations**

The researcher envisaged five limitations comprising (a) response rate, (b) social desirability bias, (c) time and financial constraint, (d) the scope of operational definitions accorded variables and the reliability and validity of statistical tests, and (e) the inability to attribute causality. The first envisaged limitation was the response rate. This limitation was mitigated by using an Internet-based questionnaire found to produce quality responses at a relatively higher response rate (Hoonakker & Carayon, 2009; Tai et al., 2018). Non-responders were followed up with reminders consistent with Littman et al. (2010) and Olsen et al. (2012).

The second limitation concerned participants who could create social desirability bias by providing answers they know will put them in a favorable light and benefit the researcher, instead of answers reflecting their genuine behavior (de Oliveira Maraldi, 2020; King & Bruner, 2000; Ross & Bibler Zaidi, 2019). Consistent with the recommendation in de Oliveira Maraldi (2020) and Ross and Bibler Zaidi (2019), social desirability bias was mitigated by using neutral questions and forced-choice items on self-administered questionnaires.

Two other limitations expected to influence the research design and result were the time available for the study and financial resources. The time allocated for completing the study was short, and the study was not funded to permit an elaborate investigation into all aspects of the phenomenon with a larger and more diverse population. The fourth limitation had to do with the definitions of variables. Variables can be too broadly or too narrowly operationalized to the extent outcomes and conclusions are affected. This limitation was minimized by adopting operational definitions from the literature.

Last, the correlational design does provide evidence of correlation, but the presence of correlation is not evidence of causation (Boyko, 2013; Morgan et al., 2013). Due to this intrinsic weakness, results from correlation could not be used to draw conclusions about causality. Thus, it is important to reiterate the study only provided evidence of correlation, moderation, and mediation and not causation. Considering these limitations, this researcher appropriately delimited the study to enhance the reliability and validity of the results.

## **Delimitations**

This study restricted its investigation to correlation analysis of the ASC 606 implementation phenomenon on a sample of 60 companies randomly drawn from a population of 100 construction companies in the Mid-Atlantic United States. The choice of construction companies over other companies was based on early ASC 606 implementation hesitancy noticed in the construction industry. Implementation outcomes were operationalized based on the fidelity indicator alone, to the exclusion of seven others featuring in Proctor et al.'s (2011) implementation outcomes taxonomy. The notion that regulatory agencies impose indicators like acceptability, adoption, and appropriateness on the organization was the reason for their exclusion. The argument, alternatively, is how well a program was implemented (fidelity) depends on individual organizational context and capabilities, which make it a good gauge of success or failure. Data collection was confined to closed-ended responses, which are attractive to participants. Closed-ended measuring scales mitigated the effects of social desirability bias.

## **SIGNIFICANCE OF THE STUDY**

This section was organized around four central themes: literature gap reduction, benefit to business practice, and relationship to the accounting discipline. However, the overarching significance of this study was that its findings yielded significant benefits to society.

### **Reduction of Gaps in Literature**

The quantitative method enabled the researcher to find not only what was anticipated but also several new angles on ASC 606 implementation concepts and principles that were unknown or nebulous before. The correlational design enabled the researcher to make inferences on ASC 606 implementation enhancing and inhibiting factors that had not been made previously. The research approach was different from existing related studies that adopted the descriptive and exploratory approach and primarily focused on exploring

structural and methodological change associated with recognizing revenue under ASC 606 guidelines (Conner, 2017; Loyd, 2018), studying the post-implementation impact on reported revenue (Atwood, 2015), and exploring the potency of ASC 606 in curbing revenue recognition fraud and abuse (Carmichael, 2019).

#### *Benefit to Business Practice and Relationship to Accounting Discipline*

Organizations that use the recommendations derived from this study's results for post-implementation evaluation will gain insights into the positive and negative elements of their implementation performance, which can help them enhance subsequent implementation endeavors. Optimized ASC 606 implementation quality may contribute to preventing financial statement restatements and frequent SEC deficiency letters. Restatements and deficiency letters suggest management errors/fraud and vulnerabilities in the control environment (Hirschey et al., 2015; Plumlee & Yohn, 2015). Because restatements or SEC deficiency letters are regarded as bad news, often resulting in negative stock prices and raising concerns about management's integrity (Hirschey et al., 2015), there is an incentive to implement ASC 606 with fidelity to enhance implementation outcomes.

## **REVIEW OF PROFESSIONAL AND ACADEMIC LITERATURE**

The first section reviewed professional literature, principally expounding the business practice, ASC 606 guidelines, and the problem. The second section reviewed academic literature on variables of interest.

### **The Business Practice**

The business practice leading to the research problem is not about what is happening but rather what is not happening. Management's quiescence associated with ASC 606 implementation includes lack of diagnostics to determine how ASC 606 will impact revenue reporting, lack of ASC 606 implementation planning, impulsive belief on ASC 606 impact on financial statement, and procrastination in anticipation for another deferral. Yeaton (2015) asserted, though the first formal ASC 606 adoption date was not due until December 2016, organizations needed to start preparing in advance, addressing issues related to changes in policy and processes that will be needed to capture the wide array of data useful in applying ASC 606. Tysiac and Murphy (2015) warned that though deferrals are expected, organizations should not relent in their implementation endeavors because implementation is expected to be complex and challenging. Mueller (2018) found many organizations are taking ASC 606 preparation lightly and admonished they are doing so at their peril. He went on to propose two immediate actions. First, organizations must start working with their CFOs to understand ASC 606 and how it will impact them. Second, evaluate if existing software can manage ASC 606 data. He warned that attempting to manage ASC 606 data manually would be a task of herculean proportion.

Despite these warnings, a survey involving CFOs of U.S. technology organizations revealed that 58% had not yet familiarized themselves with the new standards seven months after they were issued (Tysiac & Murphy, 2015). Also, after the first year's deferral, a 2015 PwC survey of 335 respondents found that many organizations do not understand how ASC 606 will affect them, and 38% did not believe ASC 606 will have any significant effect on financial statements (Jonick & Benson, 2018). A December 2015 KPMG poll of nearly 450 financial reporting executives revealed 64% of them were yet to establish a clear ASC 606 implementation plan (Amato, 2015). Likewise, in 2016 Deloitte reported many organizations had not commenced a formal assessment process for implementing ASC 606 (Jonick & Benson, 2018).

### *Understanding ASC Topic 606*

The FASB and IASB joint project on revenue recognition was intended to achieve the following objectives: (a) remove inconsistencies and weaknesses in revenue requirements; (b) provide a more robust framework for addressing revenue issues; (c) improve comparability of revenue recognition practices across entities, industries, jurisdictions, and capital markets; (d) provide more useful information to users of

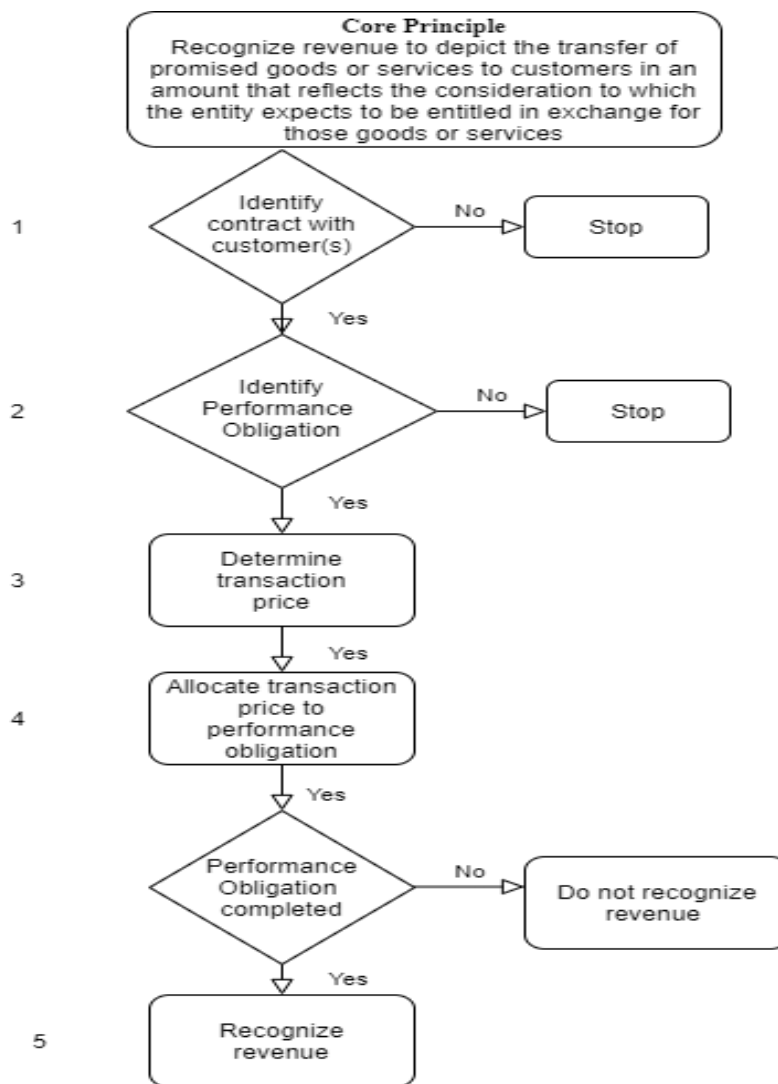
financial statements through improved disclosure requirements; and (e) simplify the preparation of financial statements by reducing the number of requirements to which an entity must refer (FASB, 2014).

The result of the joint project was FASB’s ASC Topic 606 and IASB’s IFRS 15, both entitled *Revenue from Contracts with Customers*. Revenue from contracts with customers is a five-step principle-based contractual model for revenue recognition.

*Core Principles and Steps in Revenue Recognition*

ASC 606 anchors on the core principle that “an entity should recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services” (FASB, 2014, p. 2). The contractual underpinning of the principle obligates entities to recognize revenue by complying with five successive principled-based steps (FASB, 2014) portrayed in Figure 1.

**FIGURE 1  
ASC 606 FIVE-STEP REVENUE RECOGNITION FLOWCHART**





### *The Scope and Implementation Methods*

The revenue recognition standard affects all public, private, and not-for-profit entities that either contract with customers to transfer goods or services or contract to transfer nonfinancial assets unless those contracts are within the scope of other standards such as leases and insurance contracts.

Full Retrospective Approach. Peters (2018) explicated the full retrospective approach is comprehensive and results in the benefit of facilitating an “apples-to-apples” comparison of financial statement numbers both before and after adoption. Consequently, it is more challenging to implement, requiring far more resources and skills. Peters likened the challenge to needing to restate three years’ worth of earnings and posited the full retrospective approach necessitates determining the cumulative effect of adopting the guidelines from the beginning of the first historical period presented, and then recast revenue and expenses for all prior periods presented in the year of adoption of the new standard (p. 4).

### *Modified Retrospective Approach*

ASC 606-10-65-1(h) explains the modified retrospective approach. A minimalistic approach allows the organization to apply ASC 606 to all new contracts initiated on or after the effective date and to contracts with outstanding obligations as of the effective date. Thus, an entity recognizes the cumulative effect of initially applying the guidelines as an adjustment to the opening balance of retained earnings (FASB, 2014; Peters, 2018).

### *Enhanced Disclosure Requirements*

Yeaton (2015) explained the expanse of disclosure requirements specified within ASC 606. ASC 606 dramatically broadens current revenue recognition disclosure requirements to enhance information related to the nature, timing, and uncertainty of revenue from contracts with customers and related cash flows. Accordingly, disclosures must be structured to incorporate qualitative and quantitative information on contracts with customers and the extent to which judgments were applied.

### *Implementation Issues and Subsequent Amendments*

Upon issuing the new revenue standards, FASB and IASB set up a joint revenue transition resource group (TRG). The purpose of the TRG is not to issue guidelines but to seek and provide feedback on potential issues related to implementing the new revenue standards. By analyzing and discussing potential implementation issues, the TRG has helped the boards determine whether to take additional action, such as providing clarification or issuing other guidelines, primarily because of feedback provided by the TRG after the issuance of the initial accounting standards update. From August 12, 2015, through June 3, 2020, six updates were made to clarify or amend certain aspects of Topic 606, but not change the core principle of the guidelines in Topic 606.

FASB reiterated the amendments in these updates affect entities with transactions included within the scope of ASC 606. The scope of ASC 606 includes entities that engage in transferring goods or services (that are an output of the entity’s ordinary activities) in exchange for consideration. The amendments to the recognition and measurement provisions of ASC Topic 606 also affect entities with transactions included within the scope of Topic 610, Other Income.

### *Implementation Blueprint*

Preparing for this innovative revenue recognition standard can be daunting, and instead of focused date deferrals, organizations should take advantage of the additional time to evaluate the potential changes in financial statements, information systems, processes, and controls (Arms & Bercik, 2015; Jonick & Benson, 2018; Knachel, 2016; Tysiac & Murphy, 2015; Yeaton, 2015). According to Thorn and Carson (2017), AICPA’s Financial Report Center (FRC) has developed an implementation blueprint for enhancing ASC 606 implementation. Additionally, Malinoski (2018) proposed a six-step implementation procedure for construction companies.

## The Problem

Literature going back to the early 20th century suggests both academia and accounting practitioners acknowledge revenue recognition as a chronic contentious accounting dilemma (Liang, 2001). Revenue is a vital metric that informs capital markets about the performance and prospects of organizations and thus has mechanisms that are unscrupulously manipulated for earnings management (FASB, 2014; Zha Giedt, 2018). Accordingly, regulating revenue recognition has been entrenched in the agenda of standards-setting bodies in the United States and internationally for over a century (Bukics, 2000; Wagenhofer, 2014). In the United States, all revenue recognition regulatory models from, and between early directives issued by the American Accounting Association in 1964 and releases of the Emerging Issues Taskforce (EITF) in 2000 fell short in addressing complex transactions and customer contracts featuring in the business models of contemporary organizations (Wagenhofer, 2014). A persistent shortcoming in revenue recognition regulatory models led to realizing the significance of the problem and the need for collaboration between standards-setting leaders, to wit, FASB and IASB, in developing new, converged, and robust guidelines. That collaboration gave birth to ASC Topic 606 and IFRS 15, referred to as *Revenue from Contracts with Customers* (FASB, 2014). Since the announcement of the first effective date for implementing ASC 606, many studies have investigated the preparedness of organizations across different industries (Jonick & Benson, 2018). Those studies revealed that many organizations are yet to articulate a clear ASC 606 implementation strategy (Amato, 2015; Atwood, 2015; Peters, 2018; Tysiac & Murphy, 2015).

## Variables of Interest

The variables of interest for this study were identified based on the notion of implementation CSFs underscored in studies such as Abdelmoniem (2016), Epizitone and Olugbara (2019), and Ram et al. (2013). These studies define CSFs as a few things that must go well to ensure success. Scholars concerned about the abysmal implementation success rate of many projects have suggested the need for identifying and stimulating implementation CSFs to boost implementation success (Abdelmoniem, 2016; Epizitone & Olugbara, 2019). This study identified three CSFs with measurable and predictive attributes, that would most likely enhance ASC 606 implementation outcomes.

### *Organizational Agility*

According to Appelbaum et al. (2017), it is unquestionable that refusing to adapt to environmental change comes at a much higher price of imminent failure. Asil and Farahmand (2019) also asserted many studies associate organizational failure with inattention to changes in the dynamic environment. Because of its importance, the principles of agility have been espoused in studying phenomena in the organizational context (Wendler, 2013), necessitating a more encompassing definition to reflect its impact on the entire organization. The theme emanating from organizational-level agility perceives it as an organization's ability to anticipate change in its environment and proactively respond in a timely and efficient manner to consolidates its competitiveness (Cegarra-Navarro & Martelo-Landroguez, 2020; Nafei, 2016; Teece et al., 2016; Zitkiene & Deksnys, 2018). The ability to fluidly respond to change requires flexibility and capabilities (Cegarra-Navarro & Martelo-Landroguez, 2020; Teece et al., 2016). Teece et al. (2016) posited agility and flexibility can be used interchangeably, while Attafa et al. (2012) asserted agility is a more encompassing capability that includes flexibility and perceived flexibility as an enabler of agility, emphasizing the speed element. The other element of agility is innovation.

To understand OA, several studies developed frameworks that dealt with its different aspects. One school of thought used the enabler and capability framework, which suggest agile organizations need a set of enablers and capability to respond to change. Another school of thought used the practice framework to identify things organizations do in their daily practice that make them agile. The third school of thought used the sense-response, which sees OA through the lens of abilities—the ability to scan the environment for opportunities and the ability to act in a timely and efficient manner (Zitkiene & Deksnys, 2018). Zitkiene and Deksnys built on these schools of thought to develop an organizational-level agility conceptual model encompassing agility drivers, agility enablers, agile capabilities, and agility practice.

The conceptual model provides insights into how agile drivers orchestrate organizational adaptation after a change in the environment is sensed and recognized. Decision-makers assess the impact of the current situation seeking answers to the following questions: What resources does the organization have to address the changes in the environment? Does the organization have the necessary abilities to utilize those resources and adapt to the changes? (Zitkiene & Deksnys, 2018). After the assessment, decision-makers must respond to the environment drivers by deploying enablers and capabilities. The response is represented by action or practice, leading to an outcome, such as a procedural change (Zitkiene & Deksnys). Zitkiene and Deksnys associated three response capabilities, comprising reconfiguration, learning, coordination, and cooperation capabilities with dynamic capability. In the present study, the more encompassing absorptive capability explains agile capabilities.

### *Absorptive Capacity*

The relationship between employees' innovation use and innovation implementation outcome is mediated by the organization's absorptive capacity (Aliasghar et al., 2019). The concept of absorptive capacity, described as the organization's ability to value, assimilate, and apply new knowledge, was first introduced by Cohen and Levinthal between 1989 and 1990 (Harris & Yan, 2018; Volberda et al., 2010; Zahra & George, 2002). Absorptive capacity became popular because of its interconnectedness with dynamic capability, organizational learning, and knowledge management (Easterby-Smith et al., 2008), its relationship with the learning culture or knowledge-friendly culture (Harrington & Guimaraes, 2005), and its trans-disciplinarity and richness in improving innovation and learning capacity by taking advantage of the universal knowledge reservoir (Volberda et al., 2010). The concept has metamorphosed from explaining the benefits of knowledge and opportunities to innovate emanating from an organization's internal research and development activities to embracing an organization's ability to improve more generally as it espouses knowledge from its external environment (Harris & Yan, 2018; Matusik & Heeley, 2016).

### *Organizational Implementation Context*

The need to develop psychometric measures that capture key organizational context determinants that act as precursors of effective implementation has become popular in the literature (Lyon et al., 2018). The surge in studies in this domain is primarily attributed to the limitation of most implementation frameworks to capture context (Pfadenhauer et al., 2017) and the relationships among individual and organizational concepts needed to comprehend how these factors coalesce to influence implementation and thus inform strategy selection and sequencing (Powell et al., 2017). Most trailblazing studies on organizational environment focused on the organization's molar environment that captured the totality of the organization's ecology and the metrics of which feebly related to performance outcomes (Ehrhart et al., 2014; Lyon et al., 2018).

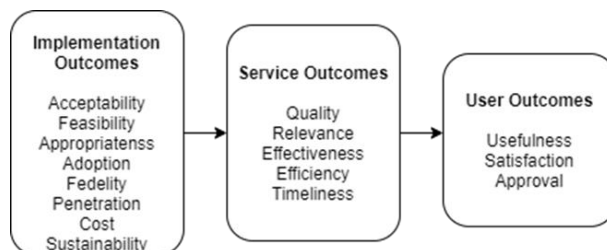
Emphasis has shifted to strategic environments, such as the OIC, that address granular components of the organization's inner setting most proximal to specific outcomes (Ehrhart et al., 2014; Lyon et al., 2018; Powell et al., 2017). Understanding the OIC begins with understanding how context is conceptualized. Context is an amalgam of circumstances or distinctive factors actively in play in the environment or setting that is supposed to host the implementation of the proposed change (Nilsen & Bernhardsson, 2019). When a context is introduced into organizational implementation, OIC is then perceived as a subcategory of constructs of the inner setting relevant to influencing front-line professionals' mindset towards effective innovation implementation. Through OIC, management communicates what it perceives as pertinent actions, policies, practices, and processes for implementing innovation. Key OIC constructs include strategic implementation leadership, strategic implementation climate, and implementation citizenship behavior.

### *ASC 606 Implementation Outcomes*

Although studies have defined implementation outcomes and proposed assessment techniques, consensus on both is still unresolved because the subject gained prominence in the literature (Khadjesari et al., 2017; Proctor et al., 2011). The rule of thumb is implementation outcome must be defined to reflect: (a)

implementation success, which is a prerequisite for the effectiveness of program and quality of service; (b) proximal indicators of implementation processes; and (c) provide important intermediate outcomes for service or program outcomes (Proctor et al., 2011). Accordingly, Proctor et al. developed an implementation outcome taxonomy comprising seven indicators, any one of which may be used in assessing implementation outcomes. The proxies include feasibility, acceptability, appropriateness, adoption, penetration, fidelity, implementation cost, and sustainability. Figure 2 shows the impact of implementation outcomes on service outcomes and user outcomes.

**FIGURE 2**  
**IMPACT OF IMPLEMENTATION OUTCOMES ON SERVICE AND USER OUTCOMES**



*Notes.* Implementation outcome taxonomy and its impact on service and user outcome. Adopted from “Outcomes for implementation research: Conceptual distinctions, measurement challenges, and research agenda,” by Proctor, E., Silmere, H., Raghavan, R., Hovmand, P., Aarons, G., Bunger, A., Griffey, R., & Hensley, M., 2011. *Administration and Policy in Mental Health and Mental Health Services Research*, 38(2), 65–76. <https://doi.org/10.1007/s10488-010-0319-7>. Copyright by Springer Nature. CC BY-NC 2.0

**Related Studies**

McKee (2015) warned healthcare organizations about the consequences of delayed implementation, asserting ASC 606 will require modification to existing processes. Some studies have suggested implementing ASC 606 will result in significant changes in structures, accounting subsystems, processes, IT solutions, and the control environment (Jonick & Benson, 2018; Knachel, 2016; McKee). Hepp (2018) studied early challenges in implementing ASC 606 and found construction companies among the least prepared in implementing the new standard. Davern et al. (2019) investigated the implementation of AASB (IFRS 15) to ascertain implementation challenges and the cost and benefit of implementing a new standard from Australian preparers’ perspectives.

**METHODOLOGY**

**Operationalization and Categorization of Variables**

The seven variables of this study were classified as independent, moderating, mediating, and dependent, based on the output level being studied. Consistent with LaFountain and Bartos (2002), these variables were operationalized to reflect their observable conditions and measurement specific to the ASC 606 implementation phenomenon. The variables and their measurement attributes are categorized in various tables.

*Organizational Implementation Context*

OIC is the extent to which specific factors within the organization’s internal environment, such as strategic implementation leadership, strategic implementation climate, and ICB, drive innovation implementation (Lyon et al., 2018). This was an independent variable comprising the following subscales. *Strategic Implementation Leadership (SIL)*

SIL is the degree to which leaders’ cultivated behaviors enhance innovation implementation (Lyon et al., 2018). This variable was a subscale scored on a five-point. The data type was scale/normal.

### *Strategic Implementation Climate (SIC)*

SIC is the degree to which the organization creates a strategic climate that enhances innovation implementation. The SIC scale measured focused climate and attributes like supportive, recognition, selection, and openness (Lyon et al., 2018). The SIC categories were scored on a five-point scale. Thus, the data type was scale/normal.

### *Implementation Citizenship Behavior (ICB)*

ICB depicts the extent to which actors exceed normal expectations and go above and beyond to support innovation implementation (Lyon et al., 2018). This study used two categories (helping others and keeping informed). All items were scored on a five-point Likert scale. The data type was scale/normal.

### *Organizational Agility*

This is an independent/moderating variable. OA is the degree of an organization's responsiveness to changes in its environment (Harraf et al., 2015). OA measured an organization's flexibility and speed in the three agility dimensions, including awareness agility, decision-making agility, and action agility. Under each dimension, survey questions were scored on a five-point Likert scale. The data type was scale/normal.

### *Absorptive Capacity*

ACAP was an independent/moderating variable. It was operationalized as an organization's ability to acquire, assimilate and use new knowledge for commercial ends (Zahra & George, 2002). ACAP's three dimensions, discover, integrate, and commercialize knowledge, were measured. Scores were on a five-point Likert scale. The data type was scale/normal.

### *ASC 606 Implementation Outcomes*

ASC 606 IO was categorized as a mediating/dependent variable that explains the extent to which ASC 606 was implemented as recommended in the original protocol or as intended by the program developer (Proctor et al., 2011). Its lone measurement proxy was fidelity, a multidimensional construct that encompasses adherence (i.e., steps in implementation), quantity (i.e., full or partial implementation), and quality (i.e., how well the innovation was adopted; Sanetti et al., 2020). It was measured using the noncomparative continuous scale. The data type was interval.

## **Participant Pool**

Though this research's sample encompassed construction companies, the active participants were individuals occupying different positions in construction companies; those individuals experienced the ASC 606 implementation phenomenon and were thus in a position of providing data that could be used in understanding their organizations' ASC 606 implementation footprints. Thus, the participants comprised managers, chief financial officers, accounting personnel at supervisory levels, and independent certified public accountants.

## **Population and Sampling**

A study's population is the aggregate of persons or subjects a researcher wishes to study, while the sample frame is a list of names of all persons or subjects in the population. Decisions on population and sampling should be measured because population and sampling significantly impact the external validity of research results (Erba et al., 2018). The subsections below provide more information on population and sampling specific to this study, emphasizing the sample frame, the sampling method, and the sample size.

## **Discussion of Population**

The population for this research encompassed top-ranking construction companies operating in the Mid-Atlantic United States. The construction industry is classified in the North American Industry Classification System as number 23 and described as comprising establishments primarily engaged in the construction of buildings or engineering projects (U.S. Census Bureau, n.d.). Companies refer to both LLCs

and listed corporations, and Mid-Atlantic refers to a U.S. region defined in this study. This study adopted the World Atlas' (2018) definition of the region: District of Columbia, New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, and West Virginia. The suitability and choice of the Mid-Atlantic region for this study were informed by a number of factors. Weiser (2020) asserted, "if New England provided the brains and dollars for 19th-century American expansion, the Middle Atlantic States provided the muscle" (para. 1). As a gateway into America for immigrants in the 17th century, the Mid-Atlantic created mechanisms that facilitated the admixture of people and, later, the diversity in culture and industry (Longhurst, 2012; Meyer, 2003). This diversity became the hallmark of American industrialization and the impetus for America's economic development (Meyer, 2003). Though other regions of the United States have witnessed an increase in the presence of heavy industry, the Mid-Atlantic region remains a powerhouse of U.S. construction and engineering and offers a population with excellent conditions for investigating issues in the construction industry. Thus, conclusions of a research on the companies that constitute the universe of construction and engineering companies in the Mid-Atlantic can justifiably be generalized to other regions of the United States.

### **Discussion of Sampling**

This study adopted the most appropriate methods recommended in the literature for sampling design. In addition, cost and time factors were factored into the decision to study only a sample of the population. In the following paragraphs, the sampling method, the sampling frame, and the desired sample size are expounded.

#### *Discussion of Sampling Method*

The sampling method adopted for this study was probabilistic sampling. Specifically, the simple random sampling (SRS) procedure was used. SRS permitted every subject in the sample frame an equal opportunity of being selected (Robson & McCartan, 2016). The sample's representativeness of its population permits the researcher to make statistical inferences about the population, thus making generalizability possible (Robson & McCartan, 2016). Additionally, SRS helps mitigate bias, increasing validity (Robson & McCartan). However, SRS's vulnerability is the cost associated with obtaining the sample, and the likelihood estimators may produce a high standard error (Taherdoost, 2016).

#### *Discussion of Sampling Frame*

The sample frame for this research was a list of 100 top-ranking construction companies in the Mid-Atlantic United States published in Engineering News-Record and supplemented by a list of construction companies in New York published by Zicklin School of Business, Baruch College's NYC data. The decision to establish a sample frame from top-ranking companies in the population is a restriction technique to mitigate the effects of confounding factors (Cox et al., 2009). Recent legislation has facilitated a data company's ability to share data, easing restrictions on data sharing (Kosseim et al., 2014). The decision to ease restriction on data sharing is predicated on the idea that data sharing helps researchers generate the statistical power needed to reject the null hypothesis. Thus, procuring a list from a reliable data sourcing company is a prevalent and ethically resourceful approach in ensuring all subjects of the population are captured by the sample frame. The sample frame for this research was obtained from somewhat similar platforms dedicated to construction and engineering news and data.

#### *Discussion of Desired Sample and Sample Size*

The sample size and its estimation are critical aspects of the research design for financial/logistics reasons, as well as results legitimacy (Lenth, 2001). The appropriate sample size minimizes the risk of sampling error and bias. Though there is agreement in the literature that a larger sample size decreases likely error in generalizing (Robson & McCartan, 2016), scholars have warned about too large a sample size (Taherdoost, 2016). According to Taherdoost (2016), the benefit increases at a diminishing rate as the sample size increases. Using the population of 100 top-ranking construction companies in Mid-Atlantic USA, the sample size was calculated using the following modified Cochran formula:

$$\text{Simple size} = \frac{\frac{z^2 \times p(1-p)}{e^2}}{1 + \left(\frac{z^2 \times p(1-p)}{e^2 N}\right)}$$

## DATA COLLECTION AND ORGANIZATION

This section discusses the plan and other data collection and analysis aspects, as well as steps taken to ensure reliability and validity.

### Data Collection

This study collected seven quantitative data sets, each representing a variable of interest. The data were collected from participants in the research sample, comprising accounting staff at the supervisory level, CFOs, managers, and independent public accountants. The accounting staff members were selected to participate in the study based on the researcher's intuition that as ASC 606 implementation team members, accounting staff members are better placed in assessing both management's endeavors in creating the implementation context in which they operate as well as the environment itself. Another reason for involving accounting staff was to check responses provided by hierarchy. Consequently, if managers were to assess ASC 606 implementation proxies alone, it is unlikely the data generated will be objective (Shea et al., 2014). Alternatively, data sets on organizational agility, organizational absorptive capacity, and ASC 606 implementation outcomes were also provided by all participants. Agility and absorptive capacity are individual capabilities measured at the organizational level. Managers are better placed in assessing these capabilities, but the staff members were also given the opportunity to assess their own capability level.

### Instruments

The research instrument adopted for this quantitative correlational study was the survey. The research used closed-ended questionnaires that could easily be converted into quantitative data (Zohrabi, 2013). The questionnaires were self-administered and were consequently unambiguous with succinct instructions to participants. The clarity of instructions and questions helped mitigate a common defect of surveys, a misunderstanding between respondents and the researcher (Zohrabi). The following paragraphs shed more light on the peculiarity of this study's survey.

### Survey

The survey instrument comprised seven sections, each designed to collect data on a variable. Section 1 contained questions meant to obtain data on OIC. The survey used an assessment scale proposed by Lyon et al. (2018). The scale has three subscales measuring: (a) SIL, (b) organizational implementation climate, and (c) OCB. The organizational implementation context scale was tailored to accommodate the specificity of this study. The scale is in an open-access article with the copyright held by Creative Commons. The survey is appended to this report as Appendix, Section 1.

Section 2 of the Appendix was designed to capture data on organizational agility. An assessment scale proposed by Nafei (2016) was used, which measures flexibility and speed in three organizational agility dimensions, namely, awareness agility, decision-making agility, and action agility. Questions were scored on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Section 3 of the Appendix was designed to obtain data on absorptive capacity. An assessment scale proposed by Büchel and Sorell (2012) was used. The scale measured absorptive capacity through its three knowledge constructs: discover, integrate, and commercialize. All questions were scored on a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Section 7 assesses ASC 606 implementation outcomes using one of Proctor et al.'s (2011) proxies: fidelity. Fidelity was similarly used in Sanetti et al. (2020). Because this was an outcome variable, and the statistical test requires its data to be interval, the researcher used a slightly different approach in

measurement. The assessment tool comprised a single question to be measured on a noncomparative continuous scale (Eriksson et al., 2001).

### **Data Organization**

The questionnaires were structured such that responses were made by checking optically readable boxes. Responses entered in this manner are easily transformed into data, thus preventing intermediary data entry. Additionally, the data were cleaned using the scatterplot in SPSS. This procedure was useful in identifying and investigating deviated points standing oddly from the general pattern (Robson & McCartan). After cleaning the data of undesirable elements and the correct number of valid surveys determined, the data were entered into a data file and arranged in rows and columns, ensuring variables were in columns and observations in rows.

### **Data Analysis**

This subsection recalls variables, and their classification, a discussion on descriptive statistics, the proposed statistical tests, and the alternative test should assumptions for the primary tests be markedly violated.

### **The Variables**

In addition to sociodemographic variables comprising age, gender, race, educational status, and longevity in current position, the study used the following four principal variables: absorptive capacity (independent variable), organizational agility (independent variable), organizational implementation context (independent variable), and ASC 606 implementation outcomes (dependent variable). According to Morgan et al. (2013), such complex associational research questions should be disintegrated into a set of questions to facilitate analysis and improve comprehension. Thus, research questions 1A to 1C resulting in hypotheses 1A to 1C, were derived. These subordinate RQs and hypotheses were meant to discover the relationship between each predictor variable and ASC 606 implementation outcomes.

### **Descriptive Statistics**

Several descriptive statistics were conducted to check data quality and assumptions for the desired inferential statistics. The check was conducted through what is referred to as exploratory data analysis (EDA). EDA must first be conducted before any descriptive or inferential statistics can be performed (Morgan et al., 2013). This approach allowed one to check for outliers missing values, observe relationships between variables, and obtain demographic information (Morgan et al.). Additionally, EDA permitted checking the extent to which the data met normality and other assumptions for the desired test. Normally distributed scores must first be present to describe, summarize, and compare scores (Morgan et al.; Robson & McCartan, 2016). Thus, EDA tools were exploited, such as box plots and frequency distribution curves that check outliers and skewness. Because this was a correlational study, another important descriptive statistic exploited was the scatter plot. The scatter plot is a graph depicting the relationship, and the strength, between two variables (Morgan et al.; Robson & McCartan). After EDA, descriptive statistics were conducted to help in understanding the sample. Descriptive statistics revealed the means, standard deviations, variances, and skewness of variables. In addition, Z-values and Kolmogorov-Smirnov and Shapiro-Wilk test of normality were also computed. Relevant information gleaned from measures of central tendency were mean scores. Alternatively, relevant information gleaned from measures of variability included range, standard deviation, variance, and standard error.

### **Hypotheses Testing**

H1 was tested using multiple regression. Multiple regression is informed by the complexity of the overarching research question. The choice of multiple regression was also predicated on the level of measurement of variables. The dependent variable's measurement level was expected to be interval, and all independent variables were expected to be scale/normal. These data attributes satisfied the condition for



using multiple regression (Morgan et al.). However, the researcher had to watch out for assumptions for multiple regression.

Darlington and Hayes (2017) listed three assumptions for regression and categorized them into primary and secondary assumptions. They stated linearity is a primary assumption that cannot be violated. Thus, all independent variables must have a linear relationship with the dependent variable (Cohen et al., 2015; Darlington & Hayes). Other assumptions are there must be no multicollinearity (the independent variables must not be highly correlated with each other), homoscedasticity (the variance of the error term must be equal for all independent variables), and normal distribution of data (Darlington & Hayes). Another assumption based on sample size is that for each predictor variable, there must be at least 20 observations for a researcher to have reasonable effect size and power (Green, 1991). Based on Green's postulation, this study required a minimum sample size of 60 for effective multiple regression analysis.

### **Reliability and Validity**

To ensure reliability, existing measurement scales are implemented, with tested reliability. Scales used for OIC, OA, ASC606 EF, and OL were tested reliable scales. OIC assessment scale revealed CFI and TLI greater than 0.95. All individual subscales revealed internal consistency between 0.81 and 0.98. In addition to CFA, enough evidence supports the reliability and construct validity of all three subscales and OIC in general (Lyon et al., 2018). The reliability of the OA scale is depicted by a Cronbach alpha on all items greater than 0.89, which is considered excellent and provided evidence of the scale's internal consistency (Nafei, 2016).

The reliability of scales for ACAP and ASC 606 IO are not reported. For scales with no known reliability and validity, the onus for proving reliability and validity was on the researcher. Thus, the Cronbach alpha test and EFA were conducted for these scales and all other scales to ensure adaptations made for this study did not affect their reliability. This is consistent with Morgan et al. (2013), who advised that even when an assessment scale has been tested in other studies and found reliable, the study adopting it must test its reliability based on its own data set. Consequently, Cronbach alpha was used to assess the internal consistency of all scales, especially as most of the surveys are Likert scales that have multiple subscales, which must be summed to obtain a composite score. The Cronbach alpha is most appropriate for testing these types of scales (Morgan et al.)

To ensure data were valid and accurately measured variables, this study relied on content evidence. According to Morgan et al. (2013), content evidence is the judgment on whether the contents of a survey instrument reasonably represent the concept being measured. This assessment depends on judgment and logic because of the absence of a test that can measure it. However, EFA can be used to provide evidence of internal structure, especially when the variable being measured has several subconstructs measuring several aspects of the variable. EFA measures the extent to which the clustering of items (factors) is supported by theory. This is referred to as factorial evidence (Morgan et al.). Though this study conducted EFA for most of the instruments clustering items, the researcher relied once again on the reported validity of these adopted scales.

## **EMPIRICAL FINDINGS AND RESULTS**

The novel approach used in studying the research problem has narrowed the knowledge gap and contributed significantly to the literature. Accordingly, the study was set out to investigate factors that impede or enhance ASC 606 implementation. Four variables informed by literature and theories were identified and used in evaluating relationships, moderation, and mediation between ASC 606 implementation drivers and a myriad of ASC 606 implementation outcomes. This study investigated the extent to which preidentified implementation CSF (OIC, ACAP, and OA) predicted ASC 606 implementation outcomes. In addition, it evaluated relationships between CSFs with ASC 606 implementation outcomes. Multiple linear regression was used to test these hypotheses, and results revealed that OIC and ACAP significantly predicted ASC 606 implementation outcomes. OIC contributed more to the prediction ( $b = .60$ ) and ACAP, slightly less ( $b = .54$ ). OA did not significantly contribute to predicting

ASC 606 implementation outcomes ( $b = .32, p = .377$ ). However, the correlation matrix revealed all three variables were significantly positively correlated with ASC 606 implementation outcomes, with the strongest correlation reported by organizational implementation outcomes ( $r = .60$ ) and absorptive capacity ( $r = .54$ ). Organizational agility had a slightly smaller correlation ( $r = .32$ ).

### Presentation of Findings

This research was conducted to evaluate relationships that might exist between certain implementation CSFs, such as absorptive capacity, organizational agility, organizational implementation context, and ASC 606 implementation outcomes in companies within the construction industry in the Mid-Atlantic United States. An integrated survey instrument was used to measure four principal variables to answer the research question. The questions focused principally on understanding the extent to which absorptive capacity, organizational agility, and organizational implementation context predict ASC 606 implementation outcomes. Hayes' PROCESS macro version 3.5 embedded in multiple linear regression in IBM SPSS version 28.00 was used to measure relationships. Participants were from a sample of 60 randomly drawn construction companies in the Mid-Atlantic United States. To qualify for the survey, participants had to be a team member either responsible for implementing, performing ASC 606 tasks, or auditing. Thus, 214 (89%) participants of a total of 240 invited through the Alchemer survey platform responded with complete data and were thus included in the analysis. From Table 2, 62% of participants identified as male and 36% as female. Seventy-five percent identified their race as White, 12% Black/African American, 8.9% Hispanic/Latino, 1.9% Asian, 0.5% American Indians, and 0.9% other. Regarding education, 35% held a bachelor's degree, 26.6% had a master's degree, 22.9% had a high school diploma, 13.1% had an associate degree, and 2.3% had a doctorate. 31.3% of participants were managers, 28% CFOs, 13.1% auditing CPAs, and 27.6% accounting staff at the supervisory level. 37.9% had a longevity of 4 to 7 years in their current positions, 23.8% 7 to 10 years, 19.6% 1 to 3 years, 13.1% above 10 years, and 5.6% between 0 and 1 year. Regarding age, 48.6% were between the ages of 35 and 44, 26.2% between 25 and 34 years, 18.7% between 45 and 54 years, 3.7% between 18 and 24, 2.3% between 55 and 64 years, and 0.5% between 65 and 74 years.

### Internal Consistency Reliability

Cronbach's alphas assess whether data from each item in the questionnaire formed a reliable scale for the variable. The results of Cronbach's alphas depicted in Table 1 showed alphas for organizational implementation context (.91) and absorptive capacity (.88), These alphas are greater than .70, the recommended minimum (Cronbach, 1951). Thus, the alphas for organizational implementation context and absorptive capacity indicated the items constituted scales with good internal consistency reliability. The alpha for organizational agility (.67) was rather low, indicating minimally adequate reliability. However, low alphas are sometimes attributed to the paucity of items on the scale rather than the quality of items in measuring a construct (Morgan et al., 2013).

**TABLE 1**  
**RELIABILITY AND CRONBACH'S ALPHAS**

Variable	Variable Label	Cronbach's Alpha	No. of Items
Org implementation context	OIC	.91	32
Organizational agility	OA	.67	15
Absorptive capacity	ACAP	.88	25
ASC 606 implementation outcome	ASC606 IO*	—	1

Note. \*ASC606 IO was not computed being a one-item scale.

### Descriptive Statistics and Sample Characteristics

The chosen statistical tests, simultaneous linear regression analysis, and Pearson's correlation required the sample data to be approximately normally distributed (Morgan et al., 2013). Three methods were

applied to ascertain whether data were approximately normally distributed: skewness and kurtoses  $z$ -values, Kolmogorov-Smirnov and Shapiro-Wilk test of normality, and visual analysis of histograms, normal Q-Q plots, and box plots. This multilayer check, recommended by Mishra et al. (2019), was meant to guard against shortcomings of statistical tests, such as Kolmogorov-Smirnov and Shapiro-Wilk, that sometimes are not sensitive enough at low sample sizes or overly sensitive to large sample sizes (p. 70). The first guideline applied in determining approximately normally distributed data was observing skewness. If skewness' absolute value is less than one, the data are considered at least approximately normally distributed (Morgan et al.). In Table 2, all variables reported absolute skewness values less than one.

**TABLE 2**  
**DESCRIPTIVE STATISTICS**

Variable	<i>N</i>	Range	Min	Max	<i>M</i>	<i>SD</i>	Var	Skewness	Std. Error
OIC	214	2.09	2.53	4.63	3.5879	.43743	.191	-.123	.166
OA	214	1.00	2.00	3.00	2.5561	.33843	.115	-.288	.166
ACAP	214	1.56	3.12	4.68	3.8649	.35238	.124	.054	.166
ASC606 IO	214	4.00	5.00	9.00	7.00	1.000	1.000	.038	.166
Valid <i>N</i> (listwise)	214								

Next, the  $z$ -value of each variable was calculated by dividing the skewness by the corresponding standard error. When the  $z$ -value is between  $-1.96$  and  $+1.96$  for a moderate sample size, skewness is assumed to be not significantly different from normal (Mishra et al., 2019). Table 3 shows all variables reported a  $z$ -value between  $\pm 1.96$ .

**TABLE 3**  
**Z-VALUE FOR VARIABLES**

Variable	Skewness	Standard Error	Z-value
OIC	-.123	.166	-0.74
OA	-.288	.166	-1.73
ACAP	.054	.166	-0.32
ASC606 IO	.038	.166	-0.23

Last, EDA was performed to produce a statistical test of normality, as well as histograms, Q-Q plots, and box plots for each variable for numerical and visual analysis. The Kolmogorov-Smirnov and Shapiro-Wilk tests of normality presented in Table 4 revealed different results. Because this study's sample was greater than 50, the result of the Kolmogorov-Smirnov test was the one analyzed. The null hypothesis for the test states data are taken from a normally distributed population. Thus, the null hypothesis is accepted when the  $p$ -value is not significant and data are deemed approximately normally distributed (Mishra et al., 2019). Because the results of most variables, in exception of OIC ( $p = .200$ ) were statistically significant, OA ( $p = .001$ ), ASC606 IO ( $p = .001$ ), ACAP ( $p = .017$ ), suggesting data were not approximately normally distributed, visually assessing histograms and plots was also conducted to confirm results of earlier tests portraying approximately normally distributed data.

**TABLE 4**  
**KOLMOGOROV-SMIRNOV AND SHAPIRO-WILK TEST OF NORMALITY**

	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
OIC	.050	214	.200*	.987	214	.040
OA	.096	214	.001	.914	214	.001
ACAP	.068	214	.017	.982	214	.008
ASC606 IO	.181	214	<.001	.903	214	<.001

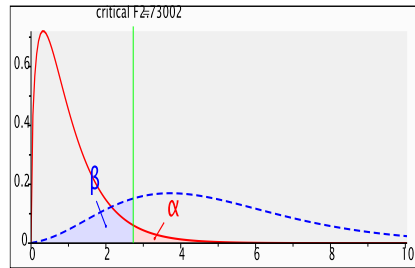
Notes. \*This is a lower bound of the true significance. a. Lilliefors significance correction.

A visual analysis of histograms, Q-Q plots, box plots, and histograms of each variable suggested that all variables are normally distributed. The scatter plot, normal P-P plot of regression standardized residual of variables projected by the Kolmogorov and Smirnov test as not being approximately normally distributed were particularly studied. Going by these instruments, organizational agility and ASC 606 implementation outcome reported slight skewness but not enough to be significantly different from an approximately normal distribution. The rest were deemed approximately normally distributed. The scatter plot revealed all data points fit in a rectangle and were between the appropriate range of -3 to +3 on both axes.

### Hypotheses Testing

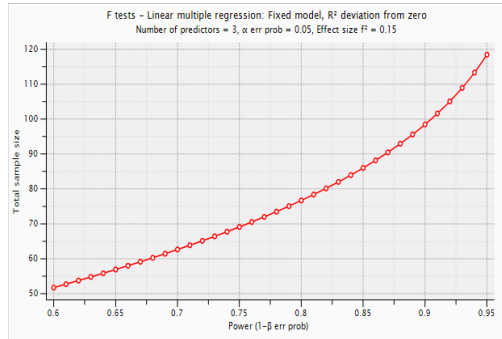
This subsection focused on testing each of the four hypotheses proposed for this research. After ascertaining data are at least approximately normally distributed, the proposed primary parametric tests were used. The null hypothesis was rejected at the 95% confidence interval ( $p \leq .05$ ), leaving the researcher only a 5% chance of committing type 1 error, that is, rejecting the null hypothesis when it was actually true. In addition, G\*Power was used in ensuring the effect size, power, and sample size, provided the right parameters for rejecting the null hypothesis. Using Cohen's (1988) 0.15 recommendation for a medium effect size for linear regression with a projected regression model with predictors and a required power of .80, the plots in Figures 3 and 4 were obtained.

**FIGURE 3**  
**CRITICAL F VALUE AND REGION OF REJECTION**



Notes. The critical  $F$  test is set at 2.73. Based on the G\*Power result, to pick up a medium effect size of .15 and a power of .80, the study needed a sample of 77 participants. The study had 214 active participants and had enough power to prevent a type 1 error.

**FIGURE 4  
SAMPLE SIZE SLOPE AT .80 POWER**



*Hypothesis 1. H1<sub>o</sub>: There is no statistically significant evidence that a combination of three implementation CSFs (i.e., organizational implementation context, organizational agility, and absorptive capacity) predicts ASC 606 implementation outcomes.*

The data for each variable in the hypothesis were checked using several parameters for approximately normal distribution. Organizational implementation context passed the skewness, z-value test, Kolmogorov-Smirnov normality test. Visual examination of histograms and plots also confirmed at least approximately normal distribution. Organizational agility, absorptive capacity, and ASC 606 implementation outcomes passed the skewness and z-value tests but failed the Kolmogorov-Smirnov normality test. However, a visual examination of the histogram, box plots, normal Q-Q plots, and normal P-P plots showed a slight skewness, not enough to rule out an approximately normal distribution. In addition, Cook's (1977) statistic was calculated and no value exceeded one, meaning there were no outliers.

Simultaneous multiple regression was performed to evaluate the best prediction of ASC 606 implementation outcomes among three implementation CSFs. The ANOVA statistic was statistically significant,  $F(3, 210) = 65.59, p = .001$ , indicating the model fit the data. The means, standard deviations, and intercorrelations can be found in Table 5. The model summary revealed an  $R^2 = .48$ , indicating 48% of the ASC 606 implementation outcome variance was accounted for by the three predictors. According to Cohen (1988), this was a large effect. However, only the predictions of organizational implementation context,  $t(3, 210) = 7.9, p < .001$  and absorptive capacity,  $t(3, 210) = 6.9, p < .001$  were statistically significant. Organizational agility did not contribute significantly to the prediction,  $t(3, 210) = .89, p = .377$ . The standardized coefficient betas presented in Tables 6 and 7 suggested organizational implementation context contributed more (45%), and absorptive capacity contributed slightly less (37%) to predicting ASC 606 implementation outcomes.

**TABLE 5  
MEANS, STANDARD DEVIATION AND INTERCORRELATION**

Variable	M	SD	OIC	OA	ACAP
ASC 606 IO	7	1	.60	.32	.54
OIC	3.59	.44	—	.41	.36
OA	2.56	.34		—	.26
ACAP	3.86	.32			—

Note.  $p < .001$

**TABLE 6**  
**COEFFICIENTS FOR PREDICTOR VARIABLES**

Variable	<i>B</i>	<i>SE</i>	<i>B</i>	<i>t</i>	<i>P</i>
OIC	1.019	.129	.446	7.873	<.001*
OA	.143	.162	.048	.885	.377**
ACAP	1.053	.152	.371	6.932	<.001*
Constant	-1.097	.617			

Notes. \*  $p < .001$ , \*\* not significant,  $p = .377$

**TABLE 7**  
**COEFFICIENT AND COLLINEARITY STATISTICS**

Variables	Unstand Coeffs		Stand Coeffs			Collinearity Statistics	
	<i>B</i>	<i>SE</i>	$\beta$	<i>t</i>	Sig.	Tolerance	VIF
OIC	1.019	.129	.446	7.873	<.001	.767	1.304
OA	.143	.162	.048	.885	.377	.822	1.217
ACAP	1.053	.152	.371	6.932	<.001	.857	1.166
Constant	-1.097	.617					

Note. a. dependent variable: ASC606 implementation outcome.

## RESULTS

Multiple linear regression was used, which regressed the mean of ASC 606 implementation outcomes on the means of organizational implementation context, organizational agility, and absorptive capacity. Collinearity statistics in Table 7 revealed tolerance values less than .9 (Field, 2013), indicating the independent variables were not highly correlated. Also, the intercorrelation statistics in Table 6 revealed intercorrelation values less than .7, which indicated they were not highly correlated. Cook's (1977) statistic was calculated, and no value exceeded one, meaning there were no outliers. The assumption for homoscedasticity was also met. Results revealed organizational implementation context,  $t(3, 210) = 7.9$ ,  $p < .001$  and absorptive capacity,  $t(3, 210) = 6.9$ ,  $p < .001$  significantly predicted ASC 606 implementation outcome. Organizational agility,  $t(3, 210) = .89$ ,  $p = .377$  did not predict ASC 606 implementation outcome significantly. Therefore, the null hypothesis was rejected in favor of the alternative hypothesis that there is statistically significant evidence a combination of three implementation CSFs, comprising organizational implementation context, organizational agility, and absorptive capacity, predict ASC 606 implementation outcomes. This result indicated organizations with enhanced organizational implementation context and high absorptive capacity are likely to experience optimum ASC 606 implementation outcomes. However, organizational implementation context predicted ASC 606 implementation outcomes the most (45%), followed by absorptive capacity (37%).

Hypotheses 1A to 1C. Hypotheses 1A to 1C investigated whether a relationship exists among the three implementation critical success factors (organizational implementation context, organizational agility, and absorptive capacity) and ASC 606 implementation outcomes. Evidence of correlation was obtained from the correlation matrix produced from the regression analysis in hypothesis 1 and confirmed by computing Pearson's correlation independently to examine intercorrelation. Table 8 shows statistically significant relationships among all variables.

**TABLE 8**  
**CORRELATION FOR PREDICTOR AND OUTCOME VARIABLES**

	OIC	OA	ACAP	ASC606 IO
OIC	1	.41*	.36*	.60*
OA		1	.26*	.32*
ACAP			1	.54*
ASC606 IO				1

Note. \*Correlation is significant at  $p < 0.01$ ,  $N = 214$ .

### Results

Multiple regressions supplemented with Pearson's correlation analysis were conducted to determine the relationships between three implementation critical success factors and ASC 606 implementation outcomes. The correlation matrix is found in Table 8. The strongest positive correlation was between organizational implementation context and ASC606 implementation outcomes ( $r(214) = .60$ ,  $p < .001$ ). According to Cohen (1988), this is a large correlation. This result showed a positive linear relationship between organizational implementation context and ASC 606 implementation outcomes. This indicated as organizational implementation context increases, ASC 606 implementation outcomes are more likely to increase in the same direction. Thus, the null H1C that there is no statistically significant relationship between organizational implementation context and ASC 606 implementation outcomes was rejected in favor of the alternative.

Also, the relationship between absorptive capacity and ASC 606 IO showed a medium to large positive correlation ( $r(214) = .54$ ,  $p < .001$ ; Cohen, 1988). This result also revealed a positive linear relationship between absorptive capacity and ASC 606 implementation outcome. It meant as absorptive capacity increases, ASC 606 implementation outcomes are more likely to increase. Thus, the null H1B that there is no statistically significant relationship between absorptive capacity and ASC 606 implementation outcomes was rejected in favor of the alternative. Organizational agility correlated the least with ASC 606 implementation outcome ( $r(214) = .32$ ),  $p < .001$ ). Though smaller than the associations of organizational implementation context and absorptive capacity, the relationship between organizational agility and ASC 606 implementation outcomes was significant and constituted a medium association (Cohen). Because the relationship was positive, linear, and significant, it indicated that as organizational agility increases, ASC 606 implementation outcomes are more likely to increase. Therefore, the null H1A that there is no statistically significant relationship between organizational agility and ASC 606 implementation outcomes was rejected and the alternative accepted.

### Research Problem and Research Questions

The findings have addressed the research problem adequately. Research question 1 queried the extent to which a combination of three implementation CSFs (organizational implementation context, organizational agility, and absorptive capacity) would predict ASC 606 implementation outcomes. The research question was extended to further discover whether there was a positive association between each of the implementation critical success factors and ASC 606 implementation outcomes. These research questions were meant to provide evidence of the relationship between these implementation drivers and ASC 606 implementation outcomes to provide insights into what organizations need in their tool kit while contemplating ASC 606 implementation.

### Literature

The research findings are reasonably consistent with the literature. Findings revealed the variables identified as critical for ASC 606 implementation were correlated with ASC 606 implementation outcomes. The literature, for example, Lyon et al. (2018), found that even when other implementation strategies are in place to support behavioral change, the inner organizational setting or the immediate context in which implementation occurs has the most impact on service delivery. No surprises then, organizational



implementation context contributed the most to ASC 606 implementation outcomes. Also, many studies associated organizational failure with inattention to changes in the external environment (Asil & Farahmand, 2019), to the extent organizational agility became important artillery in combating environmental turbulence (Zitkiene & Deksnys, 2018). This study found organizational agility significantly associated with ASC 606 implementation outcomes.

The absorptive capability was considered particularly important in implementing and applying the complex issues associated with ASC 606. Findings that absorptive capacity is positively correlated with ASC 606 implementation outcomes and evidence it moderates the relationship between organizational implementation context and ASC 606 normalization are consistent with what literature insinuated it does. For example, Rojo et al. (2018) found operational absorptive capacity and organizational learning both moderated the relationship between environmental dynamism and supply chain flexibility, with operational absorptive capacity being the stronger of the two. Also, Xin et al. (2020) found a positive association between social capital new product development and the relationship is simultaneously fully mediated by absorptive capacity and marketing capability. They further found the impact of absorptive capacity on new product development is amplified when a condition of explorative learning exists.

### **Summary of Findings**

The results of study 1 (H1 and H1A to H1C) revealed the combination of variables, including organizational implementation context, organizational agility, and absorptive capacity, significantly predicted ASC 606 implementation outcomes,  $F(3, 210) = 65.59, p < .001$ . The beta coefficient indicated organization implementation context,  $t(3, 210) = 7.9, p < .001$ , and absorptive capacity,  $t(3, 210) = 6.9, p < .001$  contributed significantly to the prediction when all three variables were included in the model. The  $R^2$  was .48, indicating that 48% of the variance in ASC 606 IO was explained by the implementation CSFs. According to Cohen (1988), this is a large effect.

For H1A to H1C, the study found all three implementation CSFs had statistically significant relationships with ASC 606 implementation outcomes. Organizational agility contributed the least to ASC 606 implementation outcome ( $r(214) = .32, p < .001$ ). Though smaller than organizational implementation context and absorptive capacity, the relationship between organizational agility and ASC 606 implementation outcome was a moderate positive correlation (Cohen, 1988). The result meant organizations with higher levels of organizational agility were likely to have higher ASC 606 implementation outcomes. Thus, the null H1A was rejected. Also, the relationship between absorptive capacity and ASC 606 implementation outcomes showed a medium to large positive correlation ( $r(214) = .54, p < .001$ ; Cohen, 1988). This result also revealed organizations with higher levels of absorptive capacity were likely to experience higher ASC 606 implementation outcomes. Thus, the null H1B was rejected. The strongest positive correlation was that between organizational implementation context and ASC 606 implementation outcomes ( $r(214) = .60, p < .001$ ). According to Cohen, this is a medium to large correlation. This result showed organizations with optimal organizational implementation context were likely to experience optimal ASC 606 implementation outcomes. Thus, the null H1C was rejected.

### **APPLICATION TO PROFESSIONAL PRACTICE**

The findings of this study were instrumental in making a series of evidence-based recommendations intended to improve ASC 606 implementation and implementation of other programs that may be introduced in the future. Malinoski (2018) recommended that organizations should develop and execute ASC 606 implementation strategies without elucidating what those strategies should involve. Thus, this study improves on the broad non-specific recommendation by explicating specific strategies to apply based on scientific evidence. Exploring implementation CSFs and mechanisms that cause change have made this study's findings the basis for more specific recommendations to optimize implementation outcomes.



### **Improving General Business Practice**

The in-depth and comprehensive examination of implementation critical success factors has increased insight into specific drivers, which determine ASC 606 implementation outcomes. In many earlier studies, recommendations for improving ASC 606 implementation are vague, merely imploring organizations to adopt and execute implementation strategies. Based on this study's findings, a more specific recommendation can be made to optimize ASC 606 implementation outcomes. Based on Proctor et al. (2011), the study operationalized implementation outcomes as implementation fidelity. Thus, investigating factors that would have a large effect on implementation fidelity revealed organizational implementation climate is the most significant driver with the most correlation with ASC 606 implementation outcome,  $r = .60$ ,  $p < 0.01$ . Management must invest more in actions intended to improve organization implementation context. This can be facilitated by optimizing a combination of its three components comprising implementation leadership, implementation climate, and ICB.

Another way of explaining improvement on general business practice is to view it from the perspective of the research problem and guidance of the theoretical framework. Theory informed us due to institutionalized (coercive) pressure, organizations initially in a state of inertia eventually come around to ASC 606 implementation to avoid regulatory sanctions and public discontentment. Thus, it was imperative to know how quickly an organization transitioned from the point of inertia to the point of implementation. An organization's position on that spectrum depended on its agility, that is, how quickly it adapted to change and its absorptive capability. Understanding organizational agility and absorptive capacity *vis à vis* their relationship with ASC 606 implementation outcome has given management a new perspective on dealing with the implementation crises and how to focus to achieve maximum effect. The study's findings provided evidence of positive correlations between organizational agility and ASC 606 implementation outcomes,  $r = .32$ ,  $p < 0.01$ , and absorptive capacity and ASC 606 implementation outcomes,  $r = .54$ ,  $p < 0.01$ . This evidence is used to recommend that management implement change strategies and enhance organizational absorptive capacity. However, because absorptive capacity has a larger association with ASC 606 implementation outcomes, the management should invest more in organizational absorptive capacity than in change strategies.

These recommendations, identifying specific action needed, contribute to improving business practice more than recommendations in early studies that merely requested organizations to adopt strategies without naming what the strategies should be. Because correlation alone is not sufficient in providing more actionable information that management needs to optimize practice, the study integrated moderation and mediation to discover mechanisms that cause change. The novel approach provides more insights into the ASC 606 implementation phenomenon and acts as a source of diverse and more streamlined actionable information to management.

### **Potential Application Strategies**

The starting point in leveraging this study's finding is investing in the three dimensions of organizational implementation context to ameliorate ASC 606 implementation fidelity. Management must first create implementation leadership that focuses on specific behaviors supportive of ASC 606 implementation, thus sending a clear signal to teams of management's stand regarding implementation success. Second, it is recommended management creates a general climate that supports ASC 606 implementation. This can be done by providing several motivations to teams and providing training, ASC 606 resources, and getting outside consultation. The third recommendation is that management encourages ICB among teams. This will increase the extent to which teams go above and beyond to support ASC 606 implementation. This can be done by motivating employees who go above and beyond with promotions. Optimizing organizational implementation context to enhance implementation outcome may not be a sure strategy. Depending on other vulnerabilities, there are additional options available to management to supplement the effects of the implementation context.

When time was lost to initial hesitancy in ASC 606 implementation, other factors need to be invested in to realize the full potential of organizational implementation context. Thus, particular attention should be paid to organizational agility and absorptive capacity. However, because absorptive capacity had a larger

correlation with ASC 606 implementation outcomes, management should leverage it more than organizational agility. Actions to optimize ASC 606 implementation outcomes had been mentioned before, including harnessing the three dimensions of the organization's implementation context.

### **Recommendation for Further Studies**

A possible limitation of this study is that its data were cross-sectional, which measured participants' judgment at a particular point in time. Cross-sectional data limit analyzing only temporary situations in the organization. The study can be taken further by collecting longitudinal data. Longitudinal data have the added advantage of measuring changes within-sample over time, enabling an assessment of the variable over time. Because of the limited time for this research, longitudinal data could not be collected. Future research could focus on collecting longitudinal data and spread the sample over most of the United States. In addition, future studies could investigate how the transition from legacy GAAP to principles-based revenue recognition and the complexity in ASC 606 itself is impacting ASC 606 efficacy. Questions have been raised on whether judgment, an intrinsic cornerstone in principles-based accounting, could increase the complexity of ASC 606 compliance and impact reporting quality within U.S. organizations. This investigation could be a significant contribution to the literature; although the findings of this study indicated implementation outcomes and normalization context improve ASC 606 efficacy from an implementation viewpoint, it may be thought-provoking to know how the application of ASC 606 itself is impacting revenue reporting quality or how management, struggling to achieve a balance between rules embedded in U.S. legacy GAAP and significant judgment required within ASC 606 application, could impact reporting quality (ASC 606 efficacy).

### **SUMMARY AND STUDY CONCLUSION**

This ex post facto nonexperimental quantitative correlation study addressed the relationship between implementation critical success factors and ASC 606 implementation outcomes. This study focused on construction companies in Mid-Atlantic United States where early hesitancy in implementing ASC 606 was envisaged would significantly impair ASC 606 implementation outcomes and consequently damage organizational legitimacy. The novel adopted for this study brought forth a new perspective of implementation concepts and principles that were not clear before, thus contributing to the literature. Findings from the study suggest the combination of three CSFs comprising organizational implementation context, organizational agility, and absorptive capacity significantly predict ASC 606 implementation, with all three factors also showing significant correlation with ASC 606 implementation outcomes.

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## **APPENDIX: SURVEY**

### **A. Organizational Implementation Context**

- 1) Management developed a clear plan to facilitate ASC 606 implementation
- 2) Management removed obstacles to ASC 606 implementation
- 3) Management has established clear department standards for ASC 606 implementation
- 4) Financial officer is knowledgeable about ASC 606
- 5) Financial officer is able to answer my questions about ASC 606
- 6) Financial officer knows what he or she is talking about when it comes to ASC 606
- 7) Financial officer recognizes employee efforts in successfully implementing ASC 606
- 8) Financial officer supports employee efforts in learning more about ASC 606
- 9) Financial officer supports employee efforts to use ASC 606
- 10) Financial officer perseveres through the ups and downs of implementing ASC 606
- 11) Financial officer is dedicated to overcoming the challenges of implementing ASC 606
- 12) Financial officer reacts to critical ASC 606 issues by openly addressing the problem(s)
- 13) One of my organization's main goals is to use ASC 606 effectively
- 14) People in my organization think implementing ASC 606 is important
- 15) Using ASC 606 is a top priority in the construction industry
- 16) Within the last two years, my organization has provided workshops or seminars focusing on ASC 606
- 17) My organization provides ASC 606 trainings
- 18) My organization provides ASC 606 training materials, such as journals, etc
- 19) Staff who use ASC 606 are seen as experts
- 20) Staff who use ASC 606 are held in high esteem in the organization
- 21) Staff who use ASC 606 are more likely to be promoted
- 22) My organization actively recruits staff who show knowledge of ASC 606
- 23) My organization actively recruits staff with education that facilitates ASC 606 use
- 24) My organization actively recruits staff who value ASC 606
- 25) My organization selects staff who are adaptable
- 26) My organization selects staff who are flexible
- 27) Staff assist others to make sure they implement ASC 606 properly
- 28) Staff help teach ASC 606 implementation procedures to new team members
- 29) Staff help others with responsibilities related to ASC 606
- 30) Staff keep informed of changes in ASC 606
- 31) Staff keep up with the latest news regarding ASC 606
- 32) Staff keep up with the organization's communications related to ASC 606

### **B. Organizational Agility**

- 1) Quick in terms of detecting changes that occur in the environment
- 2) Quick in detecting changes in laws and regulations
- 3) Quick in detecting changes in innovation
- 4) Analyzes important events concerning stakeholders, competitors, and technology without any delay
- 5) Quickly detects opportunities and threats in its environment
- 6) Quick at executing action plans to meet stakeholders' needs
- 7) Quick at implementing action plans in response to strategic changes
- 8) Quickly implements action plan on how to use innovation
- 9) Can quickly reconfigure its structure



- 10) Can quickly re-adjust its processes
- 11) Can quickly adopt new IT solution
- 12) Can introduce new products in a timely manner
- 13) Can adjust its prices quickly in response to competition
- 14) Responds promptly to regulators' critique
- 15) Always demands extra time to make corrections

### **C. Absorptive Capacity**

- 1) Frequently scans the environment for new technologies, knowledge, processes, and opportunities
- 2) We thoroughly observe global trends
- 3) Observe in detail external sources of new technologies, knowledge, processes, and opportunities
- 4) We thoroughly collect industry information
- 5) We have information on state-of-the-art external technologies
- 6) We frequently acquire technologies and knowledge from external sources
- 7) Periodically organize special meetings with external partners to acquire new technologies and knowledge
- 8) Employees regularly approach external institutions to acquire new technology, knowledge, and processes
- 9) We often integrate knowledge and technology into our firm in response to acquisition opportunities
- 10) We thoroughly maintain relevant knowledge over time
- 11) Employees store technological knowledge for future reference
- 12) We communicate relevant knowledge across relevant units of our organization
- 13) Knowledge management is functioning well in our company
- 14) When recognizing a business opportunity, we can quickly rely on our existing knowledge and processes
- 15) We are proficient in reactivating existing knowledge and processes for new uses
- 16) We quickly analyze and interpret changing market demands for our existing technologies, knowledge, and processes
- 17) New opportunities to serve our stakeholders with existing technologies, knowledge, and processes are quickly understood
- 18) We are proficient in transforming new technology and knowledge into new products
- 19) We regularly match new technologies and knowledge with existing ideas for new products
- 20) We quickly recognize the usefulness of new technologies and knowledge for existing technology and products
- 21) Our employees are capable of sharing their expertise to develop new products
- 22) We regularly apply technologies and knowledge in new products
- 23) We constantly consider how to better exploit technology and knowledge
- 24) We easily implement technologies in new products
- 25) It is well known who can best exploit new technologies and knowledge inside our firm

### **D. ASC 606 Normalization Context**

- 1) Staff working in my organization are committed to using ASC 606
- 2) Staff in my organization are motivated to implement ASC 606
- 3) Staff believe management can get people invested in implementing ASC 606
- 4) Staff working here will do whatever it takes to implement ASC 606
- 5) The staff can manage the politics of implementing ASC 606
- 6) Changes to processes and structure needed for ASC 606 were made early
- 7) The staff has adapted to all changes made to accommodate ASC 606 \*
- 8) Staff across all levels in the department are united in using ASC 606
- 9) Staff are excited about ASC 606
- 10) We have the technology/IT solution we need to carry on this change \*

- 11) Using ASC 606 has become a daily routine
- 12) There was no initial hesitancy in implementing ASC 606
- 13) Changes required for ASC 606 were rapidly made
- 14) My organization was an early implementer of ASC 606

**E. ASC 606 Efficacy**

- 1) Staff working in my organization are committed to using ASC 606
- 2) Staff in my organization are motivated to implement ASC 606
- 3) Staff believe management can get people invested in implementing ASC 606
- 4) Staff working here will do whatever it takes to implement ASC 606
- 5) The staff can manage the politics of implementing ASC 606
- 6) Changes to processes and structure needed for ASC 606 were made early
- 7) The staff has adapted to all changes made to accommodate ASC 606

**F. Organizational Legitimacy**

- 1) Construction companies adhere to government regulations
- 2) Construction companies adhere to industry standards
- 3) Construction companies are honest in their dealings
- 4) Construction companies are good corporate citizens
- 5) Construction companies are quality-oriented
- 6) Construction companies are environmentally friendly
- 7) I have a positive opinion about the implementation of ASC 606 in construction companies
- 8) Management of Construction companies think ASC 606 is compatible with their operations
- 9) Construction companies prefer ASC 606 over older industry-specific revenue recognition approaches
- 10) Construction companies are carrying out changes for ASC 606 implementation in good faith
- 11) Construction companies do not resist ASC 606
- 12) Post-ASC 606 financial report of construction companies are more relevant
- 13) Overall, construction companies report revenue accurately

**G. ASC 606 Implementation Outcomes**

- 1) After implementing and adopting ASC 606 in your organization, how do you rate its outcomes in terms of fidelity.