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MANAGERIAL MYOPIA AND THE PROLIFERATION OF ZOMBIE MALLS: A THEORETICAL ANALYSIS

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Kathleen Rankin

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ABSTRACT

“Zombie malls”—distressed retail properties in severe physical and financial decay—have proliferated as e-commerce growth, demographic shifts, and retail oversupply erode traditional mall economics. While prior investigations emphasize external forces like changing consumer preferences, this paper argues that such explanations are incomplete. Using a comprehensive survey and synthesis of existing literature, we integrate three primary streams of research: managerial myopia, agency theory, and real earnings management. This synthesis facilitates the development of a conceptual framework consisting of two propositions. We propose that short-term, performance-based compensation contracts and weak external oversight interact to create powerful incentives for managers to defer necessary maintenance of long-lived physical assets. Because maintenance immediately reduces NOI while benefits materialize over long horizons, managers seeking to satisfy near-term performance targets have strong incentives to underinvest in repairs. This is particularly acute in financially distressed properties where the pressure to meet immediate financial benchmarks is highest. We conceptualize deferred maintenance as a distinct form of “real earnings management” that preserves or enhances short-term accounting outcomes while silently destroying long-run organizational and community value. We further propose that short-term incentives drive underinvestment in maintenance, and that weak external monitoring magnifies this effect. Examples illustrate how distressed-asset buyers prioritize cost minimization over sustainable redevelopment. These strategies exacerbate the physical decline of malls, impose negative externalities on local infrastructure, and distort traditional signals of asset value and impairment. By formalizing this framework, our study makes three primary contributions. We extend agency theory to the management of distressed long-lived, highlighting agency conflicts generated by time-horizon misalignments between asset lifecycles and managerial tenure. We demonstrate that deferred maintenance is a predictable outcome of misaligned incentives. We highlight implications for governance, such as including extended equity vesting periods and facility condition metrics in evaluations. We also recommend that policymakers mandate disclosures regarding maintenance backlogs to reduce information asymmetry. Ultimately, this research challenges traditional approaches to asset valuation and offers a foundation for future empirical study into the mechanisms of intentional neglect and value destruction in the commercial real estate sector.

Key Words: Zombie Malls, Real Earnings Management, Deferred Maintenance, Agency Theory, Managerial Incentives

INTRODUCTION

The decline of traditional shopping malls in the United States is generally attributed to broader structural shifts in American consumer trends. However, there may be more intention behind the decline than is apparent on the surface. The Galleria at Pittsburgh Mills is owned by

Namdar Realty, which has a history of acquiring struggling properties and then intentionally allowing them to deteriorate. This deterioration creates what are colloquially known as “zombie malls”, dying malls characterized by extensive tenant vacancies and the departure of major anchor stores (Panizzi, 2024; Lanzone, 2025). At locations such as Pittsburgh Mills, management has failed to recruit tenants or invest in infrastructure maintenance, which suggests that this may be a deliberate strategy to reduce operational costs and tax obligations while shifting the burden of maintaining things like roads and parking lots onto local governments. This deteriorating community infrastructure is exemplified by the extensive potholes at Pittsburgh Mills.

In this paper, we explore why malls have been dying and how certain management practices have been reanimating them into zombie malls. We further propose that management incentive structures and lack of external monitoring contribute to the deterioration of infrastructure and other real assets considered part of the mall.

METHODOLOGY

This study employs a qualitative research methodology in which we survey and synthesize existing literature to develop a new conceptual framework. In accordance with our objectives, we do not rely on empirical data collection but rather on the integration of disparate research streams to identify a probable causal mechanism in the physical and financial deterioration of zombie malls.

BACKGROUND

The Rise and Golden Era of the Shopping Mall

The modern American shopping mall emerged in the mid-twentieth century as a product of suburbanization, automobile dependence, and postwar economic expansion. Early enclosed shopping malls, originally designed by Victor Gruen, were designed to replicate the social and economic functions of urban downtowns in suburban environments (Gruen and Smith, 1960). From the 1960s through the 1990s, malls expanded rapidly, supported by rising incomes, favorable zoning policies, and the growth of national retail chains (Cohen, 2004; Jackson, 1985).

By the late 1980s, shopping malls had become dominant retail and social centers. However, this growth led to substantial increases in available retail space. Industry data indicate that the United States developed significantly more retail space per capita than other developed economies, creating long-term structural imbalances (International Council of Shopping Centers [ICSC], 2017).

Mall Decline: Timing and Structural Turning Points

Mall decline has occurred in distinct phases, supported by both academic research and real-world evidence:

Phase 1: Early Structural Pressure (Late 1990s–Early 2000s)

The emergence of e-commerce initiated the shift away from physical retail. This period marks the beginning of declining demand for mall-based retail environments (U.S. Census Bureau, 2024).

Phase 2: Anchor Tenant Decline (2007–2015)

The financial crisis and subsequent retail bankruptcies accelerated store closures. At Pittsburgh Mills, major tenant losses during this period preceded foreclosure in 2017 (Panizzi, 2024).

Phase 3: Distress and Investor Repositioning (Post-2015)

Distressed asset acquisitions increased, with investors adopting value-extraction strategies rather than redevelopment. Vacancy rates surged, particularly in lower-tier malls.

Phase 4: Pandemic Acceleration (2020–Present)

COVID-19 intensified structural trends by accelerating e-commerce adoption and reducing foot traffic, pushing many malls into irreversible decline (Wen, Fang, and Li, 2022).

LITERATURE REVIEW

Structural Oversupply and Market Saturation

Operational oversupply is a central driver of mall decline. Throughout the 1990s and early 2000s, favorable financing conditions and optimistic projections of consumer demand encouraged excessive retail development (Dunham-Jones and Williamson, 2011; Guy, 2007). Expansion of retail space quickly outpaced population growth and retail spending, leading to declining occupancy rates and intensified competition among malls.

Industry analyses show that lower-tier malls—often classified as B- and C-grade—are disproportionately affected by these dynamics, exhibiting higher vacancy rates, declining lease revenues, and greater financial instability (Green Street Advisors, 2017). These structural weaknesses reduce resilience and increase reliance on managerial judgment in valuation and impairment decisions.

E-Commerce and Changing Consumer Behavior

The growth of e-commerce has fundamentally altered retail consumption patterns. According to the U.S. Census Bureau (2024), e-commerce sales have grown from less than 1% of total retail sales in the late 1990s to over 15% in recent years. This shift has reduced consumer demand for physical commercial retail spaces.

Empirical research demonstrates that the increased presence of online retail options is associated with declines in brick-and-mortar store traffic and higher store closure rates (Brynjolfsson, Hu, and Rahman, 2013; Forman, Ghose, and Goldfarb, 2009). Consumers increasingly prioritize convenience and price transparency, reducing the attractiveness of traditional mall formats. Lanzone (2025) links the rise of zombie malls to the expansion of online shopping beginning in the late 1990s and early 2000s and accelerating during the COVID-19 pandemic.

Anchor Tenant Collapse and Retail Chain Bankruptcies

Shopping malls historically relied on anchor tenants—such as department stores—to generate foot traffic and stabilize tenant ecosystems. The widespread decline of these retailers has had cascading effects on mall viability.

Industry data show that tens of thousands of retail stores have closed in the United States over the past decade, with many of those closures being malls (Coresight Research, 2023). The loss of anchor tenants reduces foot traffic and leads to additional tenant departures. The case of Pittsburgh Mills (Lanzone, 2025; Panizzi, 2024) illustrates this dynamic. Major tenant closures between 2007 and 2015, including key anchors, contributed to foreclosure and long-term decline. Similarly, many zombie malls now operate with minimal occupancy and only one remaining anchor tenant.

Distressed Mall Acquisitions

The literature suggests that distressed acquisitions serve as an alternative to liquidation by facilitating the reorganization of assets under new ownership (Baumöhl et al., 2020). In the context of retail real estate, however, the outcomes of such acquisitions are heterogeneous. While some investors pursue operational turnaround strategies or repurpose vacant spaces (National Association of Realtors, 2020), others adopt models centered on value extraction rather than redevelopment. In these scenarios, buyers hope to extract adequate value from the deal for the transaction to make sense financially, often adopting a "milking strategy" based on a partial recovery of their acquisition cost while expecting the property to retain some residual value (Anderson, 2010; Cremades, n.d.). Industry and case evidence shows that firms such as Namdar Realty Group and Kohan Retail Investment Group specialize in acquiring lower-tier malls at steep discounts, often with limited reinvestment in physical infrastructure or tenant repositioning (Panizzi, 2024; Lanzone, 2025).

The Galleria at Pittsburgh Mills demonstrates this dynamic. Following its acquisition and subsequent ownership transitions, the property suffered persistent vacancy, declining maintenance, and limited redevelopment activity. These conditions reflect a management strategy prioritizing cost minimization and residual cash flow extraction over long-term revitalization (Panizzi, 2024; Lanzone, 2025). Such outcomes align with predictions that distressed asset buyers prioritize short-term returns when they face uncertain future cash flows and high redevelopment costs.

At the market level, the growth of distressed mall acquisitions reflects broader structural conditions in commercial real estate. A substantial volume of maturing debt and rising delinquency rates, which reached 7.54% for regional malls, a figure significantly higher than all other real estate asset types, drove an increase in the supply of distressed assets (Pacific Retail, n.d.). Importantly, this shift altered the composition of market participants. Legacy institutional investors and real estate investment trusts (REITs), such as Simon and Macerich, actively prune their portfolios and step back from these properties to avoid operational complexity and risk. In their place, a new wave of specialized private investors eagerly engages in distressed transactions (Pacific Retail, n.d.).

Financial Distress, Asset Impairments, and Investor Behavior

Declining mall revenues have resulted in increased loan delinquencies, declining asset values, and heightened impairment risk. Commercial mortgage-backed securities (CMBS) data indicate elevated delinquency rates among retail-backed assets, particularly in lower-tier malls (Trepp, 2023).

However, not all investors pursue redevelopment. Panizzi (2024) highlights Namdar Realty Group, a privately-owned investment trust which acquires distressed malls at deep discounts, minimizes reinvestment in mall assets, and then extracts value through tax appeals and asset sales. This model allows profitability even as property conditions deteriorate.

Such behavior aligns with accounting research suggesting that managerial incentives influence impairment recognition and investment decisions. Managers may delay write-downs or avoid reinvestment when compensation is tied to short-term financial outcomes (Ramanna and Watts, 2012; Lawrence, Sloan, and Sun, 2013).

PROPOSITION 1

Compensation Structure and Managerial Myopia

Stein (1988) states that managerial myopia occurs when “managers focus more heavily on short-term profits rather than on long-term objectives.” The literature explores many possible causes of managerial myopia, including managerial compensation structure. Narayanan (1985) explores the short-term bias in managerial decision-making through the lens of agency theory, positing that private information coupled with the manager’s desire to boost their own reputation and thus their future compensation results in a short-term framework for decision-making. This theoretical framework suggests that managerial incentives for personal gain can result in managerial myopia.

Kolasinski and Yang (2018) test this theory directly by investigating how the duration of bank CEO equity compensation, i.e. how quickly the CEO can cash out their stock options, related to their bank’s exposure to risky subprime mortgages during the Great Recession of 2008. They find that CEOs with short-term incentives exposed their banks to greater amounts of subprime mortgage risk, worse performance during the economic downturn, and more fraud related to the subprime mortgage crisis. Additional theoretical research suggests that the actual cause of behaviors generally labeled “managerial myopia” may instead be attributable to risk management (Carmel, 2008). However, Kolasinski and Yang (2018) find that the risks taken by bank CEOs was not the sole cause of their bank’s poor performance, thus validating the relationship between incentives and managerial myopia.

Managerial Myopia and Reduced Asset Investment

Chung, Collins, and Song (2023) explore how managerial myopia affects real investment decisions made by the firm. They find that short-term managerial incentives result in increased real earnings management (REM). REM is defined as “departures from normal operational practices, motivated by managers’ desire to mislead at least some stakeholders into believing certain financial reporting goals have been met in the normal course of operations” (Roychowdhury, 2006). Activities meeting the definition of REM may include overproduction of products to manipulate cost of goods sold, cutting research and development activities (R&D), and decreasing discretionary spending such as maintenance (Habib, Ranasinghe, Wu, Biswas, and Ahmad, 2022).

Wang (2024) provides more evidence relating to how managerial myopia affects activities that increase a firm’s long-term value and growth potential, specifically innovation and investment in R&D. This research shows that managers who intend to exercise their stock options are more likely to cut R&D spending to meet short-term earnings targets, reduce innovation quality, and sacrifice long-term growth for short-term financial performance.

Taken together, the academic literature indicates that managerial incentives emphasizing short-term financial performance result in managerial myopia. Myopic managers tend to make decisions that will benefit the financial performance of the firm in the short-term at the expense of long-term firm value. While the managerial myopia literature has primarily focused on financial decisions and R&D investment, corporate real estate and, specifically, zombie malls provide an

ideal context for testing these theories. Real long-term assets have exceptionally long lifespans (30-50 years), and thus, there is a misalignment with the tenure of the typical executive-level manager (5-7 years) and compensation contracts built on annual performance.

Thus, we propose that when mall managers face annual performance evaluations and compensation contracts based on short-term metrics, they have strong incentives to minimize expenses for the current period, thus maximizing reported financial performance. Repairs and maintenance reduce cash flows without generating visible benefits in the short term, making them a target when the manager wants to make spending cuts. This is especially true for financially distressed properties where managers are likely to face significant pressure to show quick improvement in financial performance. The consequences of these deferrals manifest after the manager's current evaluation period or even after the manager has left their position, creating a classic agency problem.

Proposition 1: Short-term managerial incentive structures lead to systemic underinvestment in maintenance of financially distressed malls, even when resources are available for such expenditures.

PROPOSITION 2

Agency Theory and External Monitoring

Agency theory states that management (the agent) may pursue their own interests rather than those of the owner (the principal), especially when monitoring is weak (Jensen and Meckling, 1976). Managers' pursuit of their own interests does not necessarily result in personal material gain but may also encompass potential avoidance of less than desirable activities that diminish the perception of current and immediate success. Limited monitoring leads to greater managerial discretion and autonomy, which increases the opportunity for management to engage in these actions.

Furthermore, a lack of external monitoring mechanisms such as boards, investors, audits, local governments and, in the mall context, even the tenants themselves, leads managers to tolerate inefficiencies, pursue self-interested decisions, and generally have a higher tolerance for negative conditions (Tosi, Katz, and Gomez-Mejia, 2003). Conversely, stronger governance systems discipline management behavior and reduce inefficient decision-making. Monitoring mechanisms are designed to restrict managerial actions when interests between managers and owners diverge by reducing asymmetry and opportunistic behavior (Eisenhardt, 1989), while also preparing the organization to deal with opportunities and threats shaping the external environment (Davila, Derchi, Oyon, and Schnegg, 2024).

When monitoring is weak, managers have greater latitude to delay corrective actions, suggesting that weak oversight may allow managers to postpone recognition of financial or operational risks related to the deterioration of physical assets. Therefore, limited external monitoring of financially distressed malls results in reduced behavioral pressure to act quickly, allowing managers to tolerate operational deterioration for longer.

Proposition 2: Weak external monitoring by lenders, institutional investors, boards of directors, and policymakers leads to systemic underinvestment in maintenance of financially distressed malls, even when resources are available for such expenditures.

CONCLUSION

This study examines zombie malls and proposes that short-term managerial incentives and weak external monitoring both result in underinvestment in the maintenance of real long-term assets and contribute to their deterioration. We draw on agency theory and the managerial myopia literature to support our propositions that the time horizon misalignment between executive compensation structures and real asset lifecycles, when not checked by external monitoring, creates systematically deferred maintenance, destroying value and having significant economic consequences. This behavior accelerates the physical and financial deterioration of mall properties, undermines their long-term value, and contributes to broader community decline. The shift toward distressed asset acquisitions by opportunistic investors further complicates the landscape, as value extraction strategies often prioritize short-term cash flows over sustainable redevelopment. These dynamics challenge traditional approaches to asset valuation and impairment, raising important questions about the alignment between reported financial health and underlying economic reality.

Our propositions suggest that managerial myopia documented in financial and R&D contexts extends to corporate real estate management, specifically to shopping centers and malls, with severe consequences for long-term asset values. We now consider the implications of these propositions for theory and practice.

Theoretical Contributions

Our research has three main theoretical contributions. First, we extend agency theory to physical asset management in a distressed asset setting, specifically to zombie malls, demonstrating that agency conflicts manifest not only in financial and strategic decisions but also in the management of long-term real assets. The lifespan of many real assets (30-50 years) and often irreversible deterioration combine with high information asymmetry about asset conditions, resulting in severe agency conflicts, especially when managerial tenure and compensation timelines are misaligned.

Second, this study proposes a framework to connect three streams of literature: managerial myopia, corporate real estate management, and real earnings management (via deferred maintenance). This research reveals that deferred maintenance is not an isolated decision, but a predictable outcome of misaligned incentives.

Third, we strengthen the evidence that deferred maintenance is a distinct form of real earnings management, analogous to cutting R&D expenditures (Roychowdhury 2006; Wang 2024). Like R&D cuts, deferring maintenance increases short-term financial performance while simultaneously destroying long-term firm value. However, the consequences of maintenance deferrals are less immediately apparent to external stakeholders while being particularly damaging due to the irreversible physical deterioration of the underlying real assets of the firm.

Practical Implications

We propose several actionable recommendations for the stakeholders of zombie malls. First, compensation committees should try to reduce agency conflicts by extending equity vesting periods to better align with asset lifespans and incorporate real asset-specific metrics, i.e., facility condition metrics, into executive performance evaluations. Boards of directors for distressed malls should include members with long-term asset management experience and require reporting on property conditions and maintenance levels.

Second, the owners of distressed malls should implement systemic condition assessment protocols with objective scoring to make long-term consequences of deferred maintenance more visible to executives. This will both reduce information asymmetry and allow for a system in which repairs are triggered automatically once asset conditions cross certain thresholds, thereby removing managerial discretion for the timing of maintenance.

Third, institutional investors with long time horizons should be aware of and actively monitor information about capital investments and property conditions. Supporting compensation reforms extending equity duration and reducing reliance on short-term financial metrics can help realign managerial incentives with the longer investor horizons.

Last, policymakers should consider requiring additional disclosures for firms with large amounts of commercial real estate, particularly those owning zombie malls. The disclosure of deferred maintenance backlogs and facility condition assessments would reduce information asymmetry and enable stakeholders to better hold firms accountable for their long-term asset management decisions.

SUGGESTIONS FOR FUTURE RESEARCH

This paper presents a theoretical framework for how managerial incentives and external monitoring impact the asset management decisions of managers operating distressed malls. While we cannot provide empirical evidence of this phenomenon in current research, future research may investigate how this effect would manifest. However, there are challenges related to acquiring data for such a study, as many malls are owned by privately held companies or private equity firms and are thus not required to provide that data to the public. It would also be difficult to determine whether maintenance decisions are made on the basis of genuine cash flow problems (i.e., the mall cannot afford to perform the maintenance due to financial distress) or on the basis of the agency problems discussed above (i.e., the manager decides not to perform the maintenance due to short-term compensation incentives and lack of external monitoring).

In addition to empirically testing our propositions, future research should examine the reciprocal relationship between zombie malls and their local communities. Zombie malls likely have a significant impact on local tax revenues, infrastructure, and job prospects for residents. Future research could also examine the role of local government, zoning laws, and tax incentives in mitigating or exacerbating the persistence of zombie malls and how municipal interventions affect managerial behavior and the likelihood of mall revitalization or repurposing.

AI DISCLOSURE STATEMENT

We used generative AI tools (Gemini 3 Flash [Google], ChatGPT-5 [OpenAI], and Claude 4.5 Sonnet [Anthropic]) to support manuscript preparation. These tools assisted with initial literature discovery, identification of additional sources, generation of draft text, and harmonization of language and tone across sections. All AI outputs were reviewed, edited, and validated by the authors; the authors verified facts and citations, corrected errors or omissions, and retained full responsibility for the final wording, interpretations, and conclusions presented. The AI tools did not make substantive intellectual contributions (e.g., study design, data analysis, interpretation) and were not listed as authors. Because generative models can produce inaccurate or unverifiable content, any AI-derived suggestions that informed the manuscript were cross-checked against primary sources or removed.

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IS SUSTAINABILITY REPORTING STILL RELEVANT IN THE UNITED STATES?

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ABSTRACT

In this paper we consider whether sustainability reporting is still relevant in the United States. With the Securities and Exchange Commission's withdrawal of its proposed regulation on climate-related disclosures, and the current government's opposition to any regulation related to climate change or diversity, equity and inclusion issues, it may appear that sustainability reporting is no longer needed in U.S. markets. Using secondary data, we investigate whether the current sentiment in the U.S. related to environmental, social, and governance (ESG) issues will negatively impact climate-related disclosures. We present an overview of the decades-long movements in sustainability reporting, an analysis of comment letters submitted to the SEC in response to their 2022 proposed climate disclosure regulation, and an analysis of the increasing trend in voluntary disclosures by U.S. firms. We find ample evidence that there is significant interest in mandatory climate disclosure requirements that will provide transparent and consistent reporting to support investor needs. Supporting this finding, we also find ample evidence that U.S. companies continue to pursue climate-related initiatives, and an increasing number of companies publish voluntary ESG disclosures, despite the anti-ESG sentiment and the absence of mandatory disclosure requirements. We suggest that it is important for companies to identify, assess, and incorporate significant ESG issues into their business strategy, and to set measurable goals, implement initiatives, establish procedures for tracking results, and report results to stakeholders. These actions will improve transparency, increase trust and loyalty among stakeholders, and contribute to a company's long-term viability.

Key Words: sustainability reporting, ESG reporting, voluntary disclosures, climate disclosures

INTRODUCTION

Recent events seem to have halted many sustainability initiatives in the U.S. Environmental, social and governance (ESG) programs have all been affected. From an environmental perspective, for instance, the U.S. Securities and Exchange Commission (SEC) regulation for *The Enhancement and Standardization of Climate-Related Disclosures for Investors* (Release No. 33-11275), which became effective on March 6, 2024 (SEC, 2024b), was almost immediately suspended on March 18, 2024, put on a voluntary stay by the SEC as a result of lawsuits consolidated by the U.S. Court of Appeals for the Eighth Circuit (KPMG, 2024), including lawsuits filed by oil field companies Liberty Energy and Nomad Proppant Services (Cleveland-Peck and Tokar, 2024) and one by the U.S. Chamber of Commerce, representing a cross-section of industries and a coalition of ten States including Alaska, West Virginia and Georgia (Reuters, 2024; Johnson, 2024). On March 27, 2025,

the SEC announced that it would cease defense of the regulation, indicating a shift in the agency's approach due to political changes. From a social perspective, almost immediately after taking office in January 2025, President Trump issued a presidential action that eliminated all "...diversity, equity, inclusion, and accessibility' (DEIA) mandates, policies, programs, preferences, and activities in the Federal Government" (Presidential Action, 2025). Following suit, the U.S. Department of Education directed schools and universities to stop using "racial preferences" in admissions, financial aid, and hiring (U.S. Dept. of Education, 2025). Consequently, many corporations have scaled back or eliminated their DEI programs, fearing legal challenges and political pressure (Murray and Brohannon, 2025). An example challenging governance issues is the December 2024 ruling by the U.S. States Court of Appeals for the Fifth Circuit eliminating Nasdaq's board diversity rules, which required that Nasdaq-listed companies have, or explain why they do not have, at least one female director and at least one director from an underrepresented minority and to disclose director diversity information annually in a board diversity matrix (Francis, 2024).

The objective of this paper is to investigate whether the change in priorities of the political regime and elimination of many sustainability initiatives means that sustainability reporting—especially those concerning environmental sustainability--will no longer be a concern for companies in the U.S. To this end, we review the relevant academic literature, as well as the history of U.S. involvement, various government regulations, and the popular press. We review comment letters issued in response to the SEC's 2022 proposed climate disclosure regulation, and we discuss the current state of voluntary sustainability reporting in the U.S., highlighting the reasons that U.S. companies need to stay alert to compliance with state and foreign regulations. We conclude with suggestions for companies to use this opportunity to augment business success by incorporating sustainability initiatives and related reporting into their business plans.

LITERATURE REVIEW

The U.S. has addressed the reporting of environmental concerns since the 1970s. In 1971, the SEC issued an interpretative release (Release No. 33-5170) suggesting that SEC filers include disclosure of the financial impact of compliance with environmental laws in their various jurisdictions of business (SEC, 1971). In 1982, the SEC issued a release (Release No. 33-6383) requiring the disclosure of litigation and other business costs arising from compliance with jurisdictional laws regulating emissions (SEC, 1982). Because of the increased interest in climate change by investors, regulators, and the public, the SEC issued further interpretative guidance in 2010 (Release Nos. 33-9106 and 34-61469), regarding existing disclosure requirements on climate change matters to assist companies in satisfying their disclosure obligations under applicable national and international regulations, including the new requirement by the Environmental Protection Agency (EPA) for companies to report data on their greenhouse gas (GHG) emissions. The SEC notes in this release that while "some information relating to GHG and climate change is disclosed in SEC filings, much more information is publicly available outside of public company disclosure documents filed with the SEC as a result of voluntary disclosure initiatives or other regulatory requirements" (SEC, 2010, p. 8).

In 2016 the SEC released a Concepts Release (Release No. 33-10064 and 34-77599) which included questions on making sustainability reporting an integral part of the 10-K, rather than a voluntary disclosure, appearing separately, without connection to the financial reports, as in current practice (SEC, 2016). The comment letters submitted strongly favored (86%) mandatory

sustainability and ESG reporting, and of the respondents who addressed this issue, 83% supported integrated reporting (Shoaf *et al.*, 2018, p. 6).

Concurrently over this period, the U.S. has been actively engaged in various global sustainability initiatives aimed at addressing climate change, albeit with fluctuations in its commitment levels over the years. One early example is the United Nations Framework Convention on Climate Change (UNFCCC), established in 1992, which seeks to stabilize greenhouse gas concentrations in the atmosphere (United Nations, 1992). The U.S. was a signatory to this convention and has participated in subsequent negotiations and agreements under its framework. The Kyoto Protocol, adopted in 1997, marked a milestone in international efforts to combat climate change by setting binding emission reduction targets for developed countries. However, the U.S. faced criticism for not ratifying the protocol during the Clinton administration due to concerns about its economic impact and the absence of commitments from major developing economies (Hovi *et al.*, 2010). Despite signing the agreement, the U.S. ultimately withdrew from the Kyoto Protocol in 2001 under the Bush administration.

The Paris Agreement, adopted in 2015 under the UNFCCC, represents a landmark multilateral accord aimed at limiting global temperature rise to well below 2 degrees Celsius above pre-industrial levels (United Nations, 2015). The U.S. played a crucial role in shaping the agreement, with President Obama's administration instrumental in brokering the deal. In 2016, the U.S. formally joined the Paris Agreement, committing to ambitious emission reduction targets. However, in 2017, President Trump announced the U.S. withdrawal from the agreement, effective in 2020, citing concerns over economic competitiveness and sovereignty. This decision sparked widespread criticism domestically and internationally (Hu, 2025). Subsequent to the U.S. withdrawal from the Paris Climate Agreement in 2017, some corporations and other groups formed the “We Are Still In” coalition. According to their website, “We Are Still In is a joint declaration of support for climate action, signed by more than 3,900 CEOs, mayors, governors, tribal leaders, college presidents, faith leaders, health care executives, and others. The organizations they represent comprise the largest and most diverse coalition of actors ever established in pursuit of climate action in the United States” (We Are Still In, n.d.).

In recent years, there has been a growing emphasis on achieving net-zero carbon emissions to mitigate the impacts of climate change. Various states, cities, businesses, and organizations within the U.S. have launched initiatives pledging to significantly reduce net-zero carbon emissions by 2030 or earlier, as suggested by the Paris Agreement and supported by the United Nations (Hu, 2025). A number of U.S. companies (including energy companies) support the Net-Zero 50 alliance in their voluntary sustainability reports. While these efforts are decentralized and not nationally coordinated in the U.S., they reflect a groundswell of support for ambitious climate action at subnational levels.

The 26th Conference of the Parties (COP 26) to the UNFCCC, held in Glasgow in 2021, served as a critical juncture for global climate action. The U.S., under President Biden's administration, recommitted to the Paris Agreement and reasserted its commitment to combatting climate change by announcing ambitious targets to reduce greenhouse gas emissions and increase climate finance contributions. The U.S. delegation played an active role in negotiations, emphasizing the urgency of collective action and the importance of addressing climate justice concerns. At COP 26, the International Financial Reporting Standards (IFRS) Foundation announced: 1) the formation of the International Sustainability Standards Board (ISSB); 2) an agreement for cooperation between five

leading sustainability-setting organizations: the Climate Disclosure Project (CDP), the Climate Disclosure Standards Board (CDSB), the Global Reporting Initiative (GRI), the International Integrated Reporting Council (IIRC), and the Sustainability Accounting Standards Board (SASB), the latter two of which had already merged into the Value Reporting Foundation in 2021, and subsequently merged into the ISSB, along with the CDSB; and 3) issuance of two prototype sustainability standards by the ISSB. The SEC's 2022 regulation on climate change disclosure was based on guidance from the Task Force on Climate-related Disclosures (TCFD), a voluntary framework that provides principles-based recommendations for managing and reporting, focused primarily on climate risks (Tocchini and Cafagna, 2022).

Interestingly, in January 2025, at the beginning of President Trump's second term, the U.S. again initiated a withdrawal from the Paris Agreement, which will take effect in January 2026. Nonetheless, the State Department stated it would continue to participate in international climate change negotiations, including talks implementing the agreement. Additionally, the EPA will continue to support the U.S.'s international partnerships to address climate change and to participate in ongoing negotiations under the UNFCCC. It is evident that, while the level and nature of U.S. support for the COP process and the Paris Agreement are subject to ongoing political debate and changes in administration, the U.S. continues to be involved in the global concern regarding the environment (Haskett, 2025).

The economic and political turmoil in the U.S. resulting from President Trump's return to office, coinciding with the uncertainty in the European Union about the final shape of its Corporate Sustainability Reporting Directive (CSRD) that is poised to be initiated, leaves many questions unanswered in the sustainability reporting arena. Still, many U.S. leaders have asserted that ESG reporting will continue without abandoning fundamental issues. For instance, Bill Gates made the public statement in May 2025 that the current pushback against efforts to fight climate change will ebb, if not immediately, given the scale and scope of international investment and commitment to addressing the crisis (Mookerjee, 2025).

The *Annual State of U.S. Sustainability Report* prepared by Teneo (2024) sheds some light on the near future for ESG reporting in the U.S. Their report directly addresses the tension between "increasing requirements from regulators for more ESG disclosure and increasing pressure to abandon ESG altogether" (p. 2). In the report, they analyze 250 sustainability reports of S&P 500 companies published between January and July of 2024 and find that, while many companies have abandoned the "ESG" acronym, sustainability reporting continues to be strong, and the length of the reports is increasing. Many companies have now developed ESG microsites, where shareholders can review a spectrum of the company's ESG activities. Despite the recent challenges to "DEI" efforts, 94% of the companies used the term in their sustainability reports, although some adjusted the focus to "belonging and inclusion". They also find that CEOs are increasingly accountable for ESG strategies, although many ESG goals are in a transition phase (Teneo, 2024).

Although the regulation for mandatory climate change disclosures has been tabled by the SEC, its other sustainability disclosures—regarding governance, human capital resources, mine safety, and conflict minerals, as noted above—remain in place. And while climate disclosures are still not required federally, some of the states have moved forward with specified regulations.

The *Climate Corporate Data Accountability Act* (SB-253), approved by California on October 7, 2023, mandates annual disclosures of GHG emissions by all U.S. business entities that do business

in California and have total annual revenues over \$1 billion. Thompson's (2023) interpretation of SB-253 is that "...any company with an annual revenue of \$1 billion or more, regardless of where it locates its headquarters or conducts most of its business, is subject to SB 253 if it does any business in California." Disclosures for Scope 1 and 2 GHG emissions are effective starting in 2026, and starting in 2027, Scope 1, 2 and 3 disclosures. Scope 1 and 2 disclosures will require limited assurance beginning in 2026, with reasonable assurance starting in 2030. The administrative penalties imposed on a reporting entity shall not exceed five hundred thousand dollars (\$500,000) in a reporting year, with only non-filing penalties assessed on scope 3 reporting, between 2027 and 2030. In addition, California adopted SB-261, *Greenhouse gases: climate-related financial risk*, on September 27, 2024, requiring all U.S. business entities that do business in California (except insurance companies), with a total annual revenue over \$500 million, to prepare climate-related financial risk reports biennially in the TCFD format, disclosing the entity's climate-related financial risk and measures adopted to reduce and adapt to climate-related financial risk, effective on or before January 1, 2026. Further, voluntary carbon market disclosures (AB-1305), approved on October 7, 2023, require a business entity that is marketing or selling voluntary carbon offsets, to disclose, no less than annually, on the business entity's internet website. Carbon offset disclosures should include the applicable carbon offset project and details regarding accountability measures if a project is not completed or does not meet the projected emissions reductions or removal benefits. In addition, an entity that purchases or uses voluntary carbon offsets and makes claims about the achievement of net zero emissions, or other, similar claims, should disclose this information on the entity's internet website. The disclosure should include all information documenting how, if at all, a claim was determined to be accurate or actually accomplished, how interim progress toward that goal is being measured, and whether there is independent third-party verification of the company data and claims listed.

Other states have developed mandatory climate disclosure regulations similar to California's, which await legislative approval: New York, Senate Bill 3456, introduced 2023 and reintroduced January 2025 as S3456, along with Senate Bill 3697; New Jersey, Senate Bill 4117, 2025; Illinois, House Bill 3673, 2025; Washington, Senate Bill 6092, passed 2024, awaiting House approval; and Colorado, House Bill 25-1119, 2025 (but currently postponed indefinitely by House Committee on Energy & Environment). These bills have a variety of requirements and timelines, and none has yet been enacted (Cinamon and Finkelstein, 2025). It is unknown if or when the states will move forward, especially in the light of President Trump's April 2025 Executive Order directing the U.S. Attorney General to identify and stop the enforcement of all state laws, regulations, policies and practices that address "climate change" or involve "greenhouse gas" (EO 14260, 2025). However, it is interesting to note that, other than New York's initial bill, all of these bills were introduced after the SEC's federal disclosure mandate was withdrawn.

Additionally, U.S. companies with subsidiaries or branches in the E.U. may be subject to mandatory reporting under the CSRD. The CSRD is a structured ESG reporting framework adopted by the E.U. in January 2023, replacing the Non-Financial Reporting Directive (NFRD) and subject to ratification by the member states. Besides applying to many more companies, including non-EU companies with significant E.U. operations, this regulation requires mandatory third-party assurance of the sustainability report, double materiality assessment (*i.e.*, financial risks as well as impacts on people and the environment), and reporting in a specific machine-readable digital format (Ecovadis, 2025).

The regulation originally proposed a phased introduction of CSRD reporting, beginning in 2025 for FY2024 for E.U.-registered companies with over 500 employees and including smaller companies over the 2026-2029 period. However, in February 2025, the European Commission (EC) proposed a “simplification omnibus” legislation that aims to significantly reduce the sustainability reporting requirements by (1) limiting the scope of companies affected (*e.g.*, raising the revenue threshold for non-E.U. companies to €450 million); (2) reducing the number of data points and eliminating the plan for sector-specific standards; and (3) postponing the beginning dates for reporting by two years (E.C., 2025). In describing the context and purpose of the proposal, it states that the shifts in the geopolitical environment make it necessary “for Europe to create a regulatory landscape which facilitates competitiveness and resilience” and to act quickly. This proposal is apparently just the first of several omnibus proposals to come, so the regulations are likely to be in a state of continual change for the near future. Companies that might be impacted by these regulations will need to monitor changes as they pass through the legislative process.

METHODOLOGY

This paper is primarily intended to provide a review of the literature and a history of U.S. involvement in sustainability initiatives. To provide additional perspective, we present an analysis of the comment letters submitted in response to the SEC’s proposed climate disclosure regulation as well as a review of the state of voluntary ESG disclosures in the U.S.

At the time that the SEC proposal was issued for comment in 2022, Gary Gensler, Chair of the SEC, reported that the proposed climate-related disclosure would assist issuers by standardizing the disclosure requirements because many issuers were already reporting such information in various formats. For example, he reports that two-thirds of Russell 1000 index companies and 90 percent of the 500 largest companies within the Russell 1000 index, published sustainability reports in 2019 that included climate risks. Finally, the SEC staff reviewed approximately 7,000 annual reports for 2019 and 2020 and concluded that approximately two-thirds included some climate change disclosures (Gensler, 2022).

Issuers and investors were encouraged to participate in this climate-related discussion by providing comments on the proposed disclosure. After multiple extensions of the comments period, the submission period was closed. Before adopting the final rules, the SEC examined more than 24,000 comment letters from companies and individuals, including more than 4,500 unique letters (McGuire Woods, 2024), which were sorted by type ranging from A to AN.

ANALYSIS AND FINDINGS

SEC Comment Letters. Based on our review of a sample of the comment letters, we noted that approximately 90% of the commenters were in support of the SEC’s proposed climate change rule, while only 10% were not in support. The commenters who were not in support of the climate change disclosures were primarily from the farming and oil and gas industries. The key points of contention raised in the comment letter types (Release No. 33-11042), were:

- *The SEC’s legal authority to promulgate this climate change rule.*
- *The excessive implementation costs surrounding compliance with the rule.*
- *Scope 3 GHG disclosure* (which relates to emissions indirectly associated with an organization through its value chain, as a result of activities from assets now owned or

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controlled by an organization—and often constituting the majority of an organization’s total GHG emissions—and which was eliminated from the final regulation).

On the other hand, those commenters in support of the proposed climate disclosure rule suggested the following (SEC, 2024a):

- Implementation of a strong disclosure rule resulting in greater transparency for investors’ decision-making.
- The U.S. should implement climate disclosures to align with global frameworks.
- Disclosures must:
 - Be mandatory and standardized in a way that makes them comparable.
 - Be easily accessible, transparent, clear, and decision-useful to all investors.
 - Be published in annual and quarterly SEC filings, and to the extent possible, should be included in the audited financial statements.
 - Include quantitative metrics and qualitative information about governance, strategy, and risk management.
 - Report on total greenhouse gas emissions (Scopes 1, 2, and 3).
 - Include quantitative and qualitative data used in scenario analysis concerning Scope 3 emissions and specifically direct and supply chain emissions.
 - Be in a machine-readable format to allow easy use of information.

We specifically reviewed comment letters from audit firms, which revealed a clarion call for a globally accepted ESG reporting framework, which would provide more consistent, efficient, comparable disclosures for registrants operating across jurisdictions and ultimately reduce complexities surrounding the reporting baseline. A single set of globally accepted ESG disclosure standards in place could benefit both the global capital markets and investors and would facilitate efficient capital allocation decisions by simplifying comparisons among global investment opportunities. Furthermore, they stressed that the SEC should consider disclosures addressing differences that may be unique in the U.S. markets. Likewise, they stressed that there should be a robust due process that contributes to high-quality global standard setting, as well as an understanding of the interconnectivity of nonfinancial information with financial reporting, utilizing prototypes from leading global ESG reporting organizations.

The auditor firms added that, while the current focus on climate-related disclosures should be a first regulatory step given their significance, the SEC should also take this opportunity to consider investors’ need for information about ESG matters more broadly. If the SEC decides on the proposed climate disclosure rules, it should be explained in the proposal how the new requirements are intended to interact with the SEC’s existing requirements on governance, human capital resources, mine safety, and conflict minerals.

Even though the SEC regulation on climate-related disclosures was ultimately withdrawn, the comment letters are relevant because they reflect the underlying attitudes of the constituency. As the SEC notes, the regulation was proposed in response to investors’ expressed need for “more consistent, comparable, and reliable information” about how the companies are addressing climate-related risks, and the regulation was “intended to enhance and standardize climate-related disclosures to address these investor needs” (SEC 2024b). The favorable comments show dissatisfaction with the arbitrary nature of the current voluntary disclosures. The unfavorable

comments express the now-familiar outcry that the SEC has overstepped its authority, with no reference to stakeholder demands.

Voluntary ESG Disclosures. As Gary Gensler, Chair of the SEC, noted in support of the proposed regulation on climate-related disclosures, firms were already preparing stand-alone sustainability reports voluntarily, many of which contained climate-related disclosures. Despite there being no U.S. federal regulation imposed, 98.6 percent of the S&P 500 companies published sustainability reports in 2023 (Governance and Accountability Institute, 2024). The growth in sustainability reporting over the past decade or so is actually quite remarkable. The upward trend of S&P 500 sustainability reporters is shown in Table 1.

Table 1: Percentage of S&P firms with sustainability reports

2011	20%
2012	53%
2013	72%
2014	75%
2015	81%
2016	82%
2017	85%
2018	86%
2019	90%
2020	92%
2021	96%
2022	98.2%
2023	98.6%

Information from Governance and Accountability Institute's 2024 *Sustainability in Focus* report.

While the firms in the S&P 500 are larger firms, it is evident that the mid-cap firms in the Russell 1000 no longer trail firms with the highest capitalization (*i.e.*, S&P 500) by as much as they previously did in sustainability reporting, as shown in Table 2.

Table 2: Percentage of Russell 1000 firms with sustainability reports

	Russell 1000 total	Russell 1000 Highest cap	Russell 1000 Lower cap
2018	60%	86%	34%
2019	65%	90%	39%
2020	70%	92%	49%
2021	81%	96%	68%
2022	90%	98.2%	82%
2023	93%	98.6%	87%
2024	94%	99%	90%

Information from Governance and Accountability Institute's 2024 *Sustainability in Focus* report.

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While there is no requirement for the format of voluntary reporting, most of the Russell 1000 sustainability reports were modeled on one or more of the noted ESG frameworks. By 2023, the most commonly used framework was that of the SASB, followed by the TCFD and then GRI and the UN Sustainable Development Goals. Many reporting companies adopted parts of more than one framework (Governance and Accountability Institute, 2024).

In 2023, all companies in six industry sectors—Energy, Utilities, Industrials, Materials, Real Estate, and IT—published sustainability reports, possibly reflecting high stakeholder scrutiny and sector-specific regulatory pressure; in 2022, only Energy and Utilities had 100 percent reporting (Governance and Accountability Institute, 2024).

According to the Governance and Accountability Institute’s 2024 *Sustainability in Focus* report, only 70 companies in the Russell 1000 did not issue an ESG report in 2023. It is evident that voluntary sustainability reporting has become the norm. As such, companies may continue to report voluntarily because it is expected, and failure to report may reflect poorly on the company or signal an issue. Conversely, many companies have issued press releases when their ESG reports were published, using them to brand themselves positively in competitive markets. Indeed, Zhang, Shan, and Chang (2021) show that firms with corporate social responsibility (CSR) disclosures suffer smaller firm value losses when they must make financial restatements than non-CSR-disclosing restatement firms, indicating that consistent ESG disclosure can alleviate reputational damage in times of crisis.

A driving force in continued voluntary sustainability disclosure is investor demand for the information. Morgan Stanley reports that nearly 80% of individual investors believe that they do not have to trade market returns for sustainable investments, and they actively consider factors like a company’s carbon footprint and commitment to reducing greenhouse gas emissions, among other ESG issues (Morgan Stanley, n.d.). Institutional investors, such as BlackRock and Vanguard, also increasingly demand ESG disclosures to evaluate long-term risks and opportunities. Harvard’s *Global Institutional Investor Survey 2024 Report* shows that investor respondents desire transparency, accountability, and alignment with long-term value creation, and they want them applied to ESG issues that have clear financial implications, such as climate risk, human capital, and cybersecurity. Lack of reliable and comparable ESG data challenges investors, and they are also concerned about companies making misleading claims about their sustainability efforts (greenwashing) (Harvard Law School, 2025).

In addition to meeting expectations of investors and other stakeholders and enhancing their reputations, companies can benefit from voluntary preparation of sustainability disclosures, which allows them to show how sustainability is integrated into long-term strategy and operations. Risk management strategies should include identifying and disclosing climate-related, social, and governance risks.

SUMMARY AND CONCLUSIONS

In summary, the U.S. has a long history of working with other nations concerned with preserving the environment. The recent SEC proposal for companies to include quantifiable climate-related information on their required financial reports, and the positive tenor of a majority of the responses, are indicative that sustainability reporting is relevant to most investors. Indeed, the evidence shows that, despite the convulsive regulatory changes impacting specific sustainability disclosures, most

companies have not abandoned their ESG initiatives and reporting on them voluntarily. There is ample evidence that attention to these issues will not disappear, regardless of intermittent geopolitical shifts. Still, companies may take this time to ensure alignment between their sustainability objectives and longer-term strategic planning. Faced with the recent vocal anti-ESG movement, which generally characterizes ESG efforts as unnecessary costs or a diversion of resources, thought-leaders have asserted that: “Addressing sustainability in terms of long-term risk mitigation and value creation may help depoliticize the issue” (PwC, 2025a).

Integrating ESG focus into the business strategy has been shown to have several long-term benefits for the company. First, in terms of risk mitigation, the sustainability perspective can help to identify areas of the company’s poor ESG performance that may result in future outlays for the company. Sheehan *et al.* (2023) point out that the costs of the environmental and social damage that firms cause is generally not measured and does not appear in the financial statements; consequently, this cost may be unnoticed until it results in remediation charges or lawsuits. If strong risk assessment results in improved ESG performance to prevent large future financial obligations, it can have long-term value for the firm. Strategic planning should include the design of effective processes for sustainability reporting to ensure that the company is capturing relevant data in a format that facilitates analysis and reporting and the allocation of sufficient resources to implement the processes.

Another advantage of integrating sustainability into the company’s business strategy is that it may reveal operational inefficiencies and technology improvements which can reduce expenses. For example, Blanco *et al.* (2017) interviewed a number of firms participating in the CDP, which was started in 2000, requesting firms to voluntarily measure and report their GHG emissions and those of their suppliers, as well as responding to questions about their climate change risks, strategies, and actions. The authors found that the interviewed CDP participants were not only successful in implementing emissions reduction initiatives, but the process of measuring and disclosing emissions helped many of them to better understand their business, reduce costs, and achieve operational efficiencies. The constraints and challenges initiated by viewing issues through the ESG lens may lead companies to operational innovations that reduce costs by lowering energy usage and waste generation, for example, and perhaps even reducing raw materials costs through circularity (reuse of materials).

Incorporating sustainability into the company’s business strategy will require identifying and weighing the importance of specific ESG issues that might impact long-term value for the firm and then setting measurable objectives. The number of ESG issues is vast, so determining which ones to include as part of the company’s business strategy requires careful assessment. Fortunately, there are many guides for this process available online. Sheehan *et al.* (2023), for instance, outline a method for determining which ESG issues have a high impact on the company’s business success as well as high importance for company stakeholders. While the assessment will include industry needs and regulatory demands, it should be tailored to the specific company. Most of the guides suggest including input from board members and executives, as well as other stakeholders, like employees, investors, customers, suppliers. Including employees in the ESG strategy development is important because they will likely be involved in its implementation; working on the front line, they would be in a position to suggest improvements if fully engaged in the process. Involving employees and other stakeholders in planning and implementing ESG initiatives will promote engagement and shared responsibility.

As with all elements of a strategic plan, it is important for ESG concerns to have specific objectives and measurements with targets. Targets should be ambitious but realistic. In their *Second Annual State of Decarbonization Report*, evaluating the results of information from the 2024 CDP questionnaire, PwC (2025b) find that “Despite persistent headlines about companies retreating from their sustainability initiatives”, more companies than ever are embracing decarbonization and are committing to specific carbon reduction goals. They also find that “Companies with relatively more ambitious targets tend to be on track, while those that are taking a more conservative approach with targets also seem to be approaching their programs cautiously and are behind compared to their targets” which they attribute to “establishing the governance, programs, and roadmaps needed to implement effectively” (PwC, 2025b). Companies have found that including the chief financial officer and engineering and operations specialists in target setting can produce more scientific results.

Finally, it is imperative to report sustainability initiatives and measurable results to constituents. Companies reporting voluntarily often tend to emphasize their successful sustainability endeavors, but as Liu *et al.* (2023) point out, stakeholders today have access to an abundance of information from internet and social media sources. Not only does disclosure allow the company to frame the narrative for less desirable results, but they may be offset by a high level of transparency, which improves stakeholder trust and loyalty. The Forbes Business Council (2024) reported on the value placed on sustainability initiatives by shareholders, customers, employees and other stakeholders—and how they recognize sustainability efforts as an indicator of a business’s long-term viability. Reporting on sustainability efforts, regardless of their size or outcome, is still important to the company’s constituents.

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FIVE GENERATIONS, FIVE VOICES: COMMUNICATING IN TODAY’S WORKFORCE

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ABSTRACT

Today’s workforce contains five distinct generations: Traditionalists, Baby Boomers, Generation X, Millennials, and Generation Z. Each generation is shaped by different social, economic, and technological experiences that influence their values, work attitudes, and preferences in communication. These generational differences can create both opportunities and challenges within organizations, particularly in communication. This paper examines the defining characteristics of each generation and analyzes how these traits affect workplace behavior, expectations, and interactions. The paper further evaluates the impact of generational differences on communication styles, including preferences for communication channels, feedback, collaboration, and authority. Finally, strategies for managing and improving intergenerational communication are proposed, emphasizing adaptability, mutual understanding, inclusive leadership, and the strategic use of communication technologies. By identifying effective approaches to bridging generational gaps, this paper highlights how organizations can enhance communication effectiveness, reduce misunderstandings, and promote a more collaborative and productive 21st-century workforce.

Key words: generational communication, generational differences, communication styles, communication effectiveness

INTRODUCTION

Understanding the various communication styles among the five generations currently represented in today’s workforce—Traditionalists, Baby Boomers, Generation X, Millennials, and Generation Z—presents an ongoing challenge for organizations. Each generation brings distinct communication preferences shaped by differing social, technological, and professional experiences, which can lead to misunderstandings, inefficiencies, and interpersonal friction in the workplace. Research indicates that older generations tend to prefer face-to-face interactions and telephone communication, while younger generations more frequently rely on digital platforms such as instant messaging and collaborative technologies (Maurer, 2025).

The complexity of managing a multigenerational workforce is underscored by industry leaders. Johnny C. Taylor, Jr., president, and chief executive officer of the Society for Human Resource Management (SHRM), emphasized, “leading a multi-generational workforce requires flexibility, empathy, and a commitment to inclusivity,” noting that communication is often the most difficult aspect of managing generational differences because it reflects the greatest variation among employees (para. 5). As organizations become increasingly age-diverse, communication emerges as a central managerial concern.

According to the U.S. Bureau of Labor Statistics, the current workforce consists of approximately 1% Traditionalists, 15% Baby Boomers, 31% Generation X, 36% Millennials, and 18% Generation

Z. This generational composition highlights the reality that most organizations now employ individuals spanning several decades of life experience, each with differing expectations for feedback, collaboration, authority, and information sharing. Communication, therefore, plays a critical role in shaping how employees learn, work together, and respond to performance management systems.

Scholars have consistently identified communication as one of the most challenging aspects of managing a multigenerational workforce (Uzialko, 2024). The generations differ not only in their communication channels but also in their underlying needs, motivations, and professional values. Gao (2023) argues that human communication is more vital to organizational survival than physical infrastructure or technological tools, reinforcing the idea that effective communication is foundational to organizational success.

While organizations need to understand generational communication patterns, it is equally important to recognize that individual preferences vary within each generation. Communication styles may evolve as employees gain experience and move through different career stages (Maurer, 2025). Pollak (2019) further suggests that the primary distinction among generations in the workplace lies in how they communicate rather than what they communicate. Consequently, managerial effectiveness increasingly depends on the ability to adapt communication strategies to varied generational needs while maintaining clarity, respect, and organizational alignment. Table 1 provides definitions from various sources that describe the five generations and their communication characteristics in the workplace.

Table 1

GENERATIONS DEFINED	
Traditionalist	• Born 1928–1945 • Influenced by the Great Depression and post–WWII recovery • Loyal, patriotic, hierarchy-focused • Strong work ethic • High respect for authority • Commitment to long-term employment (Adams, 2025; Gao 2023; Gursoy et al., 2008; Jenkins 2019)
Baby Boomer	• Born 1946–1964 • Shaped by postwar economic growth, Civil Rights Movement, women’s movements, and the Vietnam War • Career-focused; strong work commitment • Willingness to sacrifice personal time for professional advancement • Question authority while valuing organizational structure • Extensive institutional knowledge (Adams, 2025; Finch, 2025; Guptill et al., 2023)
Generation X	• Born 1965–1980 • Influenced by the Cold War, AIDS epidemic, and rising divorce rates • “Latchkey” generation

	• Independent, self-reliant, skeptical of authority • Casual, flexible approach to work and life • Preference for hands-off leadership • Comfortable with both traditional and digital communication (Adams, 2025; Finch, 2025; Guptill et al., 2023; Twenge et al., 2010)
Millennials	• Also known as Generation Y • Born 1981–1996 • Shaped by 9/11, terrorism concerns, Iraq and Afghanistan wars, and globalization • Raised in child-centered families • Constant access to technology • Globally aware, team-oriented, collaborative • Often perceived as having weaker work ethic and lower job loyalty • Strong desire for flexibility • Challenges with face-to-face communication • Preference for digital-first communication and collaborative work environments (Adams, 2025; Finch, 2025; Guptill et al., 2023; Myers & Sadaghiani 2010)
Generation Z	• Born 1997–2012 • Often called digital natives and change-seekers • Highly fluent with technology • Entrepreneurial mindset • High emotional awareness; increased anxiety levels • Desire clear goals and expectations • Strong emphasis on flexibility • Preference for real-time feedback • Value fast, efficient communication (Adams, 2025; Dimock 2019; Finch, 2025; Guptill et al., 2023)

GENERATIONAL CHARACTERISTICS IN THE WORKPLACE

Traditionalist (1928-1945)

Traditionalists, often referred to as the Silent Generation, represent the oldest and smallest segment of today's workforce, with many remaining employed on a part-time basis or working primarily to supplement retirement income. This generation is widely characterized by a strong sense of duty, disciplined work ethic, and deep loyalty to their organizations. Having come of age during significant historical events such as the Great Depression and World War II, Traditionalists tend to value stability, structure, and adherence to established norms and procedures.

In the workplace, Traditionalists place high importance on respect for authority and seniority, and they generally demonstrate a cautious approach to risk-taking. They are most responsive to

communication that is formal, respectful, and empathetic, particularly when it acknowledges experience and institutional knowledge. Gursoy et al. (2008) note that this generation prefers traditional communication channels, such as face-to-face interactions and written correspondence, rather than relying heavily on digital or informal platforms.

Traditionalists favor a top-down communication style and often perceive modern, casual communication methods as unprofessional or inefficient. Their communication expectations reflect their broader professional values, including reliability, consistency, and rule-following. Overall, Traditionalists contribute a strong sense of organizational commitment and ethical responsibility, making them valuable sources of stability and continuity within multigenerational workplaces.

Baby Boomer (Born 1946-1964)

Baby Boomers emerged in the post–World War II era during a period of economic growth and profound social and cultural transformation. As one of the largest generations in history, Baby Boomers experienced more workforce changes than any previous generation, including the rise of mass media, globalization, and rapid technological advancement. Many were raised in households where fathers had served in the military, which contributed to the development of strong values related to respect, discipline, and organizational loyalty (Adams, 2026).

In the workplace, Baby Boomers are widely recognized for their strong work ethic, commitment to their organizations, and tendency to define personal identity through career achievement. They often equate long working hours with professional dedication and place high value on collaboration, professional development, and upward mobility within structured, hierarchical organizations. Although they challenged traditional social norms and advocated for equality during their formative years (Espinoza & Ukleja, 2016), Baby Boomers typically demonstrate respect for authority in professional settings and expect similar respect in return.

From a communication perspective, Baby Boomers favor face-to-face interaction and continue to rely heavily on phone calls and email as primary communication channels (Maurer, 2025; Tolbize, 2008). Their communication style is generally formal, direct, and rooted in professionalism. Kohansedgh et al. (2024) note that Baby Boomers value clear language, proper grammar, and an authoritative tone, viewing these elements as indicators of effective and credible communication. This emphasis on clarity, structure, and professionalism continues to shape their expectations and interactions within today's multigenerational workplace.

Generation X (Born 1965-1980)

Generation X, often referred to as the “sandwich generation,” occupies a unique position between Baby Boomers and Millennials, balancing responsibilities to both older and younger family members (Adams, 2026). This generation is also commonly labeled the “latchkey generation,” as many members grew up in households with working parents or single-parent families. These early experiences fostered a strong sense of independence, self-reliance, and adaptability, traits that continue to shape their professional behaviors and communication styles.

In the workplace, Generation X places high value on flexibility, autonomy, and work-life balance. Having come of age during periods of economic uncertainty and organizational downsizing, Gen X employees tend to be pragmatic, resourceful, and cautious about long-term loyalty to employers. Unlike earlier generations, they are more inclined to question authority and prefer less hierarchical,

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more results-oriented work environments (Twenge et al., 2010). Their focus is typically on efficiency and practical outcomes rather than formal procedures or organizational status.

From a communication perspective, Generation X favors communication that is direct, efficient, and purposeful. While they are comfortable using technology, they also maintain familiarity with traditional communication tools such as telephone calls, memos, and face-to-face meetings. Gen Xers often prefer visual formats—including charts, infographics, and concise presentations—that allow them to quickly process and apply information. This reflects their problem-solving orientation and desire for streamlined communication that supports independent work and decision-making (Kohansedgh et al., 2024). Overall, Generation X thrives in work environments that offer structure without rigidity and communication that is clear, practical, and respectful of individual autonomy.

Millennials (Born 1981-1996)

Millennials, also known as Generation Y, represent the largest generation currently in the workforce and are the first generational group to have been raised in an environment dominated by digital technology. Having grown up with widespread access to the internet, smartphones, and social media, Millennials are highly computer-literate, digitally savvy, and comfortable navigating multiple communication platforms simultaneously. Their increased screen time and constant exposure to technology have shaped their expectations for rapid, accessible, and technology-driven communication.

In the workplace, Millennials are often characterized by a strong desire for meaningful and purposeful work, collaboration, and opportunities for professional growth. They tend to value teamwork, social responsibility, and inclusive organizational cultures. Myers and Sadaghiani (2010) note that Millennials prefer environments where feedback is frequent, communication is open, and contributions are acknowledged. Although this generation has sometimes been labeled as “entitled,” such perceptions often reflect their expectations for transparency, recognition, and alignment between personal values and organizational missions (Adams, 2026).

From a communication standpoint, Millennials favor less formalized modes of interaction and rely heavily on instant messaging, email, social media, and digital collaboration tools such as Slack and Microsoft Teams. They appreciate communication that is clear, efficient, and interactive, and they thrive in settings where information is shared openly, and feedback is constructive. Positioned between Generation X and Generation Z, Millennials often function as a bridge within multigenerational teams, facilitating collaboration across age groups while advocating for flexible, technology-enhanced communication practices.

Generation Z (Born 1997-2010)

Generation Z represents the youngest generational group in today’s workforce and is the first generation to grow up fully immersed in a digital environment. With constant access to the internet, smartphones, and social media from an early age, Gen Z employees are true “digital natives” who demonstrate high proficiency with communication technologies and digital platforms. This generation is characterized by an entrepreneurial mindset, cultural diversity, and a strong emphasis on individuality, authenticity, and creative expression (Dimock, 2019).

Although Generation Z is highly skilled in using social media, messaging applications, and visual platforms such as Instagram and TikTok, their communication preferences are more nuanced than commonly assumed. Jenkins (2020) found that, contrary to managerial expectations, many Gen Z employees prefer receiving feedback and engaging in important conversations with supervisors in person rather than exclusively through digital channels. This highlights their desire for transparency, clarity, and personal connection within professional relationships.

In the workplace, Generation Z tends to favor communication that is concise, visually engaging, and immediate. They are comfortable with short, informal exchanges such as texting, video calls, and direct messaging, which align with their multitasking capabilities and fast-paced information processing (Kohansedgh et al., 2024). At the same time, they value face-to-face interaction when discussing performance, expectations, or professional development. Additionally, Gen Z places strong importance on diversity, inclusion, and mental health, seeking organizational cultures that support well-being, innovation, and open communication. Together, these characteristics position Generation Z as a technologically advanced yet relationship-oriented generation that values both digital efficiency and interpersonal authenticity in the workplace.

COMMUNICATION CHALLENGES IN A MULTIGENERATIONAL WORKFORCE

Communication challenges in a multigenerational workforce often stem from differences in values, communication styles, and technological preferences among employees from different age groups. These generational distinctions can contribute to misunderstandings, inefficiencies, and interpersonal tension. For instance, Traditionalists may interpret informal or abbreviated digital communication as unprofessional or disrespectful, while Generation Z employees may perceive formal memos and hierarchical communication as impersonal or outdated. Such differences can hinder effective collaboration, particularly in cross-functional teams where varied generations must interact frequently.

Variations in attitudes toward feedback and authority further complicate workplace communication. Baby Boomers typically expect structured, supervisor-led feedback, whereas Millennials and Generation Z often prefer continuous, real-time, and peer-oriented input. When these expectations are misaligned, employees may experience frustration, disengagement, or uncertainty about performance standards (BetterUp, 2023). Similarly, Generation X employees tend to value autonomy and minimal supervision, which may conflict with Millennials' preference for collaborative environments and frequent affirmation.

Technology also plays a central role in shaping communication barriers. Younger generations generally adapt quickly to emerging communication platforms, while older employees may prefer more traditional systems. For example, Generation Z may rely on collaborative tools such as Slack or Microsoft Teams for rapid communication, whereas Baby Boomers may favor email or scheduled meetings. Without intentional alignment, these differing preferences can fragment information flow and reduce overall productivity.

Finally, generational stereotypes can further intensify communication challenges. Assumptions that older employees are resistant to change or that younger workers lack professionalism can undermine trust and weaken team dynamics. These perceptions, if left unaddressed, reinforce communication barriers and limit organizational effectiveness. To foster a more inclusive and

collaborative work environment, organizations must actively challenge generational biases and implement communication practices that promote mutual understanding, respect, and adaptability across all age groups.

IMPACT ON WORKPLACE COMMUNICATION

The distinctions among the five generations represented in today's workforce have a significant impact on workplace communication practices. Each generation brings unique preferences for communication channels, levels of formality, and interaction styles, which can influence how information is exchanged and interpreted. For example, Traditionalists often favor formal memos, written correspondence, or face-to-face conversations, whereas Millennials and Generation Z are more inclined to use instant digital messaging and collaborative platforms (Myers & Sadaghiani, 2010). Baby Boomers may prefer detailed and carefully structured emails, while Generation X typically values concise, efficient, and results-oriented communication (Tolbize, 2008).

Differences in attitudes toward authority further shape communication dynamics. Traditionalists and Baby Boomers generally respect hierarchical structures and expect communication to follow formal organizational lines. In contrast, Millennials and Generation Z often prefer open dialogue, transparency, and accessibility from leadership, favoring more egalitarian communication patterns (Dimock, 2019). These contrasting expectations can lead to frustration, misinterpretation, or disengagement if not proactively managed.

Comfort with and reliance on technology adds another layer of complexity. Older generations may be hesitant to adopt new communication tools or collaboration platforms, while younger employees view these technologies as essential to workplace efficiency and productivity. This digital divide can create barriers to information sharing and team coordination. However, when managed effectively, generational diversity can become a strategic advantage. By leveraging the experience, institutional knowledge, and loyalty of older employees alongside the innovation, adaptability, and technological fluency of younger workers, organizations can enhance communication effectiveness and foster more collaborative and high-performing teams.

STRATEGIES FOR ENHANCING INTERGENERATIONAL COMMUNICATION

Figure 1 summarizes key strategies for effective intergenerational communication. These strategies include targeted training, the use of multiple communication platforms, mentorship initiatives, and the establishment of clear communication expectations. Together, these strategies highlight how organizations can promote flexibility, mutual understanding, and collaboration across generations by acknowledging differing communication preferences while reinforcing shared organizational norms. When implemented effectively, these approaches position generational differences as strengths that enhance employee engagement, teamwork, and overall communication effectiveness.

Figure 1: Intergenerational communication Strategies



To navigate generational diversity effectively, organizations must implement inclusive communication strategies that respect individual preferences while promoting cohesion and collaboration. Leaders play a critical role in modeling open, respectful communication and establishing a workplace culture that values generational differences as strengths rather than obstacles. When leaders demonstrate flexibility, empathy, and inclusivity, employees across all generations are more likely to feel valued, engaged, and motivated to contribute.

One effective strategy involves providing training programs focused on intergenerational communication. These programs should educate employees about generational differences in values, communication styles, and expectations, helping to reduce bias and foster mutual understanding. Viewing intergenerational communication as a form of intercultural exchange encourages empathy and promotes adaptability (Gao, 2023). Training initiatives may include role-playing exercises, case studies, and facilitated discussions that highlight generational strengths and encourage employees to adjust their communication approaches accordingly (Maurer, 2025).

Organizations should also employ a variety of communication platforms—such as email, instant messaging, video conferencing, and face-to-face meetings—to accommodate varied preferences. Leaders can enhance communication effectiveness by establishing guidelines regarding when each channel is most appropriate. For instance, urgent matters may be best communicated through instant messaging, while strategic discussions may require in-person or video-based meetings. Offering multiple modalities allows employees to engage through their preferred methods while maintaining organizational alignment.

Mentorship programs represent another powerful tool for bridging generational gaps. Pairing experienced employees with younger staff facilitates knowledge transfer, builds trust, and

strengthens cross-generational relationships. Reverse mentorship, in which younger employees share insights on technology and emerging trends, further promotes mutual learning and collaboration. These mentorship structures not only enhance communication but also support succession planning and long-term organizational continuity.

Finally, organizations should establish clear communication expectations, including norms related to tone, response time, and preferred platforms. Defining these standards reduces ambiguity, promotes professionalism, and helps manage expectations around availability and feedback. Creating a culture where giving and receiving constructive feedback is encouraged also supports continuous improvement and engagement across generations. By recognizing and leveraging the unique strengths of each generation—such as the experience of Baby Boomers, the adaptability of Generation X, the collaborative nature of Millennials, and the technological fluency of Generation Z—organizations can foster more effective communication, stronger teamwork, and a more inclusive and productive workplace.

IMPLICATIONS FOR LEADERS

Leaders play a critical role in shaping how effectively communication occurs within a multigenerational workforce. While generational differences in communication styles can create misunderstandings and barriers, these differences also present valuable opportunities for enhanced creativity, collaboration, and problem-solving when managed appropriately. Varied perspectives across generations can lead to more innovative solutions and well-rounded decision-making, provided that communication is inclusive and intentionally structured.

By adjusting communication approaches, emphasizing mutual respect, integrating technology thoughtfully, and encouraging mentorship across generations, managers can transform potential communication challenges into organizational strengths. These strategies allow employees to leverage one another's experiences and expertise, fostering stronger relationships and improved knowledge sharing.

Building effective communication across generations is essential for maintaining alignment and ensuring that employees remain focused on shared organizational goals. As different generations bring varying needs, expectations, and professional experiences, managers who recognize and adapt to these differences are better positioned to enhance employee engagement, improve performance, and create a cohesive, collaborative workplace. In this sense, intergenerational communication is not merely a managerial responsibility—it is a strategic asset that directly influences organizational success.

CONCLUSION

As today's organizations continue to bring together employees from multiple generations, understanding and adapting to differing communication styles has become not only a best practice but a strategic necessity. Each generation brings unique values, expectations, and preferences shaped by distinct social and technological experiences, which can both enrich and complicate workplace communication. As Harrison and Burress (2025) suggest, challenges in intergenerational communication often stem from these differences; however, as Adams (2026) cautions, it is equally important not to reduce individuals to generational labels or "put people in boxes" (p. 80).

By adjusting communication approaches, emphasizing respect, integrating technology thoughtfully, and promoting mentorship across age groups, organizations can transform generational differences into a meaningful organizational advantage. Flexible and inclusive communication strategies allow employees to learn from one another, reduce misunderstandings, and strengthen collaboration. In increasingly remote and hybrid work environments, these practices become even more critical, as clarity, feedback, and engagement depend heavily on effective communication.

Ultimately, organizations that prioritize cross-generational understanding and foster open dialogue about communication preferences are better positioned to align their workforce around shared goals. By valuing individuals while acknowledging generational trends, leaders can cultivate a culture grounded in mutual respect, adaptability, and continuous learning. In the modern workplace, effective intergenerational communication is not merely a functional requirement—it is the foundation for long-term organizational success, innovation, and sustainability.

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LEADING FOR INNOVATION: ASSESSING THE CREATIVE CLIMATE

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ABSTRACT

Relative to previous years, organizations show a decreased level of innovation readiness in the midst of a turbulent and uncertain economic environment. It is more critical than ever that organizations upscale their capacity for flexibility and adaptation to new circumstances and demands. This requires not only creative employees, but also a climate for creativity that facilitates innovation. Leadership should ensure such an environment is developed and supported and, if called for, engage in organizational change efforts. A first step in this process is an assessment of the current climate. We provide a brief description and review of varied instruments that can be used to assess an organization's climate for creativity and innovation. The instruments vary in complexity and length, from brief unidimensional to lengthy multidimensional inventories, and in foci, from organization-wide to work group-oriented measures. They include the following six measures: *Creative Environment Perceptions*, *Indicators of Conditions to Create in the Workplace*, *KEYS*, *Psychological Climate for Innovation*, *Situational Outlook Questionnaire*, and *Team Climate Inventory*.

Keywords: creativity, innovation, organizational climate, assessment, measurement

INTRODUCTION

There is no doubt that we are living in a time of rapid changes. The COVID-19 pandemic caused a global disruption to our social and economic realities that, in many people's view, accelerated changes in the world of business. This, however, is not the only factor driving business disruptions in recent years. Other contributors include dramatic and rapid changes in technology, most notably the progression of AI, the challenges posed by strong competitors, such as China and India, and the reorganization of global markets that has resulted in part from policy shifts (Manly et al., 2025). It is during these unsettled, turbulent times that innovation is particularly critical, yet the *Boston Consulting Group* (BCG) found that innovation preparedness, or the readiness to translate innovation plans into results, as measured using BCG's *Innovation to Impact* benchmark, dropped dramatically from 20% of surveyed companies in 2021 to 3% in 2024. This paralleled a 24 percent drop during the same timeframe in the proportion of executives who identified their organizations as global innovation or industry innovation leaders (Manly et al., 2025). These findings point to a prevalent problem: most companies currently lack effective innovation systems.

THE IMPORTANCE OF A CREATIVE CLIMATE

Innovation is a multifaceted process. It involves individuals, groups, and entire organizations working within a complex socio-cultural environment. Organizations that strive to excel in innovation cannot limit themselves to focusing on individual employee characteristics associated with creativity. Multiple research studies and meta-analytic reviews clearly indicate that both person-based and situation-based variables are critical for innovation. In a study examining the conditions necessary for creative new product development, Kwon, Lee and Kim (2015) concluded that, in addition to individual designer characteristics such as abilities, experience and self-efficacy, team climate was a critical factor for developing new products.

In their meta-analytic review of creative climate factors, Hunter, Bedell and Mumford (2007) determined that the following 14 dimensions were associated with higher creative performance: positive peer group, positive supervisor relations, resource availability, challenge, clarity of mission, autonomy, positive interpersonal relations, intellectual stimulation, management support, reward orientation, flexibility/risk-taking, product emphasis, participation, and organizational integration (Hunter et al., 2007, pp 76). They further concluded that the relationship between organizational climate and creative/innovative achievements was stronger under environmental conditions of high turbulence, high competitive pressure, and high performance pressure. Thus, while employee characteristics are important, person-based selection and development systems will fail to yield innovative excellence if not embedded in an environment that supports this goal. Creating such an environment is even more critical during times of disruption.

LEADING FROM THE TOP

Leadership has an important impact on an organization's innovation (Clapham & Meyer, 2024). Research indicates that the process by which this occurs is quite complex (Hughes, Lee, Tian, Newman & Legood, 2018; Lee, Legood, Hughes, Tian, Newman & Knight, 2020). It is not sufficient for leaders to voice encouragement of employee creativity while emphasizing the critical need for innovation. This approach will result in short-lived attention to innovation that quickly fades without lasting impact. It is also insufficient to provide training opportunities designed to stimulate innovation. While training can be useful, the effort will be fruitless in reshaping or redirecting employee behaviors without ensuring the organizational context supports the goals of the training. In order to promote innovation, leadership must proactively create and maintain favorable environmental conditions (Amabile, 1998; Mumford, Fichtel, England & Newbold, 2023). Indeed, organizational leadership is considered an antecedent to creative and innovative climates (Isaksen & Pupal, 2025). In cases where organizations lack innovation readiness, engagement in concerted organizational change and development efforts may be required. Such efforts must be driven by actions of top leadership that then inspire middle managers and result in transformation disseminating throughout the organization (Gong, Liu, Chen, Jiang & Chen, 2024). Many examples of successful organizational change for innovation exist across the public, private and nonprofit economic sectors. Case studies such as "*Competition from Behind Bars*" and "*Contagious Neighborhoods*" (Meyer, Geerts, Noe & Frank, 2011), "*Redesigning the Department of Elder Affairs*", "*Pigs, People and Pollution*" and "*Chartering New Ground*" (Meyer, Geerts, Noe & Frank, 2007), or "*Eupsychian Management: Interpolis at Work*", "*Kaizen Goes Public*", and "*Strategic Planning at UnityTrust Hospital*" (Meyer, Hall, Noe, Geerts & Clyde, 2020) effectively illustrate such innovation.

Organizational change is a challenging process. While it is understood that initiating and implementing organizational change is a nonlinear process that should be tailored to specific circumstances, some basic steps or components are considered essential. One such step, which should be conducted early in the process, is identifying the need, purpose, and goal of the change effort (Whelan-Berry, Gordon & Hinings, 2003). Organizational change requires an understanding of the present situation in order to determine how to move toward the goal. Thus, to create an organizational environment that supports innovation, leaders must first understand the organization's current climate for creativity and innovation. Numerous tools or instruments exist to assist in this process.

CREATIVE CLIMATE AND INNOVATION MEASURES

Measures to assess the climate for creativity and innovation in organizations vary in content and foci. Information about their characteristics can facilitate the selection of the most appropriate instrument for the intended application. Following is a brief description of six measures of creative and innovative climate, including an outline of their main features and a summary of their primary strengths and potential applications.

Creative Environment Perceptions - CEP (Mayfield & Mayfield, 2010):

The CEP was designed to be an easily administered instrument that emphasizes employee perceptions of the work environment and has broad applicability across jobs regardless of the creative nature of the job. Mayfield and Mayfield (2010) believed that assessment of the creative climate was important not only in the case of high-level creative workers whose primary task is to innovate, such as research scientists or designers, but also “garden variety” workers who do not specialize in creative output but who may nonetheless make creative contributions in their jobs. The measure consists of nine items, rated on a five point likert scale, that assess three dimensions: *creative support*, *work characteristics*, and *creative blocks/barriers*. Each of the dimensions shows good internal consistency reliability (alphas ranging from .71 to .85) and strong internal validity as evidenced by results of SEM analyses (da Silva Veiga & Cortez, 2022; Mayfield & Mayfield, 2010). While information on the psychometric characteristics of the CEP is limited, the research to date is promising. This inventory has multiple advantages. It is brief yet assesses three factors that broader research has found to be associated with innovation, and it is readily applicable to an extensive range of jobs. The CEP is a practical option for a quick and inexpensive assessment of three important dimensions associated with creativity and innovation within organizations. The full inventory and licensing information can be found in Mayfield & Mayfield (2010).

Indicators of Conditions to Create in the Workplace – ICCAW (Bruno-Faria & da Silva Veiga, 2015):

The ICCAW assesses ten organizational work conditions categorized into two scales: favorable working conditions for creativity and unfavorable working conditions for creativity. The favorable conditions include *physical environment*, *coworker climate*, *freedom*, *work challenge*, *organizational strategies and actions*, and *leadership support*. The unfavorable conditions include *workload pressure*, *inadequate leadership*, *communication problems*, and *rule rigidity*. The instrument was developed in Portuguese and later translated into English. It consists of 60 items rated on a five point likert scale. The internal consistency reliabilities reported by Bruno-Faria and da Silva Veiga (2015) were above the expected standard of $\alpha = .70$ for all dimensions except *communication problems*, which showed an alpha of .69. Thus, the reliabilities were generally good. Analyses across cultures, including Brazil and Portugal, have shown internal validity within

dimensions, and strong associations among dimensions reflecting favorable conditions and similarly strong associations among dimensions reflecting unfavorable conditions. This suggests patterns of behaviors within organizations that tend toward supporting or hampering creative endeavors. While research on this instrument is limited, information to date suggests it may be particularly useful for evaluating positive and negative aspects of the creative environment in an organization (da Silva Veiga & Cortez, 2022; Bruno-Faria, da Silva Veiga, Carvalho, Torres, & Meireles, 2018).

KEYS Instrument for Assessing the Work Environment for Creativity (Amabile, Conti, Coon, Lazenby, & Herron, 1996):

The KEYS is one of the most popular measures of creative climate. It is based on research involving the motivational elements of Amabile's (1983) componential model of creativity. The precursor of the KEYS is the *Work Environment Inventory* (WEI). The current version of the KEYS comprises 87 items, rated on a four point likert scale, that assess ten dimensions. Eight of these dimensions (78 items) focus on the work environment: *organizational encouragement*, *supervisor encouragement*, *work group support*, *resources*, *challenge*, *freedom*, *organizational impediments*, and *workload pressure*. Two additional dimensions address employee assessments of organizational performance: *actual creativity* and *actual productivity*. An interesting feature of this instrument that contributes to its popularity is the varied foci of assessed dimensions. Some dimensions address organization-level factors (e.g. organizational encouragement) while others focus on unit- and team-level factors (e.g. supervisor encouragement, work group support). Furthermore, some dimensions assess drivers of innovation (e.g. resources, freedom) while others assess impediments (e.g. workload pressure). The psychometric properties of the KEYS are generally positive. There has been concern raised about the reliability of some dimension scores, as internal consistency reliabilities range from a "minimally acceptable" level of $\alpha=.66$ to a high level of $\alpha=.91$ with a median of $\alpha=.84$ (Amabile et al., 1996, p. 1167). The evidence of validity to date is strong. The dimensions show good construct validity as evidenced through internal structure analyses as well as convergent and discriminant validity examinations. The dimension scores have also been associated with assessments of innovative output across jobs. Additional validity studies examining the predictive value of scores under varied conditions would be informative. Overall, the KEYS is a valuable, theoretically grounded tool that provides data examining climate at varied levels within organizations. It can facilitate the identification of general areas that could benefit from organizational development. There are tradeoffs, however, between breadth and depth. With breadth comes loss of specificity within level. This may be the basis for the suboptimal reliability of select dimensions. The KEYS has been translated into multiple languages and is therefore a useful tool for cross-cultural research (Amabile et al., 1996; da Silva Veiga & Cortez, 2022; Isaksen, 2023; Mathisen & Einarsen, 2004; Sawyer & Hendriksen, 2024)

Psychological Climate for Innovation - PCI (Wang & Ma, 2013):

This measure consists of four items that ask respondents to rate, using a five point likert scale, the extent to which creativity is perceived to be encouraged, respected, and rewarded by management, and whether the organization is open and responsive to change. This measure was adapted from the *Climate for Innovation* scale developed by Scott & Bruce (1994). It was designed to assess the climate for innovation experienced by salespeople, but could easily be adjusted to suit alternate jobs or settings by simply replacing the word "salespeople" in one item with another term more fitting for the circumstances. Psychometrically, the PCI was found to show satisfactory internal consistency reliability ($\alpha = .72$), strong discriminant validity with other attitudinal measures, and a positive indirect association with sales behavior that was mediated by learning orientation.

Overall, while the PCI lacks specificity on dimensions of climate, it presents a good option for a quick assessment of perceptions of innovation orientation in the organization (Wang & Ma, 2013).

Situational Outlook Questionnaire – SOQ (Isaksen, Lauer & Ekvall, 1999):

The SOQ is a well-established inventory that, in its current 7th edition, consists of 52 scored items rated on a four point scale that assess nine dimensions of creative and innovative climates: *challenge and involvement, freedom, trust and openness, idea time, playfulness and humor, conflict, idea support, debate, and risk-taking*. Recently, several open-ended items have been added to facilitate a deeper understanding of specific organizational circumstances. The SOQ originated as a collaborative project with the Swedish industrial psychologist G. Ekvall in the 1980's during which Ekvall's inventory, the *Creative Climate Questionnaire* (CCQ) (Ekvall, 1996), was translated into English. The SOQ has withstood the test of time. Psychometrically, it is a very sound instrument. Each of the nine dimensions shows acceptable internal consistency reliability (alpha range from .76 to .90), good test-retest reliability over several months, and strong alternate form reliability between online and paper versions ($r=.92$). In terms of validity, the dimensions correspond to factors that have been associated with indicators of innovation in organizations across decades of research and show excellent construct validity as evidenced through factor analysis and studies of discriminant and convergent validity. Practically, there is ample empirical evidence that dimension scores are associated with creative and innovative outcomes in organizations, and that the instrument provides useful information for engaging in organizational change efforts that result in improved creativity and innovation. The SOQ is appropriate for educational as well as industrial settings, and has research versions available in multiple languages. While the SOQ is primarily viewed as an instrument for assessing overall organizational climate, it can also serve to assess creative climate of work groups (Isaksen, 2023; Isaksen & Pupal, 2025; Mathisen & Einarsen, 2004).

Team Climate Inventory – TCI (Anderson & West, 1998):

The TCI focuses on proximal work group climate for innovation rather than overall organizational climate for innovation. The instrument was designed to assess four work group dimensions: *psychological safety, support for innovation, vision and task orientation*. Anderson and West (1998) developed a long version consisting of 61 items and a shorter version consisting of 38 items. In both versions items are rated on a 5 or 7 point likert scale. More recently, the dimension of psychological safety was divided into two subdimensions: *psychological safety* and *interaction frequency*. The instrument shows good psychometric qualities. All the dimensions have very good internal consistency reliabilities, with reported alphas ranging from .84 to .94. In terms of validity, factor analyses support five distinct dimensions. Additionally, the facet scores were found to show positive associations with multiple criteria including overall innovativeness, number of innovations, novelty, and effectiveness. The TCI has proven to be very useful for assessments during team-building efforts or for examination of factors that may affect differences in team performance during organization-wide development efforts. Over time and across studies, multiple versions of the TCI have been developed including a short 14-item version and a longer 44-item version. The multitude of test versions creates confusion but also demonstrates the instrument's flexibility (Adams, Bessant, & Phelps, 2006; Anderson & West, 1998; Mathisen & Einarsen, 2004; Newman, Round, Wang, & Mount, 2020; Sawyer & Hendriksen, 2024).

The list of creative climate and innovation measures presented here is not comprehensive of all available scales. Rather than a comprehensive list, this set is intended to present primary

instruments in recent use and illustrate the range of possible options. Organizations need to determine the type of instrument appropriate for their particular goals.

ADDITIONAL CONSIDERATIONS

Organizational environments do not exist in a vacuum. They are embedded within cultural environments with their own norms and customs that affect employee behaviors and expectations. Thus, we should expect that cultural factors will impact both creative behaviors and responses to inventories about creative climates. Research has shown this effect at international as well as local levels. Studies have revealed, for example, differences between Taiwanese and American workers' responses on the KEYS in Taiwan (Lin & Liu, 2012). Other research has found that organizations embedded in local environments with strong creative engagement produced more innovative output than organizations located in less creative milieus (Ucar, 2018). Studies such as these indicate that the external organizational environment should be taken into consideration when interpreting creative climate scores.

CONCLUSIONS AND RECOMMENDATIONS

A first step in developing an organizational climate that embraces innovation is assessing the current environment. Tools for assessing the climate for creativity and innovation are accessible and should be utilized if an organization is truly committed to creating an environment that supports innovation. It is important to recognize that the organizational change process is not a one-and-done. There will be hiccups along the way. Therefore, the temperature of the creative climate should be evaluated regularly to assess progress and identify any barriers to innovation that may arise or resurface. Depending on the stage of the process, this may be done every 6 to 12 months and may consist of "short pulse checks" (Kohlenberg, 2025). The fact is, neither organizations nor the environments within which they exist remain stagnant. They are living ecosystems that require tending, particularly in highly turbulent times.

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EVENTS AT SEA AND VALUE OF CRUISE LINES

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ABSTRACT

This paper examines investor response to publications of events at sea in the cruise ship industry dominated by two key players – Carnival Corporation and Royal Caribbean Group. On average, we document a more negative market reaction to events at sea involving Royal Caribbean than Carnival fleet. We also observe heterogeneity in market reaction to various types of incidents for each firm. Carnival investors respond negatively to preventable crew-related incidents only. In contrast, Royal Caribbean investors react adversely only to unpredictable acts of God during economic downturn. We find that market investors differentiate between incidents occurring on ships of different brands within the fleet. They respond more negatively to events which happen on board premium versus contemporary ships. The spillover analysis shows that Carnival crew-related events at sea have significant spillover effect on firm values of Royal Caribbean and other cruise lines but not vice versa.

Keywords: firm value; cruise lines; cumulative abnormal returns

INTRODUCTION

The existing financial literature has studied investor response to adverse events in a variety of industries, including transportation, in depth (Chance and Ferris 1987; Bosch et al. 1998; Walker et al. 2006; Walker et al. 2007; Kaplanski and Levy 2010; Akyildirim et al. 2020). In this paper we examine how investors respond to news publications of incidents in the cruise ship industry. We use this industry for our analysis due to its unique concentration. We believe that the heterogeneity in operations management, accounting and financial performance between two dominant industry players - Carnival Corporation & plc and Royal Caribbean Group - represents an ideal natural experiment. It allows us to examine how events at sea are perceived by capital markets and whether the stock price response is affected by differences in operating, accounting and financial characteristics of the firms.

We begin our analysis with a comparison of the number of incidents at sea for each cruise ship firm. We document that the number of events at sea involving Carnival ships is two times greater than the number of events for Royal Caribbean – 56 v. 26. When we adjust the number of incidents for the number of ships operated by each parent company, the percentage of fleet involved in sample incidents for Carnival versus Royal Caribbean becomes similar.

We continue with the analysis by brand. Although the contemporary brand has the most ships for both Carnival and Royal Caribbean, the brand distribution of their events at sea reports different results. The breakdown for Carnival shows that a greater percentage of its contemporary ships is

involved in events at sea, especially crew-related incidents, than its premium and luxury fleet. At the same time, more incidents happen on Royal Caribbean's premium fleet than on its ships of contemporary brand.

We then examine historical operational and financial characteristics for Carnival and Royal Caribbean parent corporations. We discover that early in our sample profit per passenger, net profit margin, returns on assets and equity, and annual stock returns for Carnival are higher than those for Royal Caribbean. In mid 2000s the performance of two firms reverses and Royal Caribbean begins to outperform Carnival. Carnival carries significantly more passengers and employs larger crew than Royal Caribbean but steadily increases the ratio of passengers to employees. This result may suggest that Carnival crew members serve a greater number of passengers than Royal Caribbean crew, which could lead to safety issues and worse customer experience on board.

We conduct an event study for incidents at sea involving Carnival and Royal Caribbean. We document an overall more negative investor response to news involving Royal Caribbean's fleet than Carnival's. On average, five days cumulative abnormal returns following event publications for Carnival and Royal Caribbean equal -1.95% and -5.03% of market value, respectively. We report that Carnival and Royal Caribbean investors react to different types of events at sea. Carnival investors punish the cruise line for preventable crew-related incidents but do not exhibit a statistically significant response to other unpredictable events. At the same time, Royal Caribbean experiences significant negative response to acts of God. We also observe that investors respond differently to events at sea involving ships of different brands. Investors of main firms respond more negatively to incidents occurring on premium ships than on contemporary vessels. The difference in cumulative abnormal returns for (0,5) window between events on premium and contemporary fleet equals -1.16% for Carnival and -10.06% for Royal Caribbean.

We also perform a spillover analysis to examine the market response to incidents involving cruise ship peers. We use incidents involving Carnival and Royal Caribbean to test their effect on each other's stock prices and on prices of other publicly traded cruise ship firms. As expected, we find a more negative spillover effect from Carnival and Royal Caribbean's events on stocks of other cruise lines than from other firms on market leaders, with average five-day cumulative abnormal returns following incident publications of -5.24% and -1.05%, respectively. We then report that Carnival's events have a significantly more negative effect on stock prices of other firms than events involving Royal Caribbean.

We conclude with a multivariate regression analysis of cumulative abnormal returns to publications of events at sea and their spillover effect. We regress market response on a full set of control variables including firm specific characteristics, macroeconomic variables and an indicator variable for injuries and fatalities sustained in incidents at sea.

The remainder of the paper is organized as follows. Section 2 presents the sample description and Section 3 lists statistical methods used to analyze investor response. Statistical summaries for Carnival and Royal Caribbean, and the empirical results are presented in Section 4. We conclude with Section 5.

SAMPLE

After multiple stages of transformation, the international cruise ship industry is currently dominated by Carnival Corporation & plc and Royal Caribbean Group (Hobson, 1993; Li and Kwortnik, 2016;

Syriopoulos et al., 2020). In 2021, Carnival carried 42% of the world's cruise ship passengers and generated 37.1% of industry revenues (Carnival, 2022; Nilson, 2022). In the same year Royal Caribbean's shares of passengers and revenues reached 25.7% and 21.2%, respectively (Royal Caribbean, 2022; Nilson, 2022). While Royal Caribbean operates the largest cruise ships in the world, Carnival has a greater number of vessels and offers a variety of shorter cruises to its customers, which explains its world leadership in the number of passengers carried. Carnival and Royal Caribbean have been competitive in regard to cruise destinations as both cruise lines have an established presence in Caribbean and Europe and have been actively expanding to Asian countries (Jainchill, 2006; Kolesnikov-Jessop, 2008).

To identify a sample of cruise ship incidents, we first search for events at sea reported by the Wall Street Journal and cross reference the WSJ publications with incidents reported by Associated Press, New York Times, Los Angeles Times, ABC, CBS, NBC, and CNN. For each incident we obtain the event date, news publication date, event nature, and the name of the cruise ship and cruise company involved. Next, we collect operational and financial characteristics for publicly traded cruise ship firms in the sample from financial statements filed with the SEC, corporate websites, and industry reports provided by the Cruise Lines International Association. Lastly, we obtain historical stock prices from Bloomberg. Carnival stock has been publicly traded since July 24, 1987 but due to unavailability of pricing data for Royal Caribbean prior to April 28th, 1993, we begin the sample on May 1, 1993.

We divide sample cruise ship firms into main and others. Main firms include industry leaders Carnival and Royal Caribbean. Other firms are represented by cruise lines publicly traded in the U.S. stock market and private and foreign cruise firms like American Classic Voyages, Royal Olympic Cruise Lines, Norwegian Cruise Line, Viking Cruises, MSC Cruises, Crystal Cruises, Radisson Seven Seas, Louis Hellenic Cruises, and local cruise companies in Italy, Malaysia, Russia, and China.

Our sample contains many types of events at sea which we break down into three categories: crew-related incidents, passenger-related incidents, and acts of God. Crew-related incidents include events resulting from crew actions and mechanical issues preventable by proper maintenance. In particular, we classify fire on board, collision with another vessel, ship grounding or sinking, loss of power on board, mechanical and inspection failures, oil and garbage dumping, and illness outbreak on board as crew-related events. Passenger-related incidents represent various events involving cruise passengers, such as passengers falling overboard or missing during a cruise, crimes committed by passengers on board, and passenger's death on board. Acts of God include unpredictable and unpreventable events like itinerary changes due to bad weather, terrorist and pirate attacks.

Since the beginning of our sample in 1993, the cruise industry has witnessed business changing historical events – September 11th, 2001 attacks and COVID-19 lockdown in 2020. We use them to break down the sample into three sub periods: 1993 to 2001, 2002 to 2012, and 2013 to 2019. We chose 2012 as the critical point in our sample after reviewing changes in operational and financial performance for Carnival and Royal Caribbean, presented in Table 3. The change in Carnival performance coincided with the Costa Concordia's grounding and subsequent capsizing of the coast of Italy in 2012, which with 32 deaths out of 3,229 passengers and 1,023 crew members on board is one of the worst incidents in the history of cruise ship industry. We exclude COVID-19 related news publications from our main analysis.

Following a cruise line categorization used in the tourism literature (Kwortnik, 2006; Li and Kwortnik, 2016) and financial reports of main firms, we break down the fleet for Carnival and Royal Caribbean into three categories: contemporary, premium and luxury. Contemporary brand provides passengers with a value service, while premium and luxury brands are known for high-quality and unique, personalized experiences on smaller ships. Figure 1 presents the historical distribution of Carnival and Royal Caribbean fleet by three brands. We observe that the largest number of ships belongs to the contemporary brand for both firms: 56% and 59% in 2019 for Carnival and Royal Caribbean, respectively. We also report that the percentage of contemporary fleet for Carnival has been increasing since 2002, while the number of ships in premium and luxury brands slowly declines. For Royal Caribbean, the proportion of contemporary fleet has been decreasing with the proportion of luxury fleet on the rise since 2016.

Figure 1. Historical Fleet Distribution by Brand for Carnival (left) and Royal Caribbean (right)

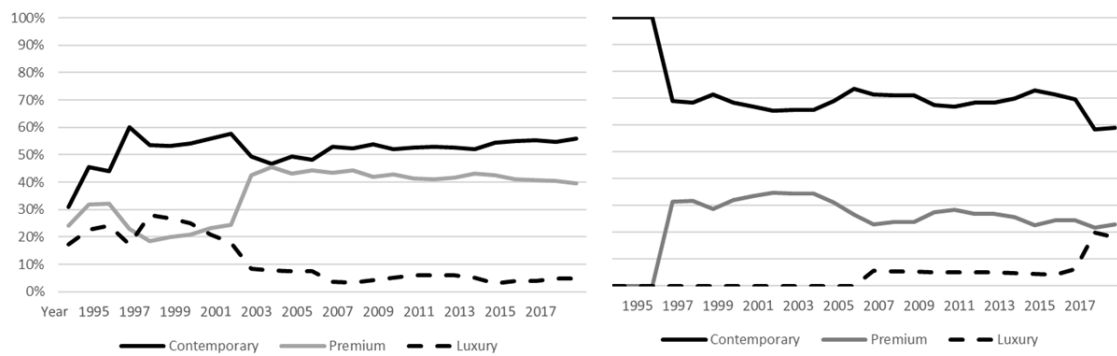


Table 1 presents the distribution of incidents at sea by cruise firm category, event type, and time periods. Our sample includes the total of 124 incidents of ships belonging to both main and other cruise line companies reported between May 1, 1993 and December 31, 2019. We only include incidents for which we have non-missing stock returns and control variables used in regression. The majority or 82 (66%) sample events involve cruise ships of main firms: 56 for Carnival and 26 for Royal Caribbean. The distribution of total incidents for both main and other firms by type shows that 78 (63%) are crew-related, 11 (9%) are associated with passengers, and remaining 35 (28%) are classified as unpredictable acts of God. The majority of events involving main firms are crew-related with 54 (66%) incidents, 7 (9%) involve passengers, and 21 (25%) are acts of God. Most total incidents involving both main and other firms happen prior to 2013: 53 (43%) incidents are reported between 1993 and 2001, 50 (40%) events between 2002 and 2012, and only 21 (17%) events after that. We make two important observations. First, there are significantly more incidents on Carnival cruise ships than on Royal Caribbean's fleet, especially between 2002 and 2012 (31 v. 13). Second, we observe more preventable crew-related events for Carnival than for Royal Caribbean (36 v. 18).

Due to a difference in fleet size between Carnival and Royal Caribbean, we further compare the adjusted number of events at sea for both firms. We divide the raw number of incidents by the number of ships operated by each cruise. In the unreported results, we observe that the ratios of total incidents per ship are very close for both cruise lines for each time period and decrease over time. We report, however, the difference in ratios for Carnival and Royal Caribbean when we break them down by incident type and time periods. Carnival has significantly higher percentage of fleet

involved in passenger-related incidents than Royal Caribbean in 1993-2001: 11% v. 0%, respectively. During the same time period, Royal Caribbean has a greater proportion of its fleet facing acts of God than Carnival: 24% v. 17%. Overall, though we observe some differences in adjusted number of events, we conclude that the significantly greater number of raw incidents reported for Carnival in Table 1 can be explained by a larger number of ships operated by the cruise line, relatively to Royal Caribbean.

Table 1. Events at Sea by Time Period, Type for Main and Other Firms

	Crew	Passenger	Act of God	Total
1993-2001	8	4	6	18
2002-2012	24	1	6	31
2013-2019	6	0	1	7
Carnival total	38	5	13	56
1993-2001	5	0	4	9
2002-2012	9	1	3	13
2013-2019	2	1	1	4
Royal Caribbean total	16	2	8	26
1993-2001	13	4	10	27
2002-2012	33	2	9	44
2013-2019	8	1	2	11
Main firms total	54	7	21	82
1993-2001	16	2	8	26
2002-2012	3	0	3	6
2013-2019	5	2	3	10
Other firms total	24	4	14	42
Grand total	78	11	35	124

We report the distribution of events at sea by brand, incident type and time period for main firms in Table 2. We document that for Carnival, due to a larger number of affordable ships in its fleet, more incidents occur on contemporary cruise ships than on premium and luxury vessels: 34 v. 20 v. 1. Carnival distribution by event type shows that there are more crew-related incidents than passenger-related events and acts of God for both contemporary and premium brands in every time period. The distribution of events at sea for Royal Caribbean shows that its premium ships experience more incidents than contemporary fleet. 75% of premium vessels are involved in an incident in 1993-2001 sub period as compared to 46% of contemporary cruise ships. In 2002-2012 time period, the percentage of Royal Caribbean premium ships involved in events at sea increases to 70% but decreases to 8% between 2012 and 2019.

Table 2: Events at Sea by Time Period, Type and Brand for Carnival and Royal Caribbean

	Crew		Passenger		Act of God		Total	
	C	RC	C	RC	C	RC	C	RC
Contemporary	8	5	3	0	6	1	17	6
Premium	0	0	0	0	0	3	0	3
Luxury	0	0	0	0	0	0	0	0
1993-2001 total	8	5	3	0	6	4	17	9
Contemporary	24	4	0	1	6	1	30	6
Premium	0	5	0	0	0	2	0	7
Luxury	0	0	1	0	0	0	1	0
2002-2012 total	24	9	1	1	6	3	31	13
Contemporary	6	1	0	1	1	1	7	3
Premium	0	1	0	0	0	0	0	1
Luxury	0	0	0	0	0	0	0	0
2013-2019 total	6	2	0	1	1	1	7	4
Contemporary total	38	10	3	2	13	3	54	15
Premium total	0	6	0	0	0	5	0	11
Luxury total	0	0	1	0	0	0	1	0
Total	38	16	4	2	13	8	55	26

METHODOLOGY

We use t-tests, event studies and multivariate OLS regressions to analyze our data. To test whether the differences between average operational and financial characteristics for Carnival and Royal Caribbean presented in Table 3 are statistically significant, we conduct a two-sample t-test and calculate the following t-statistics for each variable in each time period:

$$t = \frac{\bar{X}_c - \bar{X}_{rc}}{\sqrt{\frac{S_c^2}{n_c} + \frac{S_{rc}^2}{n_{rc}}}} \quad (1)$$

where $\bar{X}_i$ is the time period mean, S_i^2 is the time period variance, n_i is the number of observations for each time period for Carnival and Royal Caribbean.

Next, to examine how incident publications affect stock prices of involved cruise ship firms and their peers, we use an event study approach (Strong, 1992; Conrad & Kaul, 1993; Cable & Holland, 1999; Pandey & Kumar, 2022; Poretti & Heo, 2022). Our sample contains events at sea which are unpredictable, so we do not include days prior to the event. We combine individual abnormal returns into cumulative abnormal returns over a five-day window period following each event. The (0,5) window presents cumulative abnormal returns for a publication date and next five trading days:

$$CAR(0,t)=\sum_0^t AR_t. \quad (2)$$

An abnormal return is calculated as a difference between an actual observed stock market return on a particular trading day and an expected normal return. We use the Fama-French three factor model to estimate a base level normal return for each cruise ship stock using past 250 trading days and a 20-day gap prior to a publication date (Fama & French, 1995). We use the following model to calculate abnormal returns for an incident publication days and five days after that for each cruise ship stock in our sample:

$$AR_t = R_t - E(R) = R_t - \hat{\alpha} - \hat{b}_m R_m - \hat{b}_s * SML - \hat{b}_v * HML \quad (3)$$

where R_t is an actual return on day t , R_m is return of market portfolio that represents expected normal return, SML and HML are “small minus big” and “high minus low” model factors explaining size and value premiums.

We further try to explain market response to event publication for Carnival, Royal Caribbean, and their peers using an ordinary least squares (OLS) regression. We regress cumulative abnormal returns for main and peer firms on a set of explanatory variables suggested by the economic theory. We standardize control variables by subtracting the mean from every observation and dividing the difference by standard deviation. The regression model we perform is as follows:

$$Y_t = \alpha + \beta_i * Control\ variables_{t-1} + \varepsilon_t, \quad (4)$$

where Y_t represents cumulative abnormal returns over (0,1) and (0,5) windows and $Control\ variables_{t-1}$ denote levels for hypothesized explanatory variables one quarter prior to an event publication date. Our controls include operating profit per passenger, number of passengers and employees and their ratio, free cash flows, total assets, ratio of accumulated depreciation to total assets, debt-to-equity ratio, return on assets, market-to-book ratio, the exchange rate of U.K. pound in terms of U.S. dollar, the U.S. inflation rate, and an indicator variable for incident injuries and fatalities.

EMPIRICAL RESULTS

We first compare average operational and financial characteristics of Carnival and Royal Caribbean for three sub periods in Table 3. T-statistics with the significance level of 0.05 or less are highlighted in bold. We first observe that the number of passengers carried by Carnival has grown significantly over time. The average number of passengers tripled between 1993 and 2012, and then increased by another 55% to over 11 million by 2019. We attribute this fast increase in the number of passengers in early years and its subsequent slowdown to the growth of Carnival’s operations through acquisitions between 1996 and 2002. At the same time, Carnival’s profit per passenger has gradually declined from \$386 in 1993-2001 to \$225 in 2013-2019 sub period and is now lower than Royal Caribbean’s profit of \$256 per passenger. We then look at the historical ratios of passengers to employees which could be indicative of the level of customer service received by passengers. Throughout our sample, the ratio for Carnival increases from 92 to 117 passengers per one employee while the ratio for Royal Caribbean decreases from 85 to 81.

Carnival’s total assets are significantly larger than total assets for Royal Caribbean - \$40.8 billion and \$23.5 billion in the most recent time period, respectively – but are less efficiently operated. Carnival continues to have lower inventory turnover throughout the entire sample period which is only partially offset by an improvement in receivables turnover. We also use the ratio of accumulated depreciation to total assets as a proxy for fleet’s age. We report that the ratio increased

dramatically for Carnival between 2002-2012 and 2013-2019 time periods, which may suggest that Carnival hasn't been consistently investing into new fleet at the same pace as Royal Caribbean and is trying to catch up in the last time period.

Royal Caribbean maintains higher debt-to-equity and lower times interest earned ratio (TIE) than Carnival. However, Royal Caribbean manages to decrease its debt-to-equity ratio and to keep its TIE ratio high enough to alleviate market concerns regarding its ability to service outstanding debt. Royal Caribbean had negative free cash flows until 2013, while Carnival increased its free cash flow tenfold throughout our sample. Combined with the evidence of subpar inventory management, declining operating profits, and delayed investment in new fleet, such accumulation of free cash flows may be indicative of poor financial and asset management as well as potentially higher agency problem, as suggested by Jensen (1986).

We then examine cruise lines' accounting profits which exhibit a pattern similar to that of profits per passenger. Carnival's return on equity has always been lower or equal to that for Royal Caribbean during our sample. Net profit margin and return on assets for Carnival have been steadily declining over time but were still statistically higher than profitability ratios for Royal Caribbean until 2013. Such reversals in operating and accounting profitability between Carnival and Royal Caribbean were not left unnoticed by the stock market. Carnival's market-to-book ratio and annual stock return have been declining and reached their historical lows in 2013-2019 time period. In contrast, Royal Caribbean exhibits the largest market capitalization and the highest market-to-book ratio and stock returns in 2013-2019.

Valuation ratios present the market's opinion on how valuable the companies are. The market capitalization comparison demonstrates that Royal Caribbean's market value of equity equals about one third of Carnival's market capitalization until 2017. Since then, Carnival's market capitalization decreases by over 30% to \$30 billion in 2019. Royal Caribbean's market capitalization has been increasing since 2012 and reaches \$27 billion in 2019, almost to the level of Carnival's market cap. Market-to-book ratios shows a similar story. Overall, we conclude that the difference in quality of operations didn't go unnoticed by market investors. It translated into increased market capitalization and higher market-to-book ratio for Royal Caribbean and stagnant market prices for Carnival.

Table 3: Average Operational and Financial Characteristics of Carnival and Royal Caribbean

	1993-2001			2002-2012			2013-2019		
	C	RC	t-stat	C	RC	t-stat	C	RC	t-stat
Revenue per passenger	1,426	1,403	0.43	1,568	1,427	2.20	1,499	1,566	-1.87
Cost per passenger	1,058	1,142	-2.60	1,269	1,231	0.61	1,274	1,310	-0.75
Profit per passenger	368	261	4.24	299	196	4.45	225	256	-1.02
Passengers (thousand)	2,616	2,008	1.85	7,423	3,943	5.54	11,484	5,657	13.03

Employees (thousand)	29	24	1.61	76	48	4.90	98	70	7.85
Free cash flow (million)	124	-355	3.01	391	-189	2.29	1,440	537	2.25
Total assets (million)	6,487	4,925	1.12	32,094	15,226	7.78	40,864	23,476	13.35
Depreciation to total assets	14.8%	12.7%	2.91	18.8%	22.4%	-1.85	37.2%	34.4%	2.26
Inventory turnover	23.20	50.28	-7.57	25.52	42.81	-7.87	28.11	40.00	-7.01
Receivables turnover	58.17	84.51	-2.03	35.31	32.56	0.54	41.31	31.14	2.74
Fixed assets turnover	0.55	0.56	-0.17	0.48	0.43	2.59	0.51	0.43	7.57
Debt-to-equity ratio	0.35	1.04	-3.92	0.45	1.07	-10.29	0.40	0.95	-11.87
Times interest earned ratio	7.93	2.66	7.07	6.24	2.27	16.81	10.38	4.21	5.81
Net profit margin	24.5%	11.7%	9.00	16.2%	8.4%	5.26	12.7%	13.3%	-0.31
ROA	10.7%	5.4%	7.66	6.0%	3.2%	4.87	5.4%	5.0%	0.47
ROE	5.4%	7.3%	-2.07	6.5%	7.3%	-0.47	6.0%	5.9%	0.16
Market capitalization (million)	13,559	3,781	3.88	31,195	7,226	11.45	36,942	20,281	5.89
Market-to-book ratio	3.56	1.94	4.04	1.73	1.19	2.38	1.53	2.08	-3.28
Annual stock return	21.6%	13.1%	0.39	9.6%	23.1%	-0.67	9.1%	28.4%	-1.31

We then begin with the analysis of the market response to incidents at sea involving Carnival and Royal Caribbean's fleet. We conduct an event study which allows us to examine how investors react to such news publications and compare the differences between the two main firms. The results of this analysis for (0,5) window of cumulative abnormal returns are presented in Table 4. ***, ** and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.

Table 4 reports the average market response to the sample of 82 incidents at sea for Carnival and Royal Caribbean. As expected, we observe the negative market reaction to publications of events at sea for both firms. We find that Royal Caribbean's investors react more negatively as compared to Carnival's shareholders. The CARs for (0,5) days following the incident publication reach -5.03% for Royal Caribbean and -1.95% for Carnival.

The breakdown of the market response to crew incidents, passenger-related events, and acts of God is presented in Table 4. We observe heterogeneity in how Carnival and Royal Caribbean's investors respond to different types of events. Carnival's shareholders exhibit the strongest negative response to crew-related events. The cumulative abnormal returns for (0,5) window for such incidents equal

-2.35% and are the only statistically significant abnormal returns for the cruise line. This result is consistent with our expectations prior to the analysis. Since crew-related incidents could have been prevented through proper policies, maintenance or crew training, we hypothesize that investors penalize Carnival for occurrence of such events. Similarly, we believe that investors do not hold the cruise line accountable for incidents out of its control, such as unpredictable acts of God and passenger-related events. Thus, cumulative abnormal returns for these events at sea are statistically insignificant for Carnival.

In contrast, Royal Caribbean's investors respond more negatively to acts of God. The (0,5) cumulative abnormal returns for acts of God are -12.51%. In un-tabulated results, we observe that this market reaction is driven by cruise cancellations rather than changes in itinerary with (0,5) CARs of -8.83% v. -3.22%, respectively. Though we cannot directly test this hypothesis, we believe that such return behavior can be explained by the timing of Royal Caribbean's incidents. All cancellations due to weather which represent the majority of acts of God occur during economic downturn in 2001. Weather-related cancellations and refunds associated with them have a two-fold negative effect on Royal Caribbean's operations and market prices. First, the effective Federal Funds Rate ranges between 4.0% and 6.5% in early 2001. Higher interest rates increase the cost of borrowing, which in turn negatively impacts operating performance. Second, consumers reduce discretionary spending, including cruise ship trips, during economic downturns. Thus, the revenue lost during the period of low demand for cruises cannot be easily replaced and has a more negative effect on accounting and market performance. Carnival's weather-related cancellations occur in 1999 and 2004, during economic expansions with significantly lower Federal Funds Rate of 1.0%-2.5%. Thus, refunds and lost revenues have a less negative effect on Carnival's market prices, as compared to Royal Caribbean.

Table 4 presents the distribution of cumulative abnormal returns by three sub periods. For both firms, the market response is less negative between 1993 and 2001. Royal Caribbean's investors again react more strongly to incidents at sea involving the firm than Carnival's investors during the first two subperiods. Such overreaction is most negative between 2002 and 2012, when over half of all incidents occurred. The cumulative abnormal returns for (0,5) window equal -7.77% for Royal Caribbean and -2.27% for Carnival during this subperiod. The devastating grounding of Costa Concordia happened in 2012, and could be driving our results for 2002-2012 time period. To check this assumption, we exclude this incident from the sample and re-estimate cumulative abnormal returns for Carnival. In the un-tabulated results, we observe similar market responses and conclude that the inclusion of Costa Concordia incident doesn't skew our results.

The distribution of cumulative abnormal returns for (0,5) window by contemporary and premium brands is presented in Table 4. We document that investors of main firms respond more negatively to incidents that occur on ships within a premium category. The market response for Carnival events at sea equals -1.47% and -2.63% for contemporary and premium fleet, respectively. Similarly, we observe more negative response for events on premium Royal Caribbean ships as compared to contemporary vessels: -10.83% v. -0.77%. In un-tabulated results, we further break down cumulative abnormal returns by bands and incident type. The market response for main firms is similar to what we report in Table 4. Carnival investors only respond to crew-related incidents with cumulative abnormal returns being more negative for the premium cruise ships than for contemporary. Royal Caribbean investors negatively respond to acts of God during economic downturn, especially the ones involving premium fleet.

We also observe that both cruise lines experienced cancellation shortly following 9/11. To check if these cancellations dampened CARs for the acts of God, we re-estimated the results without these events. In the un-tabulated results, we find that the magnitude of cumulative abnormal returns for acts of God slightly decreases but the overall returns pattern remains the same for both firms.

Table 4: Event Study for Incidents at Sea For Main Firms

	Carnival		Royal Caribbean	
	N	(0,5)	N	(0,5)
Total	56	-1.95% (-3.27***)	26	-5.03% (-2.10**)
Crew	38	-2.35%*** (-3.20)	16	-1.50% (-0.86)
Passenger	5	0.12% (0.05)	2	-3.31% (-3.99)
Act of God	13	-1.59% (-1.37)	8	-12.51%* (-1.93)
1993-2001	18	-1.06% (-0.94)	9	-2.23% (-0.67)
2002-2012	31	-2.27%* (-1.71)	13	-7.77%* (-1.89)
2013-2019	7	-2.84% (-1.62)	4	-2.42% (-0.81)
Contemporary	34	-1.47%** (-2.33)	15	-0.77% (-0.43)
Premium	20	-2.63%** (-2.15)	11	-10.83%** (-2.31)

We then examine whether investors of one cruise line respond to the news of an incident at sea involving another company. The spillover effect from Carnival and Royal Caribbean events at sea on other firms is reported in Panel A of Table 5. We document that the spillover effect from Carnival incidents is significantly more negative than the spillover from Royal Caribbean events: -9.27% and -1.05% of firm value for (0,5) window, respectively. Such significant differences in market response could be attributed to how surprised investors of other cruise lines are to learn about incidents occurring to Carnival. Panel B of Table 5 reports the spillover effect on other firms by events type. We report that, like Carnival shareholders, investors of other cruise lines respond more negatively to crew-related incidents for Carnival. On the other hand, acts of God involving Royal Caribbean fleet have the most negative effect on market values of other cruise ship firms. The breakdown of the spillover effect on other firms for three sub periods presented in Panel C shows the strongest market response to main firm events at sea for the 2002-2012 time period.

Table 5: Spillover Effect of Main Firms on Other Firms*Panel A: Average Spillover Effect on Other Firms*

Window	From Main Firms	From Carnival	From Royal Caribbean
(0,5)	-5.24% (-2.27**)	-9.27% (-2.26**)	-1.05% (-0.61)
N	53	27	26

Panel B: Average Spillover Effect on Other Firms by Incident Type

Window	From Carnival			From Royal Caribbean		
	Crew	Passenger	Act of God	Crew	Passenger	Act of God
(0,5)	-14.17%** (-2.16)	-0.73% (-0.20)	-2.95% (-1.06)	-0.96% (-0.36)	-0.07% (-0.13)	-1.42% (-0.58)
N	16	4	7	15	2	9

Panel C: Average Spillover Effect on Other Firms by Time Period

Window	From Carnival			From Royal Caribbean		
	1993-2001	2002-2012	2013-2019	1993-2001	2002-2012	2013-2019
(0,5)	-1.63% (-1.38)	-51.21% (-3.32**)	-4.31% (-0.95)	2.09% (0.76)	-10.61% (-4.39**)	-1.33% (-0.81)
N	20	4	3	13	4	9

To capture the spillover effect on main firms, we study how Carnival and Royal Caribbean stock market prices change following the news about each other and other cruise ship firms in the sample. The average spillover results for main firms combined and individually are presented in Panel A of Table 6. Consistent with the results reported for the main event study in this section, we first document that Royal Caribbean investors respond to incidents at sea involving other cruise firms more negatively (-2.49%) than investors of Carnival (-1.21%) for (0,5) window. This result suggests that Carnival investors are less surprised by incidents at sea involving other cruise lines than investors of Royal Caribbean. We further document that main firms experience the strongest spillover effect from news involving each other, rather than other firms. We also observe that Royal Caribbean investors respond to Carnival news more negatively than Carnival investors to events involving Royal Caribbean ships.

Panels B and C of Table 6 present the breakdown of the spillover on Carnival and Royal Caribbean for three types of events at sea and sub periods. We document that passenger-related incidents reported for Royal Caribbean and other cruise lines have the strongest spillover effect on Carnival stock with a cumulative abnormal return of -2.87% for (0,5) window. Royal Caribbean investors respond most negatively to crew-related incidents involving ships for Carnival and other firms. We also find that the spillover effect for Royal Caribbean is the strongest during 2002-2012 time period for which we observe the greatest number of incidents at sea for Carnival and other cruise firms.

Most cumulative abnormal returns are statistically insignificant for Carnival. We report the only significant spillover effect with a cumulative abnormal return of -1.36% to occur during 1993-2001 sub period. Overall, we observe that investors of main firms, on average, do not respond as negatively to the news involving each other and other cruise lines as investors of other firms.

Table 6: Spillover Between Main Firms

<i>Panel A: Average Spillover Effect on Carnival and Royal Caribbean</i>						
Window	On Carnival			On Royal Caribbean		
	All Firms	Royal Caribbean	Other Firms	All Firms	Carnival	Other Firms
(0,5)	-1.21% (-2.20**)	-1.70% (-1.93*)	-0.70% (-1.08)	-2.49% (-2.07**)	-3.41% (-2.15**)	-0.76% (0.09)
N	65	30	35	82	47	35

<i>Panel B: Average Spillover Effect on Carnival and Royal Caribbean by Incident Type</i>						
Window	On Carnival			On Royal Caribbean		
	Crew	Passenger	Act of God	Crew	Passenger	Act of God
(0,5)	-0.94% (-1.43)	-2.87% (-1.14)	-1.50% (-1.31)	-3.22%*** (-2.87)	3.74% (1.53)	-2.92% (-0.83)
N	40	8	17	41	18	23

<i>Panel C: Average Spillover Effect on Carnival and Royal Caribbean by Time Period</i>						
Window	On Carnival			On Royal Caribbean		
	1993-2001	2002-2012	2013-2019	1993-2001	2002-2012	2013-2019
(0,5)	-1.14% (-1.50)	-1.06% (-0.95)	-1.54% (-1.37)	0.51% (0.27)	-3.55% (-1.75*)	-2.42% (-2.10*)
N	26	25	14	17	43	22

We then conduct a multivariate analysis of cumulative abnormal returns for Carnival and Royal Caribbean. Estimated regression models show that most control variables do not explain investors' response to events at sea. In un-tabulated results, we observe that number of employees, total assets, exchange rate and inflation rate are statistically significant at explaining how investors respond to publications of incidents at sea involving Carnival and Royal Caribbean. The statistically significant relationship between the number of employees and cumulative abnormal returns to events at sea reinforces our previous observations and conclusions that the number of employees is related to the quality of services on cruise ships. Contrary to our expectations, the regression coefficient for total assets is negative which suggests that investors of larger cruise ship firms respond to incidents at sea more strongly. This result suggests that investors of cruise ship firms might associate large total assets with poor maintenance of fleet and lack of proper crew training. We also document a negative relation between macroeconomic measures of demand for cruises - the exchange rate of the U.K. pound in terms of the U.S. dollar and the U.S. inflation rate - and

cumulative abnormal returns to incidents publication. A one standard deviation increase in the dollar price of a pound – a devaluation of 5.3 cents – decreases investors' response by 1.88%. A similar increase in the inflation rate of 1.21% decreases cumulative abnormal returns by 1.74%.

We lastly conduct a multivariate regression analysis for the spillover effect on main and other firms. With most explanatory variables insignificant, we report that profit per passenger, number of passengers and employees, the ratio of passengers to employees, and the U.S. inflation rate can explain the spillover effect on other firms from main firms' events at sea.

CONCLUSION

This paper examines how investors respond to events at sea involving Carnival and Royal Caribbean. After carefully reviewing the empirical results, we make the following conclusions. First, Carnival and Royal Caribbean are managed very differently. Though Carnival is an industry leader in regard to the number of passengers, the analysis of operational and financial characteristics demonstrates worse asset management and lower profitability, as compared to Royal Caribbean over the last decade. Second, we observe that market investors respond differently to events at sea involving main firms. Carnival investors react negatively to crew-related incidents which could have been prevented by the cruise line through better management. At the same time, Royal Caribbean investors respond only to unexpected events at sea which are out of firm control and occur during economic downturns. Third, we find that investors react differently to incidents occurring on contemporary and premium ships. Cumulative abnormal returns for events on premium ships are more negative than for incidents on contemporary fleet for both Carnival and Royal Caribbean. Fourth, we document a statistically significant spillover effect between main and other cruise firms. Due to the serious nature of crew-related events, Carnival incidents have a more negative spillover effect on other firms. Lastly, we observe that investors of main and other firms respond differently to events at sea involving each other. Investors of Royal Caribbean and other cruise lines react to events at sea involving Carnival's ships, but not the other way around.

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PASSPORT TO PRACTICE: HISTORY OF CPA LICENSURE REQUIREMENTS

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ABSTRACT

The purpose of this paper is to outline the history and continually evolving landscape of requirements necessary to become licensed as a Certified Public Accountant, (CPA), in the United States of America. The paper will begin by defining the various licensure requirements. The focus will then shift to identifying how public sentiment and a shortage of accounting majors entering the accounting profession in recent years has led to jurisdictions and professional bodies reevaluating the criterion necessary to obtain a CPA license. This paper will discuss proposed modifications to the necessary Education, Experience, and Examination requirements. By summarizing these requirements, this paper will show how a uniform license has a history of being awarded through a non-uniform and ever-changing process. This paper will conclude by identifying potential next steps and areas of future research. This paper attempts to outline how the CPA Licensure process has evolved over time to meet the changing needs of the accounting profession.

Keywords: CPA, licensure, education, experience

INTRODUCTION

In a 2025 article entitled “CPA explained: Careers, ethics, and why licensure is the gold standard,” the American Institute of Certified Public Accountants (AICPA) defined a Certified Public Accountant (CPA) as a “licensed accountant who has passed the CPA Exam and met specific educational and experience requirements” (Sagedal, 2025, 1). Once a candidate meets these three requirements, they have the right to apply for licensure and become licensed in their chosen jurisdiction. While on the surface the CPA licensure process appears consistent and uniform, the actual steps taken to become a CPA are often diverse and unique depending on which State Board of Accountancy approves the individual’s application for licensure.

This paper will detail the history of the CPA Licensure process. Initial definitions and key terms will provide a general understanding of the preliminary requirements to become a CPA. Then a section outlining outside factors influencing the accounting profession will provide context for changes to the CPA Licensure process, due to professional needs. The paper will conclude by examining new pathways to licensure, allowing additional avenues for candidates to enter the profession. This paper will show the consistently inconsistent history of the licensure process to become a CPA.

THREE Es to A CPA PART ONE: CPA EXAMINATION HISTORY

To understand the CPA Licensure process, it is essential to comprehend the distinct role that Examination, Education, and Experience play in preparing a candidate for licensure. Examination refers to the Uniform CPA Exam. In a 2017 article entitled “Accounting History in Perspective: Uniform CPA Exam Turns 100,” Co-authors King, and Case, along with their colleague Senecker published a paper outlining the history of the CPA Exam. According to the authors, the first Uniform CPA Exam took place in 1917. At that point in time the exam was 13 hours over 2 days and covered four parts: Auditing, Commercial Law, and two sections of Accounting Theory and Practice. In subsequent years, the exam would expand to a two-and-a-half-day format with the inclusion of an additional section labeled Accounting Practice. While the naming and exam structure may have encountered minor changes, the first major overhaul was in 1994.

During 1994, the exam was reduced from five to four sections. These sections were Auditing, Business Law and Professional Responsibility, Accounting and Reporting, and Financial Accounting and Reporting. As the authors’ indicated, “these revisions decreased the total time allocated to Practice and Theory from 64% to 52% of the exam. The increased length of the Auditing exam increased the time allocated to such topics from 18% on the old exam to 29% on the new version” (King, 2017, 80). In April 2004, the CPA Exam would move from a paper pencil format to a computerized format. At that point in time, the four sections were Auditing and Attestation (AUD), Business Environment and Concepts (BEC), Financial Accounting and Reporting (FAR), and Regulation (REG). The computerized exams emphasized multiple choice questions and a series of task-based simulations.

The research above outlines how since its inception the examination portion of the CPA licensure process has evolved to meet the needs and requirements of the present-day business environment. In a later section of this paper, the authors will expand on this research by outlining changes to the CPA exam which took effect in 2024. Each modification to the CPA Exam continues to alter and modify the candidate’s experience of the licensure process.

THREE Es TO A CPA PART TWO: CPA JURISDICTIONS DEFINED AND THEIR IMPACT ON EXPERIENCE

While the exam portion of the CPA licensure process emphasizes uniformity in structure and implementation for all candidates, the experience and education requirements are set at the jurisdiction or state level. There are currently fifty-five jurisdictions where an individual may become licensed as a CPA. These include all fifty states, the District of Columbia, Guam, Puerto Rico, U.S Virgin Islands, and the Commonwealth of the Northern Mariana Islands. Due to the number of jurisdictions where an individual may obtain a CPA license, examination candidates conduct their initial work and communications regarding CPA licensure through National Association of State Boards of Accountancy (NASBA). According to the 2026 CPA Candidate Guide, NASBA “exists to serve its members by providing numerous services that encourage common understanding and practices to promote uniformity across the country to facilitate interstate practice. NASBA takes on the role of a central clearinghouse where all jurisdictions submit information on eligible candidates and from which all jurisdictions receive advisory scores and other examination data (NASBA, 2026, 7). While NASBA takes steps to serve as a centralized body to facilitate parts of the CPA Licensure process, each of the fifty-five jurisdictions has their own unique requirements related to education and experience. The jurisdictions Board of

Accountancy often oversees these requirements. However, having fifty-five different requirements and definitions does have the potential to create conflicts and problems for candidates. For this reason, the American Institute of Certified Public Accountants (AICPA) and NASBA in 1984 published a joint model bill that would go on to be known as the Uniform Accountancy Act (UAA). According to the document the UAA “seeks to eliminate such differences and the barriers that they pose to effective practice of CPAs under modern conditions” (NASBA, 2025, 4). The intent of the UAA is to provide an optional template to the various jurisdictions that license CPAs. The UAA is written so sections of the document could be added into to existing laws already in place that govern the accounting profession in each state and territory.

The UAA suggests experience should be defined as “providing any type of service or advice representing the skills needed at the time of initial licensure to serve the public and involves the use of accounting, attest, compilation, management advisory, financial advisory, tax or consulting skills, all of which was verified by a licensee, meeting requirements defined by Board rule. This experience would be acceptable if it were gained through employment in government, industry, academia, or public practice” (NASBA, 2025, UAA 5-3). Based on this definition, there are a variety of approaches a CPA candidate could take to meet the experience requirement to obtain a CPA license. Often the most common are working in public accounting, working for a company in their accounting department, working for the government, or in higher education.

THREE Es to A CPA PART THREE: DEFINING EDUCATION

Speaking of education, all CPA candidates must meet certain degree requirements. For a considerable time, those degree requirements included 150 credit hours. A 2008 report by NASBA outlined the history of the 150-hour requirement. According to the report in 1979, Florida became the first state to adopt a 150-hour education requirement. Throughout the 1980s the idea of requiring additional education beyond a traditional 120-hour undergraduate degree would continue to gain momentum. Supporters of the 150-hour requirement would emphasize how the increased education would promote increased technical understanding along with increased education on ethics and research and communication. At that time, leaders of the profession viewed the additional time required to complete the degree as positive. The belief was that the 150-hour requirement would attract individuals who were serious about the profession. In 1988 the AICPA passed Plan to Restructure Professional Standards. Included in this plan was the requirement that all CPAs licensed after the year 2000 would need to complete 150 hours of education. Dr. Rick Elma, AICPA Vice President of Education in 1989, stated the following, “The only reason for licensing and regulating certified public accountants is to protect the public from incompetent individuals who might attempt to sell auditing services to the public. CPAs are regulated throughout the industrialized world because no economy can operate without properly prepared financial information that is independently attested to by outside auditors. The complex business environment of the future necessitates CPAs with at least 150 semester hours of college education” (NASBA, 2008, 9). This concept of a 150 hours of college education would take hold as a requirement in most jurisdictions to earn a CPA license from the early 1990s to the late 2010s. In the mid-2000s a CPAs requirement to enter the profession in most jurisdictions included 150-hours of education, one year of work experience, and passing the AUD, REG, BEC, and FAR parts of the Uniform CPA Exam. Entering 2020, the accounting landscape and these requirements would begin to shift.

PIPELINE DECLINE REQUIRES AN INTERNAL LOOK AT REQUIREMENTS

In the 1980s and into the early 2000s academics and practitioners emphasized the benefits of the 150-Hour Education requirement as a component of CPA licensure requirement. By the mid-2010s and early 2020s, the accounting profession was starting to see its longstanding licensure pathway encounter criticism. The same requirements once viewed as significant advances for the profession years later are seen by certain members as barriers to entry. A 2025 article from The CPA Journal entitled, “Accounting Profession-wide Solutions to the Talent Shortage” outlines key aspects of these problems. The article highlights metrics that show a decline in individuals entering the accounting profession. One reason for this is an overall decline in the pursuit of higher education. According to the National Center for Education Statistics there was a 13% drop in undergraduate enrollment regardless of chosen major between 2012 and 2021. A similar study conducted by the AICPA found that the number of candidates applying for CPA Licensure had declined more than 32% since 2016. The article goes on to highlight the concept of an “accounting pipeline” (Dixon, 2025, 1). The pipeline represents the number of individuals who are entering the profession after graduating from college, and the primary concerns of the article are how to stimulate interest in the accounting profession. Suggestions outlined include trying to engage with high school students so they can see accounting as a pathway to future success and career stability. The article also outlined how there is a general misconception and stereotype around the work that an accountant performs. One certainty that came out of the article was the fact that the system of examination, experience, and education outlined in the earlier sections of this paper may need to undergo an overhaul. The authors would go on to say, “the current accounting talent shortage presents an opportunity for an “all hands-on deck” collaboration between practitioners, public accounting firms, accounting state societies, accounting faculty, and students” (Dixon, 2025, 2). The key takeaway from this article is that the system of exam, education, and experience that had been in place for over two decades may need to evolve if the accounting profession wishes to survive and prosper.

The idea of changing public perception around the accounting profession gained additional support in a 2024 Journal of Accountancy article entitled, “Rewriting accounting’s employment narrative.” One of the first aspects the article highlights is that there is no one-size fits all solution that will immediately resolve the accounting talent shortage. For the profession to grow, it will need to address key areas of concern that go beyond simply recruiting new accounting majors as mentioned in the earlier article from the CPA Journal. This article outlines how retention of current talent will also be critical. As stated in the article, “To reverse the narrative, starting salaries must increase to become competitive with other professions looking for top talent, and employers must make workloads more manageable, work more interesting, and career paths and rewards clearer” (Kenney, 2024, 2). This excerpt from the *Journal of Accountancy* emphasizes how the profession will need to evaluate the overall experience for individuals at all stages of the profession, so individuals see accounting as a viable and worthwhile option. A perception called into question during the COVID-19 Pandemic as accounting and all professions dealt with people leaving their jobs due to dissatisfaction. Certain professionals and news outlets would call this period the “Great Resignation.”

Speaking of accountants leaving the profession, in 2025 the New York State Society of CPAs published an article that outlined the main factors contributing to turnover in the public accounting profession. Survey results found that key factors in an accountant’s decision to leave the profession included lack of organizational culture, physical and mental illness related to work, and lack of variety in work tasks. According to the article, “accountants in all stages of their careers were likely

to stay in the profession if they think that their colleagues and clients respect their work-life boundaries” (Sibayan, 2025, 3). This article demonstrates how factors outside of the profession’s typical long hours and questions surrounding compensation contribute to an individual practitioner’s perception of the profession.

A 2024 report from the National Pipeline Advisory Group shares similar comments as the sentiments shared above. The National Pipeline Advisory Group met from 2023-2024 that included professionals from all areas of accounting practice. This included public accounting, industry, academics, and regulatory agencies. Their purpose was to provide guidance and insight into issues concerning the Accounting Pipeline. In their 2024 report they highlighted six key strategies the profession should implement to achieve continued success. Some specific strategies mentioned in the report included making the academic experience more engaging, addressing the time and cost of education, and growing support for CPA Exam candidates. The report also reinforced the reasons for the accounting talent shortage which include a changing labor market, the fact that this shortage is not being experienced equally across all jurisdictions, and overall changing attitudes toward higher education previously mentioned in this paper. As outlined in the final page of the report the National Pipeline Advisory Group states “The effort to grow the pipeline must involve academia, business and industry, CPA firms and decision-makers, state societies and CPA associations, regulators and state boards of accountancy, and other advocates” (Association of International Certified Professional Accountants, 2024, 18). As highlighted by the National Pipeline Advisory group, there is no single solution to solving the accounting talent shortage. A key reoccurring theme throughout all these commentaries is the need for collaboration and an understanding that the traditional, examination, experience, and education model that has been unchanged for the past three decades may need to be evaluated and updated. These updates would begin with changes to the CPA examination content during 2023 and 2024.

UPDATE # 1: CPA EXAMINATION CHANGES (2024-PRESENT)

As outlined earlier in the reports, a key component for becoming licensed as a CPA is passing the Uniform CPA Examination. Around 2016-2019, the AICPA, NASBA, and other stakeholders began an evaluation to see what updates may be necessary related to the exam. Out of this process came CPA Evolution. CPA Evolution is the name given to the revised CPA exam that officially took effect in January 2024. According to a NASB press release “As skills and competencies change in the accounting profession, the CPA Evolution initiative — a joint effort between NASBA and the AICPA — aims to transform the CPA licensure model alongside these changes” (Tims, 2024, 1). Under CPA Evolution, the BEC section of the exam will be discontinued and candidates will now complete revised and updated versions of AUD, REG, and FAR. Then a candidate will select from three options for a business specific discipline. The options for the business specific discipline include Business Analysis and Reporting (BAR), Information Systems and Controls (ISC), and Tax Compliance and Planning (TCP). The primary focus of BAR will be advanced and more complex financial accounting topics. These topics include stock compensation and business combinations. BAR will also build on the FAR Section of the exam and address additional revenue recognition and lease accounting, and state and local government accounting and reporting requirements.

The ISC discipline of the exam will emphasize content related to IT, Data Management, including collection, and storage. ISC will also examine additional audit and advisory services including SOC engagements. The TCP discipline expands material covered in REG and emphasizes more complex

non-routine tax transactions for individuals and businesses. TCP will also incorporate Federal Income tax planning and certain aspects of personal financial planning.

As these revised CPA exams are being introduced, NASBA and the AICPA introduced a Model Curriculum that outlines the specific content for each Module of each exam. This document was intended to give educators guidance on how to update their curriculums to respond to these exam changes. In the introduction to the document, NASBA and the AICPA outline the goal of CPA Evolution stating, “the AICPA and NASBA, aim to transform the CPA licensure model to recognize the rapidly changing skills and competencies the practice of accounting requires today and will require in the future” (NASBA, 2021, 3). These comments from NASBA and the AICPA reflect the need for all aspects of the accounting profession and the CPA Licensure process to evolve. It should be noted that NASBA and the AICPA did disclose that the contents of the model curriculum are designed to provide authoritative information on the CPA and that the contents do not reflect the views of all NASBA or AICPA members. The changes to the CPA exam are another demonstration of how the CPA licensure process continues to update over time to meet the needs of the profession. These updates for candidates would continue in future years and result in additional changes to both the experience and education aspects of the licensure process.

UPDATE # 2: CPA EXPERIENCE AND EDUCATION REQUIREMENTS (2023-PRESENT)

It is essential to indicate that experience and education both present certain unique obstacles in their implementation and interpretation. Where the CPA Exam format is uniform across all jurisdictions, the experience and education requirements may vary. In most cases the number of years of practical experience required to obtain a CPA license is directly connected to credit hours earned during college. As highlighted previously in this paper from the late 1980s to early 2020s, the experience and education requirements in most jurisdictions were 150 hours of education and one year of work experience within the parameters set by the state board of accountancy. Due to the Accounting shortage creating a desire to reduce barriers to entry in the profession, discussions began occurring around establishing alternative pathways to meet CPA licensure requirements.

One such pathway was the Experience Learn and Earn Program (ELE) introduced by the AICPA and NASBA in 2023. According to the AICPA website the ELE program will “make it possible for students to enter firms immediately after earning their bachelor’s degree. ELE will combine traditional coursework and experiential learning in an on-demand online format to provide maximum flexibility for participants” (AICPA, 2023, 1). The intent of this program was to provide CPA candidates with a nontraditional way to earn the remaining thirty credits required to obtain a CPA license in most states. The ELE program would be completed instead of attending a traditional master’s degree program. To qualify for ELE, participants had to be a full-time employee of an accounting firm enrolled in the program and had to agree to work for the firm for a specified period during and after completing the program. The AICPA and NASBA highlighted how the ELE program could be made available to firms of all sizes and the cost of the program was often lower than traditional higher education. Tulane University was selected as the University partner to pilot the program. In 2025 NASBA and the AICPA made the decision to sunset the ELE program. At that time, approximately 260 students had completed ELE which NASBA and the AICPA considered a success. The article went on to indicate how “The program's closure is happening at the same time many US states have or are in the process of establishing alternative pathways to

licensure” (Sibayan, 2025, 2). These alternative routes to licensure will be discussed in more detail below.

At the same time NASB and AICPA were discussing the ELE program they also introduced the potential for a CPA Competency-Based Experience Pathway. According to the article, “candidates could meet initial licensing requirements by exhibiting their competency in specific professional and technical areas. For example, professional competencies include ethical behavior, critical thinking skills, and effective communication. Technical competencies include options in audit and assurance, tax, and financial reporting” (AICPA, 2024, 1). Under this proposal candidates will still need a bachelor’s degree (120 Credit Hours) and to complete the one-year experience requirement. From review of the Exposure Draft released by NASBA in Fall 2024, the areas that would be evaluated under the Competency Based Experience Pathway included but were not limited to professional competencies such as ethics, communication, and business acumen. The Competency Based Experience Pathway would then assess the applicant’s technical expertise in one of the following areas: Audit, Tax, or Business and Financial Reporting (industry accounting). The employee’s supervisor will then be responsible for documenting how well these tasks are performed. Within the Exposure Draft NASBA and the AICPA reaffirmed that the goal of this Pathway was to “provide flexibility for candidates without compromising the rigor needed to protect the public” (AICPA, 2024, 1). Responses from stakeholders to the proposed Competency Based Experience Pathway were primarily negative. Stakeholders rejected the proposed pathway based on factors such as administrative burden placed on firm supervisors for overseeing the competency-based pathway. One specific concern was legal liability for accounting firms. Stakeholders expressed their concerns stating, “the proposed pathways reliance on CPA Evaluators could lead to inconsistencies and unfair assessments” (AICPA, 2024, 1). The increased level of subjectivity in the evaluation process was a key reason that the Competency Based Experience Pathway was rejected by most stakeholders. It should be noted that while the Competency Based Experience Pathway was not the answer to the accounting shortage, those in the profession still saw value in evaluating alternative Pathways for CPAs to obtain licensure and enter the profession.

The concept of trying to provide CPAs with alternative routes to enter the profession is one that has been echoed in articles throughout the profession. This paper builds on research and discussions that were introduced in a 2025 article published in the *International Journal of Education and Research*. In their article, Aldredge and Carter focus specifically on the Education component of the examination, experience and education requirements to obtain a CPA license. In terms of introducing Alternative Pathways to the CPA Exam, the authors note “By enabling the candidate to obtain practical experience during the licensing process, it provides advanced practical expertise, which may help with job readiness and competency in an entry-level position” (Aldredge, 2025, 5). In this way the authors are affirming the comments of NASBA and the AICPA which are attempting to explore alternative options for licensing candidates.

The CPA Journal has also provided insights into these alternative Education and Experience Pathways in a 2023 article entitled “Rethinking the 150-Hour Requirement for CPA Licensure.” Within this article, the authors argue in favor of a mixed 120/150 Hour requirement that would see firms providing resources to help candidates succeed in completing a 150-Hour Program. As the authors indicate, “The authors believe that CPA firms should seriously consider providing financial aid through more paid internships, paying for all or part of the additional 30 hours, or through the kinds of initiatives discussed above. The 120/150 model may be a good compromise that provides benefits to mitigate the barriers to entry into the accounting profession; however, the alternative

path to CPA being considered in Minnesota may be a better option given the immediate positive impact it would have” (Mintz, 35, 2023). This article continues to reinforce how there is no uniform solution to the CPA licensure process and professionals and candidates need to continually monitor and navigate what that process looks like.

Navigating the changing profession may not be as clear as certain practitioners may hope. Two articles published in *The CPA Journal* during the Fall of 2024 discussing the proposed changes to educational requirements had contrasting viewpoints. One article said the following, “it’s time to go back to the days when passage of the CPA exam, in conjunction with a bachelor’s degree and a year of work experience, was the licensure requirement” (Miller 2024, 9). This statement emphasizes how the opinion of CPAs and other practitioners has been to find alternative avenues for candidates to satisfy licensure requirements. The same article goes on to mention specific state boards of accountancy that began to take steps to modify education and experience requirements. A second article published by a different CPA stated, “Reducing the prelicensure educational requirement risks diluting the competence, credibility, and reputation of the profession, harming both individual career prospects and the profession at large” (Tucci, 2024, 22). These differing viewpoints demonstrate how there is no one size fits all solutions to establishing alternative pathways for CPA licensure.

UPDATE # 3: CPA EXPERIENCE AND EDUCATION REQUIREMENTS IMPACTED BY STATE LEGISLATION (2025-PRESENT)

Just as CPAs have differing opinions on the best way to move forward with the licensure process, different states are also taking their own approaches. As noted earlier in this paper the CPA licensure process occurs at the jurisdiction level, and each jurisdiction is responsible for setting their own requirements as it relates to Education and Experience. In January 2025, the State of Ohio officially introduced a second pathway to CPA licensure. This pathway would require candidates to obtain 120 hours (bachelor’s degree) and two years of work experience. This contrasts with the long-standing pathway outlined previously, which had been 150 hours of education and one year of experience. In the article the Ohio Society of CPAs states “Our latest legislative efforts are no exception. The proposals tackle real challenges head-on, paving the way for a stronger, more diverse CPA workforce while safeguarding the high standards that define Ohio’s CPAs (The Ohio Society of CPAs, 2025, 1). The article would go on to state that it was the hope of the Ohio Society of CPAs that additional states would go on to adapt alternative pathways to assist CPA candidates during the licensure process. This hope would not go unnoticed.

Starting in 2025, states have enacted or are in the process of enacting legislation to provide CPA candidates with additional pathways to obtain a CPA license. NASBA has added a section to their website to outline the various pathways and legislation being enacted by states. Of the fifty-five jurisdictions, twenty-six have currently enacted legislation to establish and/or modify existing pathways to CPA licensure. This is a direct effort to stimulate interest in the accounting profession and an attempt to remove barriers to entry. In addition to Ohio some of the other states that have established additional pathways include Alaska, California, Connecticut, Delaware, Georgia, Hawaii, Illinois, Indiana, Iowa, Minnesota, Montana, New Jersey, New Mexico, New York, North Carolina, Oregon, Pennsylvania, Puerto Rico, South Carolina, Tennessee, Texas, Utah, Virginia, and Washington. It should be noted that NASBA also updated the UAA in 2025 to include reference and model legislation to support new pathways. By the same token it should also be noted that the same professional bodies that are now encouraging candidates to pursue a licensure pathway that

emphasizes 120 hours of education are members of the same professional organization that back in the 1980s and early 2000s rejected the 120 hour approach in favor of a then more robust 150 Hour Pathway. These comments reflect how the perception of CPA licensure will continue to be influenced by the needs of the profession and the legislation regarding examination, experience and education will often be modified to fit the needs of the modern-day professional climate.

CAUTIOUS STEPS FORWARD AND FURTHER RESEARCH

The above statements reflect how one of the continual challenges with CPA licensure is implementing a standard set of practices and policies that will work for all candidates. One key area where this has been denoted in prior research is education requirements. Regardless of the number of credit hours, course content may vary specifically from state to state. Future research may take an in-depth look at the specific state education requirements and compare them for similarities and differences. Future research may also look to see how experience is measured across each state and compare policies on the topic of CPA mobility.

SUMMARY AND CONCLUSION

Since the establishment of the CPA Licensure process candidates have needed to meet the traditional three Es: Education, Examination, and Experience. This paper has shown how these three identical words can have a different interpretation depending on who in the profession is interpreting them. In the 1980s and 1990s the CPA exam was a paper and pencil test. In 2026, the exam is entirely computerized. For most candidates, meeting the education requirements in the early 2000s meant obtaining 150 Credit Hours. Now due to factors outside the professions control there is an open dialogue about the amount of education necessary. This dialogue is reflected in the legislation enacted by each state. Experience has the potential to be measured in a different manner by each jurisdiction and there are open questions about the amount of experience required to make a candidate fit to obtain a CPA License. What is law today may be history tomorrow as the profession continues to evolve and shape the requirements for CPA Licensure. These requirements function as a stamp of approval on a practitioner's professional career. These requirements are their passport to practice.

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NAVIGATING THE EMERGING DIGITAL FRONTIERS IN HEALTHCARE ADMINISTRATION

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ABSTRACT

Digital transformation has become a priority for healthcare organizations as technologies such as electronic health records, telehealth, artificial intelligence, and data analytics reshape healthcare delivery. While these innovations improve efficiency, accessibility, and patient outcomes, implementation remains challenging due to organizational, workforce, and leadership barriers. This paper examines digital transformation challenges and strategies supporting successful technology adoption. Literature findings identify barriers including resistance to change, limited digital literacy, inadequate leadership preparation, cybersecurity concerns, interoperability issues, and insufficient readiness. Successful transformation depends not only on technology but also on leadership, workforce development, stakeholder engagement, governance, and evaluation. Recommended strategies include strengthening digital leadership, investing in training, establishing cybersecurity practices, and implementing in phases. A structured plan emphasizes readiness assessment, strategic alignment, pilot testing, stakeholder involvement, and continuous improvement to support sustainable innovation and patient-centered care.

Keywords: digital transformation, electronic health records, healthcare technology, change management, cybersecurity, organizational readiness

INTRODUCTION

Healthcare organizations have undergone significant, progressive changes over the past few decades as technology continues to evolve and reshape healthcare delivery. A 45-year systematic review spanning 1973 to 2018 confirms this trajectory, categorizing the evolution from basic health information systems to electronic health records (EHRs), medical imaging, telemedicine, and mobile health devices across seven domains of digital health development (Marques & Ferreira, 2020). Today, the shift from paper-based records to electronic health records (EHRs), telehealth services, artificial intelligence (AI), and clinical decision support systems (CDSS) has transformed how healthcare institutions operate and make informed decisions. As technology advances, healthcare leaders must understand how these innovations can improve care while also recognizing the challenges of implementation.

The COVID-19 pandemic accelerated adoption of telehealth, remote monitoring, and AI applications as organizations sought to sustain care while minimizing face-to-face contact. Zaman et al. (2023) found that AI applications supported appointment scheduling, COVID-19 testing and vaccination bookings, online consultations, and health monitoring, improving healthcare access

during the pandemic. Emerging technologies such as big data analytics, blockchain, and 5G continue to expand opportunities for efficiency and patient care, with experts increasingly framing these tools as essential to building more resilient healthcare systems (Ordóñez de Pablos, 2024). Yet these technologies also introduce challenges related to cybersecurity, data privacy, workforce readiness, and organizational change, making digital transformation one of the most pressing issues facing healthcare leaders today.

DESCRIPTION OF THE PROBLEM

Although digital transformation has improved many aspects of healthcare, healthcare organizations still face several barriers when implementing new technologies. The rapid pace of technological advancement often exceeds an organization's ability to adapt its infrastructure, workforce, and leadership strategies. As a result, healthcare administrators must navigate employee resistance, limited digital literacy, cybersecurity concerns, and organizational change.

One of the most common barriers is resistance to change, as new technologies often require healthcare employees to adopt different workflows and unfamiliar systems, creating frustration and skepticism. Huber and Gärtner (2018) found that hospital information systems introduced "digital coercion" by encoding standards directly into workflows and increasing activity transparency; however, during emergencies, professionals often reverted to face-to-face communication, demonstrating that clinical judgment can override digital controls when needed. This complicates the assumption that resistance is simply unfamiliarity or reluctance, since staff appear to make considered judgments about which coordination mode is safer. Moreover, Alotaibi et al. (2025) similarly found that employees were more likely to adopt digital technologies they perceived as useful and easy to use, though insufficient training, infrastructure, and privacy concerns remained barriers, while Wittich et al. (2026) identified 2,538 implementation barriers and found that resistance to change, limited digital literacy, inadequate leadership support, workflow incompatibility, funding limitations, interoperability challenges, and privacy concerns were the most frequently reported. Healthcare administrators must therefore identify strategies to address these challenges while ensuring technologies align with organizational goals and patient care needs.

Organizations also face structural and technical barriers. Brommeyer et al. (2024) conducted focus groups with 44 Australian health service managers and identified five organizational barriers: (1) change resistance, (2) trust in digital systems and data governance, (3) resourcing and procurement, (4) digital literacy, and (5) siloed information systems, all of which delayed implementation and complicated decision-making. Gleiss and Lewandowski (2022) identified six categories of barriers to digital innovation in hospitals: (1) technological, (2) organizational, (3) behavioral, (4) financial, (5) legal, and (6) structural. While hospital data management could mitigate internal barriers like interoperability and workflow deficiencies, external barriers such as legal compliance remained largely beyond what technology alone could resolve. These studies suggest that while healthcare organizations can address internal barriers through technological investments and workflow redesign, regulatory and legal barriers require strategic planning, compliance efforts, and collaboration with policymakers rather than technical solutions alone.

Leadership also plays an important role during digital transformation, and administrators are expected to act as change managers, advocates, and facilitators, yet many report lacking adequate training for these roles. A scoping review of 16 studies identified seven distinct leadership roles in health information technology (HIT) implementation and noted that leaders often struggle to fulfill them because of insufficient HIT knowledge and organizational support (Laukka et al., 2020). Successful digital transformation therefore requires more than simply adopting new

technology. Findings from Eden et al. (2019) further suggest that organizations must simultaneously transform their workforce by supporting employee adaptation, encouraging professional learning, and redesigning organizational roles, alongside strong leadership and effective change management. This gap between expectation and preparation suggests that digital transformation is often limited not by the technology itself, but by an organization's ability to adapt its leadership, workforce, and processes.

LITERATURE REVIEW

Current literature suggests digital transformation can improve healthcare efficiency, organizational performance, and patient outcomes, with success depending heavily on leadership, workforce development, and organizational culture. Kraus et al. (2021) found that research in this area generally centers on patient-centered care, operational efficiency, workforce practices, and organizational management. This focus reflects how deeply digital transformation now touches nearly every function within a healthcare organization. Peng and Tao (2022) analyzed panel data from 1,578 Chinese listed companies and found digital transformation significantly improved return on assets and equity, driven by cost reduction, revenue growth, efficiency gains, and innovation, with innovation showing the strongest effect under digital-focused public policy. Stoumpos et al. (2023) similarly found that EHRs, telemedicine, mobile health, and AI improve accessibility and service quality, though privacy, security, and infrastructure challenges persist, and coordinated leadership, workforce training, and governance are needed to address these organizational, technical, and human factors together. Across these studies, a consistent pattern emerges: digital transformation rarely succeeds because of any single technology, but because organizations pair that technology with deliberate leadership, workforce investment, and governance built around it.

AI is becoming one of the most influential technologies in healthcare administration. Santamato et al. (2024) combined a systematic review and machine-learning analysis of 79 studies to identify five thematic areas where AI reshapes healthcare management: (1) quality assurance and stakeholder engagement, (2) pandemic response, (3) technological innovation, (4) security and smart platforms, and (5) resource management. While AI showed measurable benefits across these domains, the authors also flagged persistent concerns about data privacy, algorithmic bias, and the lack of transparency in many AI systems, underscoring the need for governance frameworks that prioritize explicability and accountability. This tension between efficiency gains and ethical risk shows why AI adoption cannot be treated as a purely technical decision, as it requires ongoing leadership oversight.

Workforce transformation should accompany technological change. Eden et al. (2019) describe three complementary practices for this: (1) flexing (temporary workforce adaptation), (2) deepening (professional learning and cultural development), and (3) revitalizing (permanent changes to roles and capabilities). The authors conclude that workforce development and digital transformation should be managed as interconnected initiatives. Alkaabi (2026), using a mixed-methods design of surveys and executive interviews, found that structured change management was strongly associated with successful EHR modernization, with organizational culture and employee engagement significantly shaping outcomes. In this sense, workforce development functions less as a supporting activity and more as a prerequisite for technology to deliver its intended value.

Data management and interoperability are also essential. Healthcare organizations increasingly rely on large volumes of patient information for clinical decisions and quality improvement, yet exchanging data across platforms remains difficult. Stoumpos et al. (2023) note that interoperability lets providers securely share patient information across systems, improving

continuity of care and reducing duplicated services, though incompatible systems, inconsistent standards, and fragmented IT infrastructure remain common obstacles. Poor interoperability therefore does not just create technical inefficiency; it can directly undermine the continuity and safety of patient care that digital transformation is meant to improve.

Cybersecurity and data governance are a recurring concern as expanding digital capabilities increase vulnerability to cyberattacks, ransomware, and unauthorized data access. Brommeyer et al. (2024) identified cybersecurity, digital governance, and trust in system-generated information as critical concerns among managers, who reported that uncertainty over data quality and security reduced confidence in adoption. Protecting patient data has become as important as improving efficiency, since breaches carry financial, legal, and reputational costs. As systems grow more interconnected, cybersecurity functions less as a compliance requirement and more as a precondition for trust in digital health tools.

Digital transformation should also be treated as an ongoing process. Kraus et al. (2021) note that because research remains fragmented and hospital-focused, organizations must continuously reassess technologies from a multi-stakeholder perspective spanning patients, providers, policymakers, and third-party creditors. Frisinger and Papachristou (2024) recommend phased rollouts, pilot testing, and continuous evaluation to support adoption while minimizing disruption. Together, these findings suggest that without a structured, phased approach, organizations risk fragmentation. This reframes digital transformation not as a project with a fixed endpoint, but as an ongoing organizational capability that must be sustained over time.

Change management plays a central role in successful transformation. Organizations often struggle when they treat implementation as a purely technological initiative rather than an organizational one. Without active employee engagement, clear communication, and a culture of continuous learning, organizations risk delayed timelines and underused technology. Laukka et al. (2020) found that healthcare leaders fulfill several roles during HIT implementation, requiring them to build trust and cross-departmental collaboration. Frisinger and Papachristou (2023) similarly found that introducing AI-supported CDSSs into primary care required early stakeholder engagement, pilot implementation, and continuous communication, with clinician involvement increasing trust and reducing resistance. Both studies identify trust as the link between leadership and adoption, suggesting that change management efforts ultimately aim to build trust. From this view, change management is a continuous practice that accompanies the system throughout its life.

Organizational readiness strongly predicts success. Alkaabi (2026) found that strong leadership support, employee engagement, and structured planning improved outcomes during EHR modernization, while continuous progress evaluation helped organizations overcome resistance. Kumar et al. (2026) found that among Indian small and medium-sized enterprises (SMEs), IT capabilities, value co-creation, market pressure, and government policy each significantly drove digital transformation and organizational innovativeness, while technological anxiety had no significant effect. Although this study was conducted outside healthcare, its core finding is consistent with the broader pattern seen throughout this review: structural readiness tends to matter more than individual attitudes toward technology. This suggests that organizations investing primarily in technology while neglecting readiness assessments may see slower returns, regardless of technological capability.

Ethical responsibility is an emerging area of focus. AI, predictive analytics, and machine learning can improve diagnostic accuracy and operational efficiency, but raise concerns about transparency, accountability, and algorithmic bias. Santamato et al. (2024) recommend addressing AI's transparency limitations through explainable AI (XAI) approaches, collaborative governance involving all stakeholders, and continuous staff training to build the trust necessary for responsible AI integration. As these tools take on a larger role in decision-making, healthcare organizations

will likely need to treat ethical governance as an ongoing organizational function rather than a one-time policy decision.

Collectively, the literature shows that digital transformation is shaped by technological capability, organizational culture, leadership effectiveness, and ethical governance. No single factor operates in isolation, as these components reinforce one another throughout the transformation process. Organizations that integrate them successfully are best positioned to achieve sustainable innovation, healthcare quality, and patient satisfaction.

IDENTIFICATION AND DISCUSSION OF SOLUTIONS

Successful digital transformation requires healthcare organizations to address technology, leadership, workforce development, and organizational culture simultaneously, treating transformation as an ongoing strategy. Peng and Tao (2022) found digital transformation's positive effect on enterprise performance was robust across model specifications and time periods, with gains accelerating across successive policy stages, suggesting sustained commitment yields compounding returns. For healthcare organizations, this implies that digital investment's benefits may take years to fully materialize rather than appearing immediately after implementation.

Strengthening digital leadership is one of the most consistently recommended solutions. Administrators guide organizations through change by establishing a clear vision, communicating goals, and encouraging collaboration. Alkaabi (2026) found leadership engagement, transparent communication, and employee involvement to be among the strongest predictors of successful EHR modernization and recommended formal change management frameworks to reduce resistance. Laukka et al. (2020) similarly emphasize that leaders must serve as advocates and change champions who support employees through transition, while Frisinger and Papachristou (2023) found success depends on active stakeholder engagement and leadership support throughout implementation. None of this requires leaders to become technical experts; instead, it requires them to be visible, consistent, and responsive throughout the rollout. In practice, this means treating leadership development as a core implementation cost rather than an afterthought addressed only once problems surface.

Investing in workforce education is another frequently recommended solution. Alotaibi et al. (2025) reviewed 21 studies and found professionals were more likely to adopt digital technologies when organizations provided leadership support, technical infrastructure, and role-specific training, as insufficient training, poor infrastructure, and usability concerns were the most common barriers to success. Eden et al. (2019) demonstrated through a longitudinal digital hospital case study that continuous employee development and redesigned professional roles improved adoption and long-term sustainability. This suggests planning training budgets alongside technology budgets from the outset of a digital initiative, not adding them retroactively once adoption stalls.

Strong governance and cybersecurity practices are equally essential to protect patient information and maintain compliance. Wittich et al. (2026) found that infrastructure limitations, interoperability problems, and unclear governance consistently reduced implementation success. Additionally, Brommeyer et al. (2024) argue that organizations should build cybersecurity into planning from the outset rather than treating it as an afterthought, paired with clearly defined roles and accountability for managing digital systems. For most organizations, effective governance begins by identifying who owns each risk before a system goes live, not after an incident occurs, enabling innovation to scale safely and responsibly.

Finally, administrators should establish continuous evaluation processes rather than treating implementation as complete once a system is operational. Organizations should routinely

assess employee satisfaction, patient outcomes, efficiency, and financial performance to identify opportunities for improvement. Kumar et al. (2026) found that digital transformation and organizational innovativeness each independently mediated the relationship between contextual factors and financial performance, meaning organizations with stronger IT infrastructure and stakeholder collaboration are more likely to sustain competitive advantage over time. These solutions point to the same underlying principle: technology alone does not transform an organization. By combining effective leadership, workforce development, strong governance, and continuous evaluation, healthcare administrators can build sustainable digital transformation strategies that hold up well beyond initial implementation.

PROPOSED IMPLEMENTATION PLAN

Because digital transformation challenges often stem from organizational readiness, workforce adaptation, leadership capacity, and governance rather than technology alone, healthcare organizations should adopt a structured implementation plan that emphasizes preparation, stakeholder engagement, phased adoption, and continuous evaluation. While organizations differ in size, resources, and patient populations, administrators should follow a phased approach that implements technologies gradually while minimizing operational disruptions. Frisinger and Papachristou (2024) emphasize that structured frameworks allow organizations to manage change, engage stakeholders, and evaluate outcomes throughout implementation. By establishing clear goals and involving key stakeholders, healthcare organizations can improve adoption while maintaining high-quality patient care.

The first phase should focus on assessing organizational readiness. Before introducing new technologies, administrators should evaluate existing infrastructure, workforce capabilities, financial resources, cybersecurity preparedness, and governance processes. Organizational assessments allow leaders to identify strengths and address barriers before implementation begins. Alkaabi (2026) found that strong leadership commitment, employee engagement, and organizational readiness improved outcomes during electronic health record modernization efforts. Organizations should also assess cybersecurity risks, data governance practices, and privacy protections by evaluating security infrastructure, establishing data accountability, and reviewing access controls. Brommeyer et al. (2024) identified cybersecurity, trust in digital systems, and governance concerns as significant barriers affecting technology adoption, emphasizing that security considerations should be integrated into planning. Additionally, administrators should gather input from physicians, nurses, IT professionals, and other healthcare staff to identify workflow challenges and reduce resistance to change. Frisinger and Papachristou (2023) similarly emphasize that stakeholder involvement strengthens communication, trust, and acceptance of new digital health technologies.

Following the organizational assessment, healthcare leaders should establish a strategic implementation plan aligned with the organization's mission, vision, and long-term objectives. This plan should include measurable goals, timelines, budget considerations, cybersecurity requirements, ethical considerations, and leadership responsibilities. Although Peng and Tao (2022) examined organizations outside healthcare, their findings suggest that aligning digital initiatives with strategic objectives can improve innovation, performance, and sustainability. For healthcare organizations, this reinforces that digital transformation should be viewed as a strategic investment rather than an isolated technology project. Administrators should prioritize technologies that address operational needs while ensuring compliance with privacy and security requirements. Establishing a governance committee with executives, clinical staff, and IT specialists can strengthen decision-making and communication. Healthcare leaders should also receive digital

transformation training, as Laukka et al. (2020) identified leadership knowledge and organizational support as critical factors influencing successful HIT implementation.

The next phase involves pilot implementation before expanding technologies organization-wide. Pilot testing allows organizations to evaluate system performance, identify technical issues, assess workflow compatibility, and collect employee feedback in a controlled environment. Frisinger and Papachristou (2024) recommend pilot implementation to identify challenges and refine systems before broader deployment. Pilot programs are especially important for artificial intelligence technologies because organizations must evaluate technical performance, ethical concerns, transparency, and potential risks. Healthcare administrators should incorporate AI governance practices, including monitoring algorithm performance, evaluating bias, ensuring transparency, and establishing accountability for technology-assisted decisions. Santamato et al. (2024) emphasize that while AI can improve healthcare management and efficiency, privacy, explainability, and ethical concerns require continued oversight. During implementation, organizations should educate employees through workshops, hands-on training, online modules, and ongoing technical support. Training should extend beyond system use by helping employees understand how technologies influence workflows, decision-making, and patient care. This supports Eden et al. (2019), who emphasized that workforce development is essential for sustainable digital transformation.

The final phase should emphasize continuous evaluation and quality improvement. Healthcare administrators should monitor key performance indicators such as technology utilization, employee satisfaction, operational efficiency, patient outcomes, cybersecurity performance, and financial impact. Regular evaluations allow organizations to identify challenges, adjust strategies, and incorporate emerging technologies. Kumar et al. (2026) found that digital transformation capabilities and organizational innovativeness contributed to improved outcomes in small and medium-sized enterprises outside healthcare. Although not conducted in healthcare settings, these findings reinforce that organizations with stronger digital capabilities and stakeholder collaboration are better positioned to sustain innovation.

Ultimately, digital transformation should be viewed as an ongoing process rather than a one-time technological investment. By prioritizing organizational readiness, leadership development, workforce education, cybersecurity governance, ethical technology adoption, and continuous evaluation, healthcare administrators can integrate emerging technologies while promoting sustainability, regulatory compliance, and high-quality patient-centered care.

CONCLUSION

Digital transformation has fundamentally reshaped healthcare delivery by introducing technologies that improve accessibility, efficiency, decision-making, and patient outcomes. Successful transformation depends on more than adopting advanced tools such as electronic health records, artificial intelligence, telehealth, and data analytics. Across the literature, a consistent finding emerges: the primary challenges of digital transformation are often organizational rather than technological. Resistance to change, limited digital literacy, insufficient leadership preparation, cybersecurity concerns, and fragmented systems can significantly hinder implementation when organizations fail to address the human and structural factors involved.

To overcome these challenges, healthcare administrators must approach digital transformation as an ongoing organizational strategy rather than a one-time technology initiative. Effective leadership, workforce development, stakeholder engagement, strong governance, and continuous evaluation are essential components of sustainable implementation. By assessing organizational readiness, involving employees throughout the process, implementing technologies

through phased approaches, and establishing cybersecurity and ethical frameworks, organizations can better manage disruption while maximizing the benefits of digital innovation.

As healthcare continues to evolve, administrators will play a critical role in bridging the gap between technological advancement and organizational readiness. Future success will depend on leaders who can not only support technology adoption but also create environments where employees are prepared, engaged, and confident in adapting to change. Ultimately, digital transformation is not defined solely by the systems an organization implements, but by its ability to integrate those systems into workflows, cultures, and strategies that improve the quality and sustainability of patient care.

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