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ACCOUNTING FOR ENVIRONMENTAL CREDIT ASSETS AND OBLIGATIONS: HISTORY AND EMERGING GUIDANCE

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ABSTRACT

While the topic of accounting for carbon and carbon credits is new, emerging over the last 25 years or so, issues surrounding accounting for remediation of environmental damage by businesses go back much further. The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Superfund Amendments and Reauthorization Act (SASA) of 1986 are examples of early laws that govern the investigation and cleanup of contaminated air, water, and ground. These laws and the response to them caused the Financial Accounting Standards Board (FASB) to struggle to provide guidance on how to account for the expenses and liabilities associated with mandated environmental remediation (see Beeler 1997). Currently much of the focus relating to the environment has shifted from contaminated site remediation to the reduction of greenhouse gases in efforts to mitigate their warming effects on the planet's climate. Again, FASB and the International Accounting Standards Board (IASB) face finding ways to account for issues arising for the development of the new financial markets and instruments designed to facilitate the remediation of greenhouse gases. While the Kyoto Protocol lists six different greenhouse gases, it has become the convention to refer to these collectively as carbon. This paper briefly outlines the history of the measurement of carbon and the development of markets and protocols designed to facilitate the reduction of carbon. It also addresses the accounting issues that have arisen with the creation of new financial instruments, and outlines clarification that may be forthcoming from standard setters on how to account for these unique instruments.

Key Words: Carbon, Comprehensive Environmental Response, Compensation, and Liability Act, Superfund Amendments and Reauthorization Act, FASB, IASB

Background and History – Contextualizing Carbon

Global Warming Potentials

In response to increasing concerns about global warming, scientists have identified seven greenhouse gases (GHGs) for which carbon reduction can be measured: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (NO₂), sulfur hexafluoride (SF₆), perfluorocarbons (PFCs), nitrogen trifluoride (NF₃), and hydrofluorocarbons (HFCs). For each of these gases, the global warming potential (GWP), as calculated by environmental scientists, is an expression of the atmospheric impact in terms of an equivalent amount of CO₂ over a particular time horizon. More specifically, but without wading into mathematical notation, these GWP expressions incorporate the radiative and absorptive behaviors of these gases benchmarked against those behaviors of CO₂. As an example, using Table 1 below, one could state that one ton of methane is, as measured by the Sixth Assessment Report, twenty-seven times as effective as carbon dioxide at trapping heat (via the absorption of radiation) over a 100-year period. That is, methane is more aggressively contributing to the greenhouse effect than an equal

quantity of carbon dioxide. Environmental scientists refer to this ‘equal quantity’ as carbon dioxide equivalent and notate it as (tCO_{2e}).

The Intergovernmental Panel on Climate Change (IPCC) adjusts GWP values in successive Assessment Reports to reflect finer scientific understanding of these gases’ atmospheric behaviors.

Common chemical name or industrial designation	Chemical formula	Fourth Assessment Report (AR4)	Fifth Assessment Report (AR5)	Sixth Assessment Report (AR6)
Major Greenhouse Gases				
Carbon dioxide	CO ₂	1	1	1
Methane – non-fossil	CH ₄	25	28	27.0
Methane – fossil	CH ₄	N/A	30	29.8
Nitrous oxide	NO ₂	298	265	273
Nitrogen trifluoride	NF ₃	17,200	16,100	17,400
Sulfur hexafluoride	SF ₆	22,800	23,600	24,300

Table 1: IPCC Global Warming Potentials for a 100-year time horizon.

Sources: IPCC (2008), IPCC (2014), IPCC (2023).

Graphic: Greenhouse Gas Protocol (2024), which also contains extended lists of HFCs, PFCs (pp. [2-4]).

Using these measurement techniques, the Kyoto Protocol developed models for carbon markets designed to reduce global warming greenhouse gases in the environment. Note that the IPCC’s definition and use of the term global warming potential differ from the way the Environmental Protection Agency (EPA) uses it; that agency thinks of potential in terms of the emissions generated by the production of something (EPA, 2025).

Pre-Kyoto Protocol Markets

A precursor to the current carbon markets was the American Sulfur Dioxide (Sox) and Nitrogen Oxides (NO_x) markets. When SO₂ and NO₂ were posing hazardous impacts to public health and ecological integrity in the U.S., the Clean Air Act and subsequent amendments constructed a novel mechanism which allowed firms to pay others to offset their emissions increases through several trading programs (see, e.g., Beeler, 2018; Burtraw and Szembelan, 2009; Hansjurgens, 2011). The Kyoto Protocol drew upon these American innovations to devise three ‘flexible mechanisms’ in the hope of driving the trade of emission credits represented by financial instruments called credits, rights, or allowances. In 2005 the European Union (EU) created and implemented the European Union Emissions Trading Scheme.

Post-Kyoto Protocol Markets

Three different approaches to the trading of emissions rights developed. They include: (1) Clean Development Mechanism which involves trading between a developed country and a developing country; (2) Joint Implementation which involves trading between one developed country and another developed country; and (3) International Emissions Trading (IET) which creates fungibility of Carbon Credits or Environmental Credits. (UNFCCC, 1997, pp. [11-12, 6-7, 15]).

There are two basic models for carbon credit markets - Compliance Markets and Voluntary Markets. In Compliance Markets (also called cap-and-trade markets) regulators place an aggregate GHG emissions cap over a geographical boundary and divide GHG emission rights among participating firms. Firms get allowances representing their share of the cap by volume. At the end of each period, they surrender allowances representing their actual emissions over the period. They must buy any shortfall of credits from others or can sell any surplus credits to others.

In *Voluntary Markets*, by contrast, there is no aggregate cap, and no obligation to surrender carbon credits. Under this model, businesses purchase credits to voluntarily 'offset' part or all of an entity's emissions. This is not to diminish the importance of Voluntary Markets. The lack of a regulatory burden that defines compliance markets has allowed voluntary markets to innovate and experiment with policy and methodology, with those results then informing compliance markets' practices.

Most carbon pricing schemes have developed in response to the Kyoto Protocol's requirements. This is true especially in the case of the European Union Emissions Trading System (EU ETS), which still stands as the most comprehensive and mature compliance carbon pricing scheme. Its formation was driven by the Kyoto Protocol's country-level emissions reductions targets (see European Commission, n.d.).

Issues Related to Accounting for Carbon and Carbon Credits

The first issue concerns physical accounting for the development of emissions inventories and observance of changes in emission flows over time, over geographical or organizational boundaries, or because of projects, policy decisions, or actions. The second issue, which is the focus of this article, involves determining how to account for the financial instruments purporting to represent emissions.

Initial Financial Reporting

The initial reporting of carbon credits in financial statements was accomplished primarily by providing non-financial information in disclosures related to corporate carbon targets. As the move toward corporate responsibility for addressing climate change accelerated and more companies became involved in carbon credit trading, the accounting profession grew concerned with how companies should report the financial instruments purporting to represent emission rights and obligations. Currently, companies may count acquired environmental credits as an inventory asset and often do so if the credit can be, and management expects it to be, traded on an active exchange. However, if a company acquires the credit to offset emissions in the future, the company accounts for the credit as an intangible asset. When accounted for in this manner the company must determine if it should amortize the credit over time or charge the cost of the credit to expense currently. If the company chooses to amortize the credit, it must decide what amortization period to use. In either case the company must determine if the credit has suffered any impairment of value.

Members of the Accounting Profession have expressed concern with the lack of authoritative guidance in this area, the many measurement techniques currently being used, and the resulting implications for comparability of emissions data. The main questions that remain unanswered include how to classify emissions rights, how and when companies are to report environmental credits, and how to determine if those credits are assets, liabilities, revenues, or expenses. Additional uncertainty remains related to what measurement techniques are appropriate for valuing these environmental credits. As a result of FASB and IASB failures to provide effective guidance, firms have used different valuation, recognition, and presentation methods that produce information that is neither comparable nor consistent and has limited use for investors and creditors.

Incompleteness of Authoritative Guidance – Early FASB, IASB Efforts

FASB's Emerging Issues Task Force made the first effort to provide guidance on accounting for carbon credits in 2003, but work halted over concerns that the proposed rules would have unwanted influence on other areas of accounting. The next year, the full FASB Board rejected the 2004 FASB draft Statement 153 (Exchanges of Nonmonetary Assets). Anticipating the European Union's adoption of the international emissions trading (IET) scheme, in 2004 the IASB developed three standards to provide guidance in accounting for Emission Rights. One of these standards was International Accounting Standard (IAS) 38 guidance which classified environmental credits as intangible assets. During this same time IASB promulgated IAS 20 which requires the grantee to treat any excess of fair value over value of allowances given by the government as grant income. Concurrently, IASB ruled that a company incurs liabilities as emissions occur (IAS 27). The IASB rescinded these standards in 2005 due to concerns of measurement and timing mismatches.

Beginning in early 2007 and continuing until late in 2010 FASB and IASB held joint meetings to address these issues. Disagreements remained over the treatment of emissions that exceeded the compliance cap a company was assigned, and balance sheet presentation. They reached agreement over treatment of voluntary market transactions and the Future Value measurement for both assets and liabilities. In early 2014 FASB and UASB abandoned the joint project on carbon credit accounting and until recently there has been almost complete silence from FASB on the issue.

In June of 2021, FASB issued an invitation to comment (ITC) in which they asked for input as to whether accounting related to environmental issues needed additional authoritative guidance. Members of the Accounting Profession who responded to the ITC recommended that, because of the increasing use of environmental credits by public firms, FASB should provide clear rules to guide the accounting for and reporting of environmental matters.

The response to this ITC prompted FASB to add a project to its May 2022 agenda that addressed the subject of accounting and reporting for issues related to environmental credits. Subsequently, in December of 2024, FASB issued an exposure draft (Topic 818) with a deadline of April 15, 2025, for comments on the issue.

Emerging Guidance

Defining an Environmental Credit.

Under the proposed standard, FASB defines environmental credits as separately transferable enforceable rights to prevent, reduce, control, or reduce pollution. If adopted, the rule will affect all

entities that acquire transferable environmental credits that the entity will use to settle obligations arising from regulatory compliance programs, or acquired with intention to sell or trade, or for credits obtained for compliance with voluntary carbon reduction schemes.

Asset Treatment

Under the proposed standard the acquiring entity will recognize the environmental credit as an asset when it is *probable* that the entity will use it in the future to settle an environmental obligation or to transfer credits to another entity in an exchange transaction. The entity will expense as incurred cost of all other environmental credits. Companies will value environmental credits at cost to acquire, except for credits given as a grant from a regulator, or internally generated credits which the firm will value at transaction costs. After acquisition, the acquiring entity will classify environmental credits as an asset valued according to management's intent. If the entity intends to use the credit to settle an environmental obligation in the future, it will value the credit on the balance sheet at cost with no impairment test required. If the entity is holding the credit for other than compliance, the firm will perform an impairment test on the credit at the end of each reporting period. If the fair value of the credit is less than the carrying value, the asset is impaired, and the entity will recognize an impairment loss in the period. The proposed standard does not allow reporting entities to report a reversal of impairment losses. However, management may choose an accounting policy for certain classes of noncompliant environmental credits, which makes them eligible for presentation using fair value with subsequent changes in fair value flowing through earnings.

Liability Treatment.

The proposed standard defines an environmental credit liability as an enforceable obligation related to environmental regulatory compliance programs aimed at pollution reduction. Obligations under voluntary programs do not meet the definition of an environmental credit liability.

Under this guideline, an environmental credit liability exists for the difference between the carrying value of the credits an entity holds and the fair value of unfunded difference of the credits it takes to settle the obligation. Reporting entities must recognize the environmental credit obligation in the period when events that create an environmental obligation occur. When the entity in possession of the environmental credits remits the credits to the regulator to settle the liabilities, the entity will take the credit and liability off the books.

Financial Statement Presentation and Disclosure

According to the Proposed Standard, reporting entities must present separately on the consolidated balance sheet Compliance Environmental Credit Assets and Liabilities. Additionally, firms are required by the Proposed Standard to provide disclosure for each interim and annual reporting period environmental credit holdings, cash paid for credits, revenues, gains and losses from the sale of those credits as well as any expenses from derecognition of credits that the company intends to use for noncompliance voluntary purposes. The standard also requires reporting entities to disclose methods of acquisition of environmental credits and how the firm used the credits, as well as the judgments and methods used in their reporting of environmental credits.

Conclusion

FASB is proposing an accounting standard designed to make accounting information relating to environmental credits possess the qualitative characteristics of understandability and comparability.

FASB hopes to resolve fundamental issues of what these credits/liabilities represent and make clear demarcation between objects in compliance and voluntary settings. Responses to the exposure draft during the public comment period highlight opportunities for improvement to the proposed standard. For example, the Environmental Defense Fund suggests that environmental credits purchased for future offset of an obligation be accounted for as an intangible asset, while environmental credits generated internally be accounted for using an inventory model. Another suggestion, made by The Center for Environmental Accountability, proposes that only environmental credits acquired or created internally to provide compliance with federal or states laws be treated as assets (Sadovi, 2025).

Currently, the exact guidance provided by the proposed standard has not been determined. However, with the issuance of this standard, financial accounting and reporting for environmental credit offsets/liabilities should improve and provide financial statement users with a better understanding of the amount and nature of these assets/liabilities. It is important for regulators to learn from the experience of providing little to no guidance on this issue for over twenty years and in the future act proactively as new financial instruments develop, rather than waiting for problems to arise.

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BLACK WOMEN BUSINESS OWNERS IN NOVA SCOTIA: FINDINGS FROM A FOCUS GROUP ON ACCESS TO GOVERNMENT RELIEF DURING COVID-19

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ABSTRACT

This research explores the experiences of Black women business owners in Nova Scotia with accessing government relief funding during COVID-19. A focus group or Story Circle was created, and inductive and deductive methods were used to analyze the data. Feedback from the participants indicate that the funding was not effective for Black women business owners due to required criteria such as amount of revenue, length of being in business and too much documentation. Also, those funding groups specifically for Black business appears to have extra layers that deterred many women. The government did react quickly with funding, but no diversity lens was used to grant funds.

Introduction

The COVID-19 pandemic had a devastating global impact, especially on people's economic status and created a loss of 14% of the world's workforce (World Economic Forum, 2021, p. 15). The businesses mainly impacted due to social distancing regulations including the food and beverage industry, travel, entertainment, and personal services. The recovery has been slow and both large and small companies felt the effects. According to Kadar & Jaki (2024) the five key areas of impact were: (1) operational disruptions, (2) demand-side changes, (3) supply chain disruptions, (4) financial difficulties, and (5) digitalization.

Research also indicates that women entrepreneurs were disproportionately affected by as much as 35% more likely to have revenue loss than men (Graeber et al, 2020). This could be mainly due to the fact that women are over-represented in the services sectors which were hit the hardest by COVID-19 due to social distancing and lock-down policies (Torres et al, 2021).

To date there has been little research on Black women entrepreneurs in Canada and specifically in Nova Scotia. The representation of Blacks on corporate boards in Halifax, Nova Scotia was only 3.1% in 2020 (Diversity Institute, 2020). Black women also face increased difficulties as they tend to be the only head of the household and "75% of Black women spend a combined total of over 21 hours per week on housework" (Frye, 2020). The pandemic only exacerbated these conditions for women entrepreneurs as schools were closed and jobs were lost.

This study's purpose was to explore the impact of COVID-19 on Black women entrepreneurs in Nova Scotia, specifically in relation to their experiences in accessing government funding.

The main objectives of this research were:

1. To determine if Black WBO's applied for government relief funding during COVID-19, and if so, which ones.
2. To explore Black WBOs' experiences with the application process and access to government relief funding offerings.

Literature Review

Many marginalized groups see entrepreneurship as a means to increase their economic well-being and improve their economic status (Orozco et al, 2020). With the job decreases that COVID-19

created, many looked to self-employment as a survival tactic. Women with the increased burdens of home and family responsibilities had only home-based businesses to consider. In 2020 the highest motivation for Canadian females was to make a difference and led the G7 in the motivations to earn a living which increased from 2022 by 2% (Gregson & Saunders, 2022, p. 43.). At the same time, women-owned businesses (WBO's) that were in existence were hit the hardest during the pandemic and economic shutdowns "due to lower average firm age and size, but also they are concentrated in the industry sectors hit hardest (Manolova et al, 2020).

In research on the early impacts of COVID-19 on women business owners in Canada, it was found that greater numbers of women shut down or sold their businesses in 2020 compared to 2019 and women planning to start a business decreased, falling from 16.9% in 2019 to 9.6% in 2020. Also, women are more likely to be in business services and early stage WBO's are more likely to be solo entrepreneurs (Hughes & Saunders, 2022). These factors make WBO's businesses very fragile in a pandemic world. Early-stage businesses are defined as being in operation for 3.5 years or less (Gregson & Saunders, 2022, p.17). Businesses in this early stage are vulnerable to large drops in revenue, less capitalization, lack of saved resources, and little financial history. Despite these challenges, 32.6% of early-stage women still perceived opportunities from the COVID-19 pandemic compared to 8.2% of women in established businesses. These opportunities were seen to be around "increased business from new customers, and new ways of doing business through remote work and e-commerce (Hughes & Saunders, 2022, p. v.).

Sorensson & Ghannad (2023), interviewed 30 women to explore how women entrepreneurs coped during COVID-19 and the changes that they implemented. The results indicated that they mainly focused on financial resources and economic stability was paramount to survive the pandemic. Some countries did not offer financial support through their governments, and these women had to rely on friends and family and personal loans to survive. Few had savings to rely upon. A second theme was the role of demand that many women changed their offerings and used social media to communicate with customers. The third result was the use of digitalization to allow customers to purchase online, and this also decreased costs in travel and time through the use of virtual meetings. Distribution was a fourth theme from the interviews. Women entrepreneurs used new methods of distribution to deliver their products. However negative impacts were access to supplies and delayed deliveries due to lockdowns.

The Women Entrepreneurship Knowledge Hub (WEKH) is a Canadian national network with 10 regional hubs and a network of more than 250 organizations. Its purpose is "to address the needs of diverse women entrepreneurs across regions and across sectors." (WEKH.ca/about). In WEKH's 2024 report, barriers for women entrepreneurs were found to be access to finance, gendered stereotypes, systemic bias, structural differences of the firm, challenges to accessing networks and gendered programs and supports.

In a round table report in March 2021, WEKH hosted two virtual roundtables to discuss the state of Black women entrepreneurs in Canada. Black Canadians are about 3.5% of Canadian population; 3.5% are self-employed and 28.5% are women. From the Census in 2016 about 34,000 Black people are self-employed and about 10,200 are women which is 30%. This is lower than the overall percentage of women self-employed which is 36.2% (Statistics Canada, 2016). So, we see a decrease from 2016 at 36.2% to 30% in 2021.

Additional barriers that Black women entrepreneurs face include systemic discrimination, lack of support and access to networks and information. These are intersectional barriers, and an inclusive ecosystem is required to drive change. Some suggestions from this roundtable included more events such as the roundtable as partnership and collaboration is very important to advance Black women

business owners, funding was found to be mainly allocated to the “tech” industries, and the need for the development of a fund that is managed by Black communities

In 2021 the WEKH did a study that focused on Black women entrepreneurs and found Black women entrepreneurs see anti-black racism increasing any barrier that they already face as entrepreneurs. Most of the Black WBO’s started their own businesses due to anti-race experiences they faced in employment such as having others looking at their work as inferior. They are less likely than other entrepreneurs to access both financial support and support in the form of networks, mentorships, etc. The intersection experience of being a woman and black is termed double discrimination/intersectionality and it does impact their entrepreneurial journey. According to the Black Women Collective (2023) “black female founders earn an average revenue of just \$24,000 compared to \$142,900 among all women-owned businesses. Additionally, black women business owners who apply for funding have a rejection rate three times higher than white business owners.” Black women business owners tend to be solo entrepreneurs and have businesses in the service sector and see community and culture as important parts of their business. Balancing family responsibilities is one of the biggest challenges for Black women entrepreneurs. As most of their businesses are small and underfinanced in the services sector, they are more vulnerable thus more negatively impacted by COVID-19.

The top three industry sectors in which Black-led businesses operate are professional services; arts, entertainment and recreation; and educational services – these sectors are among those that have experienced the most disruption from the COVID-19 pandemic (Women Entrepreneurship Knowledge Hub, 2021, p. 9).

Part of the 2021 WEKH study contained a survey comparing the experiences of members of the Black Business and Professional Association (BBPA) and the Canadian Federation of Independent Business (CFIB). Eighty percent of BBPA members indicated that the Canada Emergency Wage Subsidy (CEWS) will not help compared to 37% of CFIB members and did not think they would qualify for the Canada Emergency Business Account (CEBA) compared to 20% of the CFIB members. When asked about worry over permanent closure, 85% of Black business owners said yes compared to 39% of CFIB members and most Black business owners, 98%, indicated they were not able to take on more debt compared to 56% of CFIB members.

A key barrier to business development growth for Black women entrepreneurs was found to be funding and “More than 80 percent of Black women entrepreneurs have used personal financing to fund their businesses” (Black Business and Professional Association, 2021). Other major barriers included cost of borrowing and access to capital. Personal financing was the major source of funding at 81.4%. In this same study their main motivations to start a business with most of them starting during the pandemic, 88% said they found an opportunity, 61% found an unexpected opportunity and increased flexibility in work was a third ranked motivator at 73% (p. 17). Community and family are very important for Black WBO’s as the main inspiration to be a business owner was from family and community.

A study in 2022 found Black entrepreneur businesses in Nova Scotia are “...predominately service-based businesses. Further, many (27%) did not classify themselves in one of the categories of the North American Industry Classification System.” (Millar, 2022, p. 8). This leads to smaller revenues and usually few to no employees which can make applying for funding a challenge.

Crenshaw’s study as far back as 1989 was intended to develop a Black feminist criticism because Crenshaw saw as problematic the tendency to treat race and gender as mutually exclusive categories of experience and analysis. It was her opinion that Black women were theoretically erased. Thirty-seven years later, we are still conducting studies which are focused on not only women business

owners but on the intersectionality issues of Black women business owners. In terms of funding, it is still a major barrier for black women entrepreneurs and as the Figure below indicates from various studies (2022, 2021) on Black entrepreneurs in Nova Scotia the major source of funding during COVID-19 was from personal funds or family and friends (Millar, 2022; WEKH, February 2021). Black women entrepreneurs also indicated the same barrier of lack of funding as “More than 80 percent of Black women entrepreneurs have used personal financing to fund their businesses” (Black Business and Professional Association (BBPA, 2021, p. i), see Table 1).

Table 1: Sources from Which Funds Were Requested and Received for Black WBOs*

Funding Source	Applied for Funding	Received Funding
Personal funds	NA	63.6
Family and friends	38.9	36.5
Canada Response Benefit (CRB)	35.9	29.4
Canada Emergency Benefit Account	25.5	17.0
Canada United Small Business Relief Fund	13.5	13.5
Banks/financial institutions	11.8	10.0
Employment income (EI)	11.5	6.1
Black Entrepreneurship Program (BEP)	11.5	10.2
Canada Emergency Wage Subsidy (CEWS)	10.9	5.9
Temporary Wage Subsidy for Employers	2.0	2.0
Regional Relief and Recovery Funds (RRRF)	1.9	1.9
Business Credit Availability Program	1.9	1.9
Other sources of funding	12.2	12.2

* Adapted from: Millar, H. (2022) found at <https://www.bbi.ca/wp-content/uploads/2022/08/Impact-of-covid-19-on-Black-Nova-Scotian-Businesses.pdf>

On March 22, 2020, Nova Scotia issued a state of emergency and relief measures were put into place. The government’s response to COVID-19 was quick and expanded multiple avenues for relief funding. However, some of the pathways were found to be confusing and difficult to manage. The government did create several initiatives in an approach of “rolling out programs quickly” even though they may “not be perfect as they are launched” (Croteau, et al, 2021).

The province of Nova Scotia spent \$698 million in the fiscal year 2020/21 and these relief funds were noted to be established very quickly. On March 31, 2020, the province entered into an agreement with Dalhousie University to manage the COVID-19 relief programs and contributed \$100 million to the university to do so. On April 10th, applications were open for the Worker Emergency Bridge Fund and the Small Business Impact Grant (Adair, 2021). These relief funds were seen to be administered

well, and appropriate eligibility criteria was used, however, there was no criteria noted for diversity in the applicants and none was tracked.

A meeting held on May 10, 2023, with the Province of Nova Scotia, Department of Economic Development and Invest NS discussed how and why COVID-19 relief funding was developed and allocated. The province indicated it followed the lead of Public Health orders as time was not available to develop specific programs other than the general category of small businesses. For example, when Public Health ordered specific sectors to close, such as restaurants in the tourism sector, funding was allocated accordingly. There was no portion of the government funding allocated specifically to women business owners or under-represented women business owners (Findlay-Thompson et al. 2023).

Methodology

This research is part of a large three-year study that was commissioned by Women and Gender Equality Canada (WAGE) in September 2021 between the Center for Women in Business and the researchers herein. Seventy women business owners (WBO's) responded to the initial call for participants and 58 WBO's agreed to be interviewed three times over the three-year study to track their COVID-19 experiences.

Informed consent was obtained initially via email. Participants emailed signed consent forms to researchers in advance of the focus group. In addition, the letter of consent was reviewed again verbally at the beginning of the focus group, and consent was obtained from all respondents, both orally and also in writing via Chat within TEAMS meeting software.

A crucial part of this study's objectives was to ensure under-represented WBO's were represented so diversity and intersectionality were present. As the representation from Black WBO's was so low in Year 1 of the study, it was agreed to hold a separate focus group for Black WBO's. The focus group was limited to twelve participants to allow deeper discussion and eleven agreed to participate. The respondents completed a pre-screening survey prior to the focus group to gain basic information on their businesses. The focus group took place in November 2022. Questions were open-ended to ensure WBOS were able to discuss anything specific to both their lived personal and business experiences during COVID-19.

Focus group research is used by social science researchers and qualitative researchers to collect data from multiple individuals simultaneously and is less threatening to many participants. (Onwuegbuzie, et al, 2009). This fit our research objectives well, as we were asking participants some questions that could create anxiety due to the hardships that they had faced with their business and that some were still facing. It was held on one session and was kept informal as possible, allowing time to tell their story. The session was recorded with permission from the group. The session was transcribed and analyzed thematically looking for similarities in experiences. This type of research methodology is also known as the Story Circles method in which large quantities of narrative data is generated from several participants (Parks, P., 2023)

Both inductive and deductive methods were used to give a more comprehensive understanding of the data. The first step was to code for the entire story to analyze the data for emerging patterns by using the verbatim transcription to get a feel for the stories and lived experiences at the start of their search for funding and then at the end to determine what occurred. Next, we applied deductive coding to individual parts of each story to look for divergences or similarities in experiences to better analyze and interpret the data.

Results

The main reason for starting their business was to pursue a market opportunity or a dream of business ownership. The most common industry sectors were catering/restaurant/food products and services and aesthetics/hair/personal service/spa each with 36%, followed by several at 9% each (fashion, tourism and hospitality, wholesale, sales/retail, manufacturing, jewelry/giftware, health/wellness and healthcare, financial services, artisans and crafts. A very large majority had earnings less than \$50,000 annually at 91% and many did not draw an income (73%). Most Black WBO's did not apply for any programs or services for COVID-19 relief (91%) however in the survey some did apply at some point with the most applications for the Black Entrepreneurship Program (27.3%), Canadian Emergency Response Benefit (CERB) (18.2%) and the Canada Business Emergency Account (CEBA) at 18.2%. The remaining programs were listed by 9.1% of the focus group participants: Blueprint Backing BIPOC Businesses Program, Small Business Loan Guaranty Program, Nova Scotia Small Business Impact Grant, Canada Emergency Wage Subsidy (CEWS), Canada Emergency Rent Subsidy (CERS).

Participants during the focus group were asked the following questions.

1. Were you able to access any government relief programs from the start of COVID-19 to today?
2. Did you use other programs or services during COVID-19 and how did you find the information on other programs and services?

Focus group participants were first asked to tell the story about how they came to start their businesses, to describe the nature of their businesses, and finally, to discuss their experiences managing their businesses through the COVID-19 pandemic. The participants talked with each other to elaborate on their answers and certain themes were discussed. Researchers made notes during the focus groups and focus group transcripts were also examined to uncover key themes, each of which had positive or negative connotations. Key themes appear below.

Were you able to access any government relief programs or other programs and services from the start of COVID-19 to today?

- “We found especially for a Black and Indigenous company that a lot of the criteria we did not fit into. Whether it was the length of time you were in business there was just like little, small criteria that in going down and trying to check those boxes, it was kind of like well do you lie on this and just say yes to help your business or not do that.in the long run and we look back at it now and it's like well, you know, could we have gotten ourselves into more debt.” CRITERIA (LENGTH OF TIME IN BUSINESS) AND MORE DEBT Negative
- “Sometimes the threshold you must have didn't work. You should have a certain income. We are a Black business. A lot of us were struggling before because we've been neglected in the system. The Black Business Loan Fund that is being given out is the same thing. The things they put in there. You look at it and you feel like, no, I don't qualify. What interest rate are you getting. So, am I better off banking on my line of credit or going for that loan?” REVENUE LEVEL Negative
- “The requirement of getting a one-time Grant providing 15% of sales revenue from either April 2019 or February 2020 did not work if you were a new business or had not enough sales revenue. It was a maximum of \$5,000 per business for the grant. It was the timing of the revenue we had to have that didn't fit.” REVENUE Negative
- “And for the CEBA, the \$40,000 loan, I did not get because the nature of my business. They said it wasn't a necessity one. And then also to my overhead wasn't up to \$40,000 unless I can prove

my rent and my power bill was up to 40,000” TYPE OF BUSINESS (NOT A NECESSITY)
Negative

- “For the \$2000 individual monthly it was guaranteed, and I did qualify for it, but at the end of the year when business started doing OK, I had to pay that back because they didn't take into consideration that by the time that I got that \$2000 my business was closed. PAY BACK TOO SOON Negative
- “I'm still considered a start up. I had maybe the income and the profits and the revenue eligibility, but because of the time frame, I wouldn't be eligible. That's probably the biggest thing I can recommend is don't forget about the start-up people.” START UP BUSINESS Negative
- “They should look into the criteria. And especially when they are targeting Black businesses because the criteria they put for everyone doesn't fit Black people”. CRITERIA Negative
- “I did apply, and I did get funding but not from government. I received a grant of \$10,000 through Ryerson University. It was blueprint. And so that grant was specifically for Black and Indigenous people of color. RECEIVED GRANT Positive
- “the government loans and funding, the government ones just had so many barriers for us. It was already mentioned you had to be in business for so many years or you had to make a certain amount of money. I find myself literally just like looking for grants for Black people because I feel like I don't fit in with the other grants that are for everybody else.” CRITERIA (REVENUE) Negative
- “the issue I had was they needed so much documentation. Not every Black business starting up has that. That training on how to write like numbers or how to keep track of what you're earning or like receipts and all those things. TOO MUCH DOCUMENTATION Negative
- “During the time through COVID and through the Black Lives Matter movement, the Federation of African Canadian Economics came out with I can't remember how much the money but there was close to almost a billion dollars being sent out for Black businesses and currently out of that funding, based on criteria, experience, et cetera, only 0.7% of that money has been distributed. It is very telling because if you know, it shows that even though about 200 Black businesses applied, only 16 have received the money. It was based on things like having assets and large sums of revenue coming in which just aren't realistic. CRITERIA (REVENUE, ASSETS) Negative
- “Every bank or everywhere you go to you have to make sure that you pay all your taxes and all bills before they give you a loan. But when you don't have that money right there and you're going to a Black business funding organization you think they're going to be a little bit lenient with you? It is frustrating” CRITERIA (HAD TO PAY TAXES) Negative

Did you use other programs or services during COVID-19 and how did you find the information on other programs and services?

- “I will say no, I didn't use any other programs or services as the information was all over the place. You don't know where to look for this information. COULD NOT FIND INFORMATION Negative
- “I did access programs and services as I am in the ecosystem. I know where I'm looking for these programs. My husband works in a bank, so he has that kind of knowledge, HAS ACCESS TO INFORMATION Positive
- “Why bother only to get a loan that's going to put us more in debt or something like that. Going back to criteria, it almost makes you feel as a Black person like you're a criminal, like it really makes you feel like, well, OK, we want to see your business plan, how you're going to spend this money. ... it's impossible for even Black people to get the money. An example are the

funding and programs that the Black Business Initiative has because they're still under these racist policies as funding often comes to them from government who control the criteria.” MORE DEBT, CRITERIA Negative

- “Yeah, I agree that it does feel like that all these Black organizations with their programs, especially with the money, they have extra layer. So, a lot of times I don't bother going to them and I feel like the institutions that are behind it, they're using it for publicity. So, while there is money, they know the barriers will restrict access and sometimes I get better result from the bank than going to the Black organizations designed to help Black business owners.” BETTER RESULTS FROM BANK Negative
- “I just say mentorship has been hard to find, so finding a Black woman of, like, someone who's been in (similar) business. I did finally get a mentor through the Scotia Bank Women in Business Initiative. And she's based out of New Brunswick, but she's Indigenous. So that has been helpful.” NO MENTORS Negative

The experiences with accessing relief funds were negative including: Not meeting criteria such as revenue levels, being a start-up, not wanting more debt, type of business, lack of assets. Other negative responses were too much documentation required such as evidence of paying taxes and having to pay back the funding too soon. There was one positive response in receiving funding, but it was not for government funding but was a grant through a university.

In response to question 2 on accessing other programs and finding information, most participants did not access other programs and services. Reasons were not being able to find information, did not wish more debt, receiving better results from their bank, and lack of mentorship.

The experiences of Black WBO's with accessing government relief programs were mainly negative with responses mainly on the criteria required such as revenue levels, length of time in business, and too much documentation required. Also having to pay back the funds too soon and not being in a necessary business were negative comments.

The reasons for not applying for relief funding included: They could not find the information easily; they did not wish to go into more debt and that organization that specifically catered to Black business had more barriers than banks. They believed that to qualify they needed to show more revenue that what they had especially as many were new businesses without the revenue stream history.

There was a consensus amongst the participants of the Black focus group that financing was very difficult to obtain during COVID-19. Three of the eleven Black WBOs commented on the fact that they expected that funding from organizations specifically targeting Black WBOs would be more willing to help with the typical barriers but that did not turn out to be the case. The main obstacles were 1) my business did not fit the criteria, told it was not a necessary service; 2) too much documentation required; 3) Black WBOs have different businesses than other women-led small businesses so the criteria needs to be more tailored; 4) new start-ups at the time of COVID-19 were left out of any relief programs due to lack of a historic revenue stream; 5) organizations that have specific programs for Black WBOs are funded by government and the criteria therefore is still rooted in biased requirements; and 6) not wanting to take on more debt. It should be noted that feelings of colonialism were created by the questions asked in the application and there was a general feeling that too much documentation was required. When asked what worked and why did not, focus groups participants noted the following:

- What worked:
 - Landlord helpful (not the program)
- What did not work:

- Business did not fit the criteria
- Too much documentation was required
- Programs were not tailored to the specific needs of Black businesses
- New start-ups could not qualify
- Design of Federal government programs were rooted in biased requirements
- Required taking on more debt
- Private arrangements (eg: landlord) were more helpful than banks/eco-system partners
- Did not know where to find information
- Questions asked were intrusive and uncomfortable – made you feel like you were guilty or suspected of something
- As a Black business owner, it is like you need to have an “extra layer” of oversight

Nothing was raised as an additional intersectionality issue by the four women that also identified as immigrants and the one woman that also identified as 2SLGBTQIA+. There were four Black WBOs that also identified as immigrants, but no intersectionality issues were raised relative to funding or programs accessed other than being black and a WBO during COVID-19.

Most participants did not access programs and services during COVID-19 or in 2022. One reason was that information was difficult to find. A comment made by two of the participants was that Black organizations that had funding specifically for Black business owners were very difficult to deal with as it was felt they had that “extra layer” of criteria. One WBO was familiar with the ecosystem as her partner worked in the Bank and therefore had access to information.

Conclusion

The intersectionality of not only being a women business owner but a Black women business owner creates compounded barriers that need to be addressed to create a balanced ecosystem for these women. The finding in this study reveals that Black WBO’s face not only the barriers that other women face but there is also an added layer of racism which may have caused them to start their own business due to negative experiences at work and which they continue to experience in their own businesses especially when it involves funding. Research on the Black Experience from 2017 shows that 80% of the participants experienced microaggression in day-to-day work (Black Business and Professional Association, 2021). This research found that the funding resources created for the COVID-19 pandemic did not meet the needs of Black women business owners.

Black women business owners have identified that funding is the number one barrier they face. Access to funding had a 78.5% agreement when asked what obstacles they face while operating or growing their business (Black Business and Professional Association, 2021). Due to not having access to outside funding Black women are using their personal funds at 81.4% (p.19). And while there have been specialized funding opportunities created to focus on Black business owners, these have not been successful and appear to have more layers or extra criteria. All of this puts Black women into very vulnerable positions especially when a crisis occurs such as the pandemic. A lack of funding and the use of personal funds does not make a sustainable business model. It does not lead to growth or possible export opportunities due to lack of resources.

During the pandemic, funding was created quickly but no thought was put into the diversity of those who needed it most – the small businesses, the solo entrepreneurs, the start-ups, women business owners, and Black women business owners. The need to create an external ecosystem to build a feminist economic recovery plan is vital and the ecosystem partners need to be involved. Inclusivity is paramount to ensure Black women business can thrive and add to the economy of Nova Scotia. The fact that we had the COVID-19 crisis in 2020, decades later after Crenshaw’s 1989 study, and we are still calling for inclusivity and a feminist economic plan especially as it relates to Black women

business owners is beyond worrisome. While Crenshaw's work was on identity issues and the basic recognition that intersectionality was not a topic of interest at that time, her summary of her study stands strong for today's world where she noted "... the inclusion of marginalized groups for whom it can be said, when they enter, we all enter."

Limitations and Future Research

This study was on a small group of Black women entrepreneurs and a very localized group, from Nova Scotia. Further research that covers a larger geographical area is required to explore the resources that are available for women entrepreneurs, especially for Black women entrepreneurs as indicated by these findings. It is known that women, in general, have many challenges in managing their own businesses and access to financial resources, but the intersectionality of being a Black woman raises the bar considerably. Especially as noted from this focus group that even the so-called groups created especially to support Black women entrepreneurs during the pandemic crises were found to be more difficult than other sources. An inclusive ecosystem that ensures diverse WBO's are included in all government and ecosystem programs and services is required.

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MICRO FIRMS AND HUMAN RESOURCE MANAGEMENT: EXPLORING AVENUES OF RESEARCH

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ABSTRACT

Human resource management (HRM) has been a contributor to the success of many organizations across various contexts and is seen as a force for improving small and medium enterprise (SME) performance in Canada. However, there is much diversity within SMEs and to use a generic approach based on SMEs to study micro firms is unhelpful, and historically, information on HRM practices in micro firms has been less available than for SMEs. Thus, the purpose of this paper is to examine HRM in the micro-firm context. Micro firms are defined slightly differently by various writers, but in this paper, they are defined as those firms with 1-9 employees. According to the Government of Canada, at the end of 2023, there were 1,095,251 employer firms, of which 1,074,939 (98.1%) were classed as small businesses. However, firms with 1-9 employees numbered 846,629 (77.3% of all employer firms), so the micro-firm sector is large and important socially and economically. This paper reviews research on micro firms and HRM and considers perspectives such as, micro-firm owner/manager (OM) philosophies of HRM, elements of control over HRM, impacts of firm growth/size on HRM, and various contextual factors such as organizational life cycle, use of digital technology, and firm sector. Directions for future research are presented.

AN EVALUATION OF STUDENT EXPERIENCE IN THE LEARNING PASSPORT PROGRAM USING JONES MODEL

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Mount Saint Vincent University**

ABSTRACT

The Mount Saint Vincent University (MSVU) Learning Passport (LP) program is an extracurricular activity program that offers students the opportunity to participate in over 30 extracurricular activities (ECAs) per academic term. This case study explored the impact and value of the LP program, along with the key factors that motivated students' decisions to participate. Researchers examined student participation in the LP program and their experience based on the Jones model (2018). Reasons to participate were evaluated based on the self-determination motivation theory (SDT). Results revealed that students were motivated by Extrinsic, Social, and Pro-Social motivators, while intrinsic motivation was not a significant influence. The LP program facilitated student experience by enhancing their academic studies, assisting in their transition into university, socialization, and preparation for life after graduation. In addition, the results revealed that students' motivations were satisfied by the benefits of participating in the program. Recommendations focus on developing the program to better meet the intrinsic needs of students, while targeting the needs of those from different social backgrounds, and developing ECAs based on their pre-university expectations.

Key words: Jones model, extra-curricular activities, self-determination motivation theory

INTRODUCTION

In 2009 the Mount Saint Vincent University (MSVU) Business and Tourism Department introduced the Learning Passport (LP) program, an optional extracurricular activity program designed to facilitate classroom learning with real-world experiences. Students who participate in the program customize their learning experiences to align with their interests in the areas of academics, career preparation, personal growth, and/or social advocacy. Those who participate in four or more ECAs can earn up to three bonus points in their business and/or tourism courses. Over 30 ECAs are offered by internal and external service providers, in both the fall and winter academic terms using on-campus, blended, or online modes of delivery. Internal service providers include the MSVU Department of Business Administration and Tourism and Hospitality Management, Learning Strategist, Library, Career Services, Centre for Women in Business, and MSVU Alumni Office. External service providers include the Halifax Chamber of Commerce, Toastmasters, various conference providers, and volunteer organizations. The

program offers a diverse range of ECAs including career panels, fireside chats, field trips, learning strategies, and library resource sessions.

Research has shown many benefits for post-secondary students who participate in ECAs (Assante & Lisman, 2023; De Sisto et al., 2022; Kerrigan et al., 2021; Ribeiro et al., 2024). However, few studies have explored the reasons why students choose to participate in ECA's while pursuing their academic studies. Offering ECAs provides beneficial learning experiences that allow students to develop realistic workplace skills (Blotnicky et al., 2023). The purpose of this study was to explore the value of the LP program and its ability to enhance student experience. Researchers also explored motivators to participate in the program and the benefits of their participation.

EXTRACURRICULAR PROGRAMS IN POST SECONDARY EDUCATION

The literature includes various definitions for ECAs. Hordosy and Clark (2018) defined ECAs as “the broad range of activities that students engage with beyond the requirements of their degree” (p. 415). Assante and Lisman (2023) defined ECAs as activities that are offered by the educational institution that may be academic or non-academic, are offered outside of classroom time, and do not result in a grade or academic credit (p. 2). Ribeiro et al. (2024) noted that there is a gap between academic and non-academic learning, and that higher educators should offer ECAs to bridge that gap in student experience (p. 402).

Engagement in ECAs improves academic performance, cultivates personal growth, and increases students' confidence in their abilities. The types of ECAs that students participate in and the extent of their engagement impacts their accomplishments, competencies, and improves their self-esteem. Overall, participation in ECAs fosters healthy development, an increased sense of belonging, and greater connectivity with community members (Assante & Lisman, 2023, p. 2). De Sisto et al. (2022) demonstrated that engagement in ECAs enhanced sense of belonging, program integration, and overall student experience. Further, Kerrigan et al. (2021) demonstrated the value of participating in ECAs and their academic value for underrepresented groups including students of colour, mature students, and students with disabilities. Ribeiro et al. (2024) also noted that engagement in ECAs has positive impacts on academic success and the employment of university students (p. 402).

Korniienko and Barchi (2023) noted that students require both hard skills and soft skills to succeed in the workplace. They defined hard skills as “academic abilities, experience, and degree of competence” (p. 16). Further, they defined soft skills as those which are “self-developed, interactive, communicative, human, and transferable” (p. 16). Universities may be better suited to provide students with hard skills than to develop soft skills. It is also possible that soft skills may be learned through student involvement in ECAs.

Blotnicky et al.'s (2025) research involving the LP program revealed that student learning was clustered in five different areas. Clusters included Self-Development, Self-Expression, Self-Positioning, Career and Life Management, and Entrepreneurial Tool Kit. The first cluster, Self-Development, focused on building students' confidence, adaptability, empathy, and a positive attitude. It also focused on students' ability to embrace change, increase community engagement, and develop personal relationships (Blotnicky et al., 2025, p. 49). The focus of the second

cluster, Self-Expression, was on how students expressed themselves regarding career opportunities. This included how they presented themselves to others, incorporating kindness, positivity, and acceptance, while having a pleasant disposition, being caring and personable (Blotnicky et al., 2025, p. 49). The third cluster, Entrepreneurial Toolkit, focused primarily on entrepreneurial skills, drive, and strategy. This cluster included how to conduct and be successful in business, develop entrepreneurial spirit, risk and reward skills, and understanding the importance of small businesses to the local economy and community (Blotnicky et al., 2025, p. 50). The fourth cluster, Self-Positioning, focused on students matching their skillsets and personal values to an ideal career. This cluster included job search strategies and how to best position themselves for a rewarding and successful future career (Blotnicky et al., 2025, p. 50). The last cluster, Career and Life Management, focused on how students could manage their career and personal lives through professionalism, a respectful workplace, time and reputation management, and work-life balance. It also targeted self-awareness and reflection leading to an internal locus of control, focusing on long term goals, and stressing students' ability to have agency over their lives and careers (Blotnicky et al., 2025, pp. 50-51). The collection of ECAs included in the LP program were found to enhance student experiences (Blotnicky et al., 2023) and their learning takeaways in soft skills and career preparation (Blotnicky et al., 2025). The current study focuses on the ability of the LP program, as a whole, to attract students and meet their needs while also facilitating student experience.

STUDENT EXPERIENCE

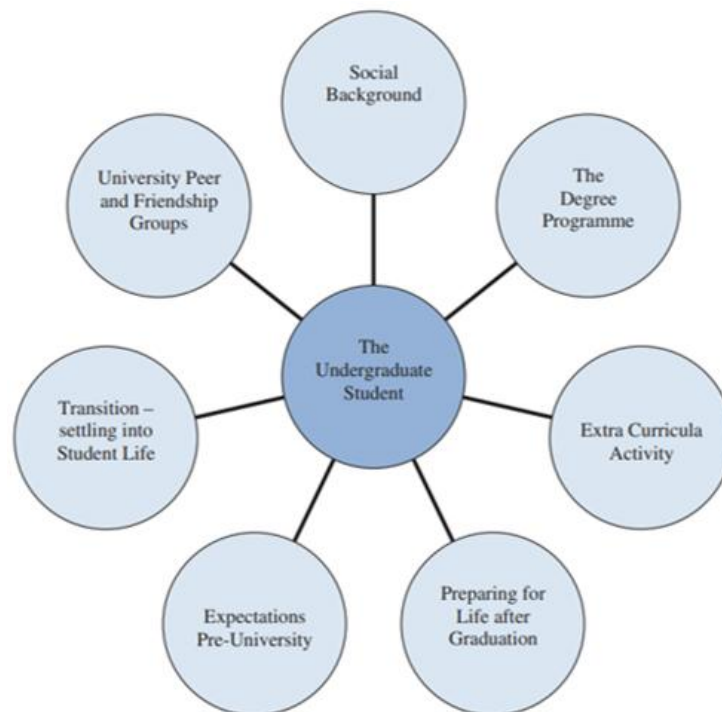
Previous research has found that ECAs contribute to student experience. Although the term student experience is widely used in higher-education policy, administration, and research, scholarly literature consistently notes that the concept is broad, multi-dimensional and lacks a single universal definition. Systematic reviews (2011–2021) find that student experience is “diffuse” and usually tailored to the researcher’s purpose, but generally includes social, educational, and personal dimensions (Matus et al., 2021). The Jones model (2018) presents a framework that describes undergraduate student experience as an interaction between the individual and their environment, leading to student learning (Blotnicky et al. 2023, p. 549).

The Jones model (2018) consists of seven microsystems. Inspired by Bronfenbrenner’s (1994) work, Jones defined microsystems as the interactions between individuals, activities, social roles and relationships that form the microsystem. The microsystems that have the greatest impact on student experience are those that are closest to the student, including family, school, peers and workplace (Bronfenbrenner, 1994, as cited in Jones, 2018, p. 1042).

The seven microsystems include Social Background, Expectations Pre-University, Transition – Settling into Student Life, University Peer and Friendship Groups, The Degree Program, Extracurricular Activity, and Preparation for Life After Graduation (Jones, 2018). Students are influenced by their Social Background as their families influence their opinions going forward. However, as students experience new things in university, they reshape their opinions. Expectations Pre-University are shaped by student socioeconomic background. These views will impact student perceptions of what they can achieve going forward. Transition – Settling into Student Life describes how students adapt from their pre-university life into university life. This involves

integration into new social groups and developing their self-identity as university students. The University Peer and Friendship Group microsystem focuses on how students develop relationships with peers and friends and how those relationships influence their participation in university life. The Degree Program focuses on how engagement with their core area of study influences student transition. Faculty have to focus on engaging students in university learning to facilitate their academic success. ECAs facilitate students' personal growth and academic learning, while potentially enhancing critical thinking skills and employability. Preparation for Life After Graduation is about how students perceive the relevance of their program of study to future career opportunities. This microsystem may be more salient to students in professional programs. The influence of microsystems on student experience varies based on personal and social factors (Blotnicky et al., 2023; Jones, 2018). The Jones model (2018) appears in Figure 1 (p. 1047).

Figure 1. The Jones Model



MOTIVATION TO ENGAGE IN EXTRACURRICULAR ACTIVITIES

Research examined what motivates students to participate in ECAs (Chapman et al., 2023; Griffiths et al., 2021). Cavas (2011) defines motivation as “an individuals’ [*sic*] behavior and the effort applied in different activities” (p. 32). “Most contemporary theories of motivation assume that people initiate and persist at behaviors to the extent that they believe the behaviors will lead to desired outcomes or goals” (Deci & Ryan, 2000, p. 227). Using self-determination theory, Deci and Ryan (1985) and Ryan and Deci (2020) considered student motivators to attend ECAs.

Self-determination theory (SDT) indicates that individuals are inclined to pursue personal growth and development by engaging in activities and opportunities that will provide beneficial outcomes. Additionally, engagement can be enhanced by providing support for individuals to pursue such opportunities (Ryan & Deci, 2020). Chapman et al. (2023) state that participation in ECAs can be explained by the SDT.

Self-determination theory refers to four types of motivation including Extrinsic, Intrinsic, Social, and Pro-Social (Chapman et al., 2023; Deci & Ryan, 2000; Ryan & Deci, 2020). Extrinsic motivation includes “behaviors done for reasons other than their inherent satisfactions” (Ryan & Deci, 2020, p. 2). Chapman et al. (2023) describe extrinsic motivation as engagement inspired due to anticipated benefits or rewards. Intrinsic motivation refers to activities that people choose to do for their personal interest and enjoyment (Assante & Lisman, 2023; Deci & Ryan, 2000, p. 2). Chapman et al. (2023) further explain intrinsic motivation as engagement inspired by “passion, interest, or pursuit of enjoyment” (p. 140). Social motivation is defined as “engagement in pursuit of socializing, meeting new people, and making friends” (Chapman et al., 2023, p. 140). Lastly, Pro-Social motivation is engagement to benefit others and give back (Chapman et al., 2023, p. 140). Additionally, some ECA programs motivate students to participate in their programs using extra credit. Foltz et al. (2021) looked at motivators for post-secondary students attending ECAs, focusing on extra credit as a motivator. They determined while extra credit was a motivator, other important motivators included materials (e.g., T-shirts, prizes), interpersonal gain (e.g., social interaction), and intellectual gain (e.g., learning) (p. 12).

RESEARCH GOALS

This research study addressed four goals related to student participation in the LP program and student experience. The first goal focused on the extent to which the program facilitated student experience. The second goal addressed what motivated students to participate in the program. The third goal focused on the benefits of student participation in the program, and the fourth goal evaluated the overall value of the program to students. Research questions (RQ) associated with each of these study goals are discussed below.

The first research goal explored whether participation in the LP program enhanced student experience. The Jones model (2018) was used as the theoretical basis for this part of the research. RQs related to this goal included the following:

- 1a) Does the design of the LP program facilitate student experience?
- 1b) What microsystems within student experience are most closely aligned with the design of the LP program?

The second research goal, drawing on the self-determination theory for students’ participation in ECAs, researchers sought to explore why students were motivated to participate in the LP program. RQs related to this goal included the following:

- 2a) What types of motivators are inherent in the design of the LP program?
- 2b) What types of motivators were drivers of student participation in the LP program?

The third research goal was to explore the benefits of student participation from two perspectives: both motivational and experiential. RQs related to this goal included the following:

- 3a) Did students’ benefits from participating in the LP program align with their motivators to

participate?

3b) Did students' benefits from participating in the LP program facilitate their student experience?

The last research goal related to the value of the LP program in general. Two RQs related to this goal included the following:

4a) Does the LP program deliver value as an ECA in a professional program?

4b) How can the LP program be further developed to facilitate student experience?

METHODOLOGY

A mixed methods approach was used in this research, involving both qualitative thematic analysis and quantitative analysis of survey data. Program evaluation statements were used in previous research to evaluate the LP program (Blotnicky et al., 2016). Qualitative research was required to link the LP program evaluation statements to the theoretical foundation for student experience and motivation. Additionally, survey research was required to explore what motivated students to participate in the LP program.

During the Winter 2025 academic term, all students taking business and tourism courses were given the opportunity to complete an online survey, hosted by Simple Survey, an online data collection tool. A total of 1,108 students were sent an email invitation to complete the survey. In addition, posters with QR codes linked to the survey were distributed around the campus. Informed consent was used throughout the study, and the research was cleared by the Mount Saint Vincent University Research Ethics Board. Invitations to participate were sent to students through the university email system by an administrative assistant working with the Department of Business and Tourism. Respondents had the option of entering a draw for one of three \$100 Amazon gift cards.

For the purposes of this study, student experience was conceptualized as the total set of academic, social, personal and institutional interactions, environments, and conditions shaping students learning, development, well-being, and sense of belonging throughout their higher-education journey. This conceptualization was guided by seven microsystems of the Jones Model (2018). Additionally, the theoretical lens used in this study to analyze motivators and benefits related to participating in the LP program was based on the SDT of motivation, focusing on four motivation types as per Chapman et al. (2023).

Qualitative analysis used iterative discussion to code 15 LP program evaluation statements as 1st order concepts, which were then grouped into microsystems from the Jones model (2018) as 2nd order themes, relating to the aggregate dimension of student experience. The microsystem of Extra Curricula Activity was not included in this analysis because it was embedded in the LP program. Likewise, the LP program evaluation statements were coded as 1st order concepts and then grouped into SDT motivators as 2nd order themes relating to the aggregate dimension of motivation (Chapman et al., 2023; Gioia et al., 2012). In addition, the quantitative analysis used these 15 LP program evaluation statements in the student survey to capture motivators and benefits of student participation in the LP program. A 10-point scale, ranging from 1 = Not at all important to 10 = Extremely important, was used to measure each item's significance as a motivator for their initial program participation. Benefits were measured using a 10-point scale,

ranging from 1 = Not at all helpful to 10 = Extremely helpful. Table 1 shows the 15 items along with the corresponding importance (motivator) and helpfulness (benefit) scales. Data was analyzed quantitatively to develop additive scales and to conduct correlation analysis using IBM SPSS 30 (IBM Corp, 2025) and MS Excel software.

Table 1. LP Program Evaluation Statements Capturing Motivators and Benefits of Participating

Motivators	Benefits
1. Participated to help with career development and/or planning	1. Helped with career development and/or planning
2. Participated to meet industry leaders (networking)	2. Helped to meet industry leaders (networking)
3. Participated to learn about leadership/leadership skills	3. Helped to learn about leadership/leadership skills
4. Participated to support my class learning	4. Helped to support my class learning
5. Participated to support my class planning	5. Helped to support my class planning
6. Participated to receive Bonus Points in my classes	6. Received Bonus Points in my classes
7. Participated to learn how to study effectively	7. Helped to learn how to study effectively
8. Participated to learn more about my area of study/program	8. Helped to learn more about my area of study/program
9. Participated to meet other students	9. Helped to meet other students
10. Participated to socialize with friends who were participating	10. Helped to socialize with friends who were participating
11. Participated to increase my self-confidence	11. Helped to increase my self-confidence
12. Participated to enhance my personal development	12. Helped to enhance my personal development
13. Participated to learn how to manage stress	13. Helped to learn how to manage stress
14. Participated to learn how to support a cause to benefit society	14. Helped to learn how to support a cause of benefit to society
15. Participated to learn how to give back/contribute to the community	15. Helped to learn how to give back/contribute to the community

Motivator and benefit scales were created using the framework from the qualitative analysis of student experience. To create the additive scales, each set of statements related to the microsystems in the Jones model (2018) was subjected to a Confirmatory Factor Analysis to confirm that they captured a single latent factor. This was followed by a reliability analysis using Cronbach’s alpha (α). A cutoff of .60 was used to ensure scale reliability. Following these analyses, additive scales were created for each microsystem to capture both motivators and benefits. The scale scores for motivators and benefits were then used in subsequent analyses. A Pearson bivariate correlation was used to measure the extent to which students’ benefits related to their goals (motivators) for participating in the LP program. This correlation was used as a measure of program quality based on the assumption that a well-designed program would deliver

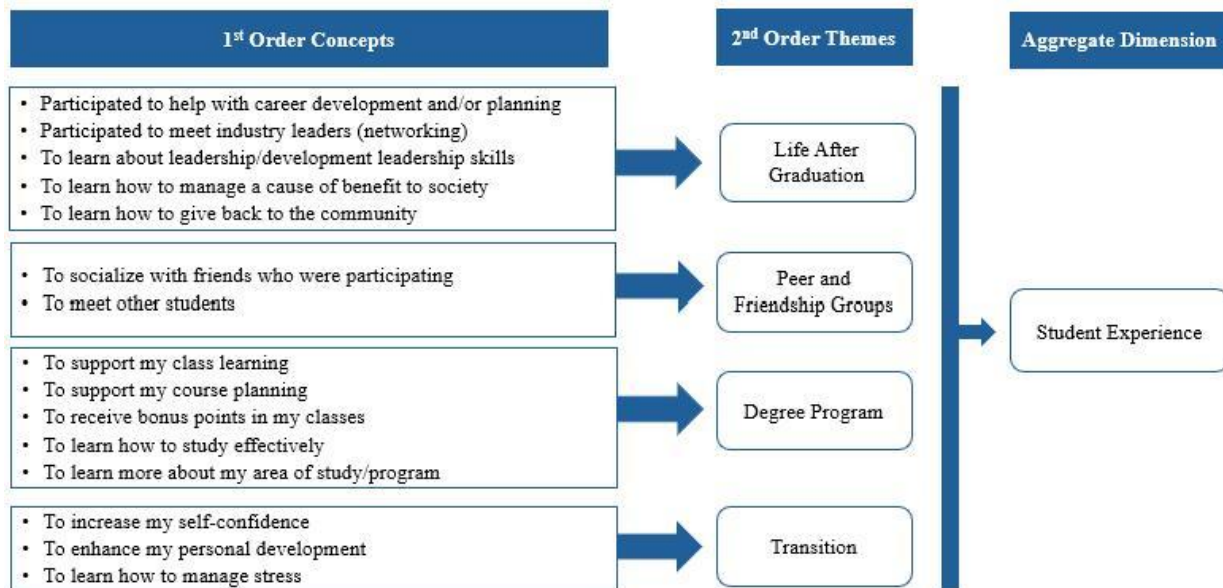
benefits that matched the motivations of students. Essentially, student needs would be satisfied by their participation in the program.

RESULTS AND DISCUSSION

A sample of 187 students completed the survey, with 183 usable responses. Only those who had participated in the LP program, at least once, were eligible to answer the scaled questions related to the motivators and benefits. Of 128 students who had participated in the LP program, 87 had participated in the program more than once. The sample of 128 was sufficiently robust to capture a medium effect ($r = .30$) for correlation analysis with a sample power of .93 exceeding the criterion of .80.

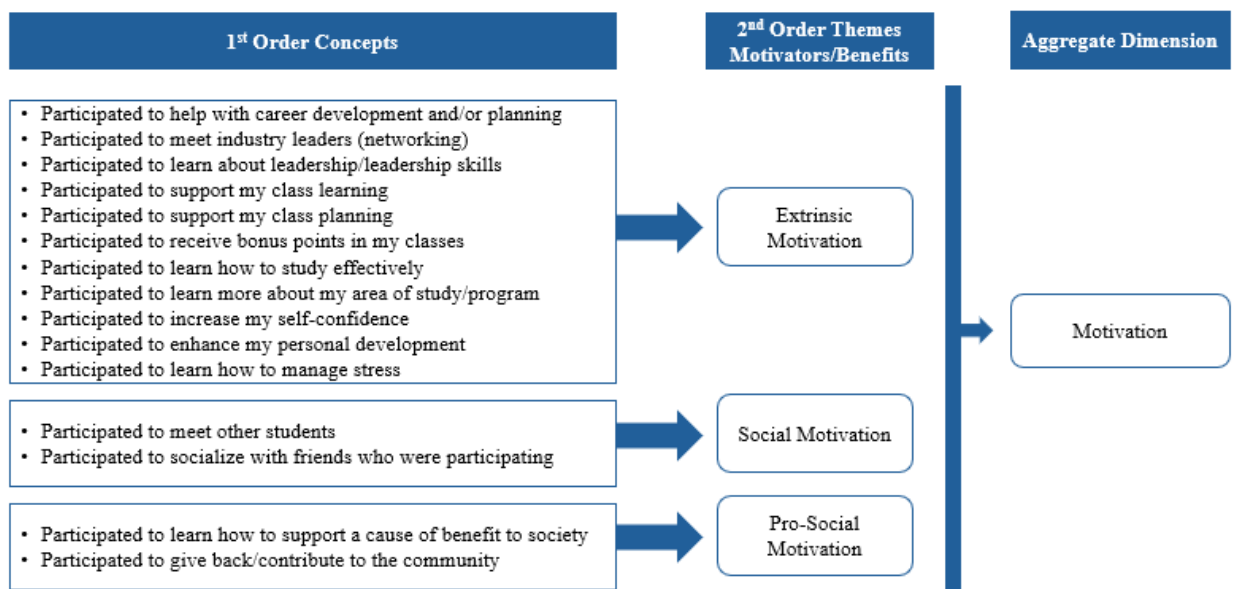
The first goal of this paper was to examine whether student experience was impacted by their participation in the LP Program and whether the LP program, as an entity, could facilitate student experience by its design (RQ1a). The thematic qualitative analysis for student experience resulted in all of the 15 LP program evaluation statements being classified into one of the Jones model (2018) microsystems, capturing the aggregate dimension of student experience. The statements related to four of the seven microsystems in the Jones model (2018), including: Preparation for Life After Graduation, Peer/Friendship Groups, Degree Program, and Transition – Settling into Student Life. The allocation of the statements to each of the microsystems describing student experience appears in Figure 1. Two of the microsystems in the Jones model (2018) of student experience were not evident in the qualitative analysis. These microsystems included Social Background and Expectations Pre-University. These microsystems impact students prior to the start of their studies. Given that students do not have the opportunity to participate in the LP program before they enter university, there is no way that the LP program could relate to these microsystems. However, the majority of the microsystems in Jones model (2018) appear to be relevant to the LP program (RQ1b).

Figure 1. Qualitative Analysis of 15 LP Program Evaluation Statements to Microsystems in Jones Model of Student Experience



The second goal of this paper was to explore students’ motivation to participate in the LP program. This approach was used to examine which motivators were facilitated by the design of the LP program (RQ2a), using both motivation theory and student experience as lenses for analysis. Drawing on the SDT thematic qualitative analysis of motivators resulted in the classification of the 15 statements into three of the four types of SDT motivators. These included Extrinsic, Social, and Pro-Social, motivators. There were no statements that related to intrinsic motivators. The allocation of the statement into each of the motivator groups appears in Figure 2. These results demonstrate that students’ motivations involve Extrinsic factors, Social factors, and Pro-Social factors. However, there were no intrinsic motivators evident in the design of the LP program (RQ2a).

Figure 2. Qualitative Analysis of 15 LP Program Evaluation Statements to the Self-Determination Theory of Motivation



To explore students’ motivations from an experiential perspective, additive scales were created to capture the extent to which the motivator statements related to Jones model (2018) (RQ2a). Factor and reliability analyses resulted in the inclusion of all 15 scale items for the microsystem motivator scales. Sample sizes for the motivator scales ranged from 115 to 118 out of 128 eligible survey respondents. The Preparation for Life After Graduation motivator scale (LAG) consisted of five scaled statements. The scale scores ranged from 12 to 50, with an average scale score of 40.2 out of 50 (SD=7.9). The scale was reliable with $\alpha=.81$. The Peer/Friendship Groups motivator scale (PFG) consisted of two items, with scores ranging from 2 to 20, with an average scale score of 12.3 out of 20 (SD = 5.9). It was reliable with $\alpha=.94$. There were five scaled items in the Degree Program (AP) motivator scale. The scale score ranged from 16 to 50, with an average of 40.1 out of 50 (SD = 7.6). The scale was also reliable with $\alpha = .76$. The last microsystem motivator scale, Transition – Settling into Student Life (TRN) consisted of three scaled items. The scale scores ranged from 5 to 30, with an average score of 23.1 out of 30 (SD=5.4). It was reliable with $\alpha = .71$. The motivator scales appear in Figure 3. These results revealed that students were primarily motivated to engage in the LP program through the

following microsystems: Preparation for Life After Graduation, Peer/Friendship Groups, Degree Program, and Transition – Settling into Student Life (RQ2b).

Figure 3. The Motivator Scales

Preparation for Life After Graduation	LAG1: To help with my career development and/or planning. LAG2: To meet industry leaders (networking). LAG3: To learn about leadership/develop leadership skills. LAG4: To learn how to manage a cause of benefits to society. LAG5: To learn how to give back to the community.	Cronbach's $\alpha = .81$ Scores range from 12 to 50 Average = 40.2 (SD=7.9) Sample = 115
Peer/Friendship Groups	PFG1: To socialize with friends who were participating. PFG2: To meet other students.	Cronbach's $\alpha = .94$ Scores range from 2 to 20 Average = 12.3 (SD=5.9) Sample = 118
Degree Program	AP1: To support my class learning. AP2: To support my course planning. AP3: To receive bonus points in my classes. AP4: To learn how to study effectively. AP5: To learn more about my area of study/program.	Cronbach's $\alpha = .76$ Scores range from 16 to 50 Average = 40.1 (SD=7.6) Sample = 115
Transition – Settling into Student Life	TRN1: To increase my self-confidence. TRN2: To enhance my personal development. TRN3: To learn how to manage stress.	Cronbach's $\alpha = .71$ Scores range from 5 to 30 Average = 23.1 (SD=5.4) Sample = 117

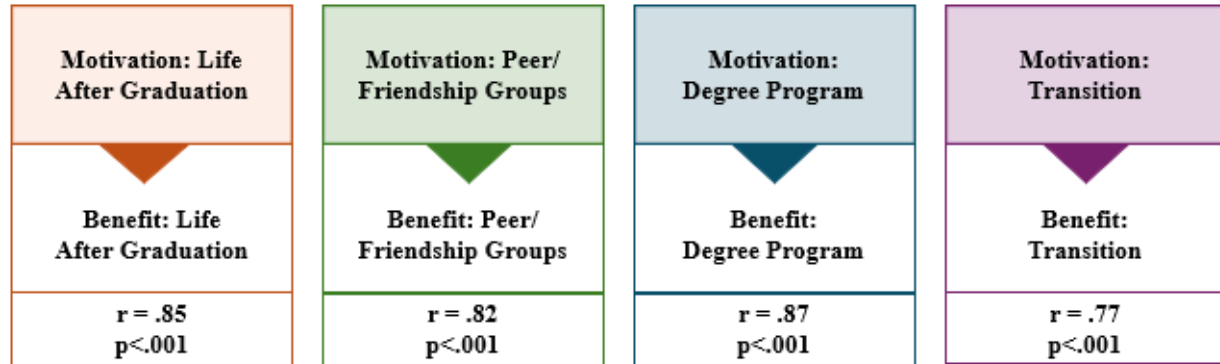
The third goal of this research was to examine the students' perceived benefits from participating in the LP program and the extent to which the benefits received aligned with their motivations to participate. To explore the benefits of participation in the LP program from an experiential lens, additive scales were created to capture the extent to which the benefit statements related to Jones model (2018). Factor and reliability analyses resulted in the inclusion of all 15 statements for the microsystem benefit scales. Sample sizes for the benefit scales ranged from 103 to 107 out of 128 eligible survey respondents. The Preparation for Life After Graduation benefit scale (LAG) consisted of five scaled statements. The scale scores ranged from 7 to 50, with an average scale score of 39.4 out of 50 (SD=9.4). The scale was reliable with $\alpha=.88$. The Peer/Friendship Groups benefit scale (PFG) consisted of two items, with scores ranging from 2 to 20, with an average scale score of 14.4 out of 20 (SD = 5.0). It was reliable with $\alpha=.77$. There were five scaled items in the Degree Program (AP) benefit scale. The scale scores ranged from 16 to 50, with an average of 40.4 out of 50 (SD = 8.2). The scale was reliable with $\alpha = .81$. The last microsystem benefit scale, Transition – Settling into Student Life (TRN) consisted of three scaled items. The scale scores ranged from 5 to 30, with an average score of 23.0 (SD=6.2). This scale was also reliable with $\alpha = .84$. The benefit scales appear in Figure 4. These results indicate that students also benefited experientially from their participation in the LP program. Specifically, the benefits related to the following microsystems in Jones model (2018): Preparation for Life After Graduation, Peer/Friendship Groups, Degree Program, and Transition – Settling into Student Life (RQ3b).

Figure 4. The Benefit Scales

<p>Preparation for Life After Graduation</p>	<p>LAG1: To help with my career development and/or planning. LAG2: To meet industry leaders (networking). LAG3: To learn about leadership/develop leadership skills. LAG4: To learn how to manage a cause of benefits to society. LAG5: To learn how to give back to the community.</p>	<p>Cronbach's $\alpha = .88$ Scores range from 7 to 50 Average = 39.4 (SD=9.4) Sample = 104</p>
<p>Peer/Friendship Groups</p>	<p>PFG1: To socialize with friends who were participating. PFG2: To meet other students.</p>	<p>Cronbach's $\alpha = .77$ Scores range from 2 to 20 Average = 14.4 (SD=5.0) Sample = 107</p>
<p>Degree Program</p>	<p>AP1: To support my class learning. AP2: To support my course planning. AP3: To receive bonus points in my classes. AP4: To learn how to study effectively. AP5: To learn more about my area of study/program.</p>	<p>Cronbach's $\alpha = .81$ Scores range from 16 to 50 Average = 40.4 (SD=8.2) Sample = 103</p>
<p>Transition – Settling into Student Life</p>	<p>TRN1: To increase my self-confidence. TRN2: To enhance my personal development. TRN3: To learn how to manage stress.</p>	<p>Cronbach's $\alpha = .84$ Scores range from 5 to 30 Average = 23.0 (SD=6.2) Sample = 103</p>

To determine whether students' motivation to participate in the LP program was satisfied by the benefits they received (RQ3a) correlation analysis revealed that students received benefits relating to their motivators for participating in the LP program. The correlation between motivators and benefits for the Life After Graduation microsystem was strong and positive and statistically significant ($r = .85, p < .001$). The correlation between motivators and benefits for the Peer/Friendship Group microsystem was also strong and positive and statistically significant ($r = .82, p < .001$). Similar results appeared for the Degree Program microsystem with $r = .87 (p < .001)$ and the Transition – Settling into Student Life microsystem ($r = .77, p < .001$). These results reveal that motivator and benefit scale scores rose and fell together. They were not inversely related. Therefore, students who were motivated by a particular microsystem also received benefits from participating related to that microsystem (RQ3a). The results are summarized in Figure 5.

Figure 5. Correlation Between Motivators and Benefits for the Microsystems in Jones Model



The fourth and final goal of this research was to explore the value of the LP program in general. Specifically, researchers wanted to know if the program delivered value as an ECA-based offering in a professional university program, and if so, whether it could be further developed to facilitate student experience. This analysis showed that the factors motivating student participation in the LP program align with Self-Determination Theory, a framework that has also been connected to extracurricular activity programs in previous research (Assante & Lisman, 2023; Chapman et al., 2023; Deci & Ryan, 2000; Ryan & Deci, 2020). Student motivations did not include intrinsic factors, such as participating for one's enjoyment. While this is not unusual for ECAs that are related to career or professional studies, Chapman et al. (2023) noted that intrinsic motivation can result in deeper learning than extrinsic motivation.

The program did equate to Jones model (2018) of student experience, which provides a measure of value for student learning and retention (RQ4a). The strength of alignment between student motivations and benefits from participation in the LP program demonstrate the value of the program to deliver worthwhile ECAs and experiences (RQ4a). This is consistent with the findings of De Sisto et al. (2022) that demonstrate ECAs enhance student belongingness resulting from academic and social integration (p. 1738).

This research revealed gaps in the LP Program related to motivators and student experience. There were no intrinsic motivators captured in this study. However, there was anecdotal evidence that intrinsic motivators were present. While students' anecdotal responses were not the focus of this study, student responses to open-ended survey questions revealed that intrinsic needs had been met. Examples of intrinsic motivators in student responses included participating in ECAs due to: curiosity, inspired by speakers, made me feel fulfilled, empowered, enjoyed learning, loved exploring new people and places, excited to learn new things, explored various realms, interested in activities, it was fun. The LP program can be further developed to attract students based on their intrinsic motivators (RQ4b).

The research revealed gaps in the LP program related to student experience. Specifically, there was no association between the LP program and students' Social Background or Expectations Pre-University. These considerations are important, especially for first- or second-year students. De Sisto et. al (2022) indicated that universities tend to provide great supports for students in their first and senior years, but limited supports in the second and third year of study. The LP program is further challenged in that it must address the needs of diverse students: transfer

students; mature students; online learners; on-campus students; domestic students; international students; one year certificate students; two-year diploma students; four-year degree students. These are characteristics that may be unique to the MSVU student cohort. The LP program can further develop ECAs that are designed for students of varying social and demographic backgrounds, and year of study. Additionally, research could be done focusing on first year students' expectations coming into university to guide the development of ECAs to address their specific needs and interests (RQ4b).

CONCLUSIONS AND RECOMMENDATIONS

In conclusion, this research showed that students taking business and tourism courses at MSVU are extrinsically motivated to participate in the LP program and they realize benefits from their participation. The program aligns with the Jones model (2018) in that those students who participate in LP ECAs feel more fully prepared for life after graduation, an ultimate goal for many students attending university. Participation in the program helps students connect socially with their peers and contributes to the development of friendships in an environment that is relatively new for many students. In addition to career and social benefits, the program contributes to students' academic learning in their Degree Program, and it helps students to transition into university life, an important step to succeeding in university. The program can be further developed to better meet the intrinsic needs of students, as well as customizing ECAs to better meet the needs of first year students and those of different social backgrounds.

LIMITATIONS AND FUTURE RESEARCH

There are some limitations to this research. The methodology was not conducive to covering intrinsic motivators. Use of the Jones model (2018) as a theoretical foundation may have been limiting. The Jones model (2018) was developed using a traditional four-year university cohort in a large American university. As a result, the model may not capture the unique student cohort at MSVU. In addition, the microsystems in the Jones model (2018) include Social Background and Expectations Pre-University. These microsystems impact students prior to the start of their studies. Given that students do not have the opportunity to participate in the LP program before they enter university, these microsystems could not be examined in the current study. Also, the sample size was limited, which may impact the generalization of results to the student cohort as a whole. Finally, the LP program was designed to meet the needs of students in a business and tourism professional program, so the results may not be relevant to students in other areas of study. The LP program has been offered for over 15 years and researchers believe that this program could be further tailored to meet the needs of students in a variety of disciplines. The program provides exciting opportunities for students taking business and tourism courses to expand their skill set and develop both personally and socially and enhance their employability. Future research should address the needs of first year students and the applicability of the LP program to facilitate student experience in other programs of study.

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A CASE STUDY OF SECURITIES FRAUD: USING SOCIAL MEDIA TO DECEITFULLY PROMOTE A PENNY STOCK WHILE SELLING 1.4 BILLION SHARES OF THE STOCK

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ABSTRACT

On January 21, 2026, the Securities and Exchange Commission (SEC) charged Brett Rosen (Rosen) and Deborah Braun (Braun) and their company, RB Capital Partners, Inc. (RB Capital), with securities fraud in connection with a scheme to misleadingly promote the stock of struggling microcap issuer Solar Integrated Roofing Corporation (Solar). Additionally, the SEC charged Solar's former CEO, David M. Massey (Massey), with securities fraud concerning false and misleading statements included in a company press release. According to the SEC's complaint, from January 2021 through June 2024, Rosen and RB Capital used Twitter to promote Solar's stock, while simultaneously selling 1.4 Billion shares of their own Solar stock at a profit of \$26 Million. In their Twitter posts, they deceitfully told the public that Solar was an attractive long-term investment while they sold their stock. Braun, the co-owner of RB Capital, provided substantial assistance to Rosen and RB Capital in carrying out the scheme by keeping a record of the sales of Solar stock. Massey directed Solar to issue a press release falsely claiming that Solar had secured a \$10 Million line of credit from a large national bank. The next day, as a result of that untrue statement, Solar's stock price increased by 40% and the volume of Solar shares traded in the market increased by 500% compared to the previous day's trading. Rosen and RB Capital were charged with violations of Section 17(a) of the 1933 Securities Act and Section 10(b) and Rule 10b-5 of the 1934 Securities Act. Braun was charged with "control person" liability in violation of Section 10(b) and Rule 10b-5 of the 1934 Securities Act and with aiding and abetting Rosen and RB Capital's violation of the 1934 Securities Act. Massey was charged with violation of Section 10(b) and Rule 10b-5 of the 1934 Securities Act.

WHICH FINANCIAL CHARACTERISTICS DRIVE DIVIDEND PAYOUT DECISIONS?

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ABSTRACT

What motivates a corporation to distribute cash dividends? What specific financial characteristics influence a firm's decision when it comes to dividend payments. Even though this topic has been widely researched, it still raises debate. This study seeks to identify the impact of specific financial features on a firm's dividend payout by analyzing the data of 900 publicly traded firms. A multiple regression model was created to see how profitability, growth, risk, liquidity, ownership structure, and investment activity relate to dividend per share. The findings help evaluate whether these factors influence dividend payout decisions.

Background

Dividend policy has always been one of the most debated subjects in corporate finance. It is so widely studied, yet one of the least agreed upon topics in corporate finance. Dividends are a major way that firms return value to shareholders; however, there is no universally accepted model that explains how companies determine their payout levels. Dividends are a portion of a company's profits that are paid to shareholders after being approved by the company's board of directors. Dividend paying companies are often seen as mature, reliable, and are able to produce a predictable cash flow. Firms must juggle several competing objectives. These aim to maintain cash reserves for upcoming investments, deliver returns to shareholders, and handle tax concerns. Because of these objectives, dividend payout decisions can look very different across industries and firms. For investors, managers, and researchers, understanding the financial characteristics that influence the dividend policy is essential to make sense of decisions and evaluating long-term financial strength.

Research Question

Even though dividend policy has been studied a lot in the past, which financial variables most influence dividends is not fully understood. Many theories suggest that factors such as profitability, growth, risk, liquidity, leverage, ownership structure, and investment needs help determine payout decisions, but empirical findings are often inconsistent. The core problem is that firms have such a wide range of financial characteristics. This makes it harder to isolate the variables that consistently explain why some firms pay higher

dividends while other firms retain earnings. This study aims to address this gap by determining which financial characteristics explain variation in dividend per share.

Purpose of Study

The purpose of this study is to identify which financial characteristics drive corporate dividend payout decisions by analyzing 9 variables. These variables include return on equity, sales growth, beta, current ration, debt to total assets, insider ownership, institutional ownership, capital spending, and EPS growth in relation to firm's dividend per share. By examining these relationships using multivariate analysis, the study identifies which factors support existing theories and which do not. This should help better explain how firms make dividend policy decisions.

Literature Review

Researchers have studied dividend policy consistently, and it shows that firms don't base their payout decisions on a single factor. Instead, they use a mix of internal financial characteristics, market conditions, and ownership structures when deciding how to distribute their earnings. Across many studies, dividend decisions are made to be complex decisions shaped by a firm's profitability, liquidity, growth opportunities, and risk.

According to Franc-Dabrowski, Madra-Sawicka, and Ulrichs (2019), firms that operate in emerging markets tend to base their dividend decisions on free cash flow, liquidity, profitability, and size, with financially stronger companies more willing to distribute earnings. Their data analysis of 799 food industry firms found that a company's financial position in the previous year strongly influences its current dividend payout behavior. This highlights the importance of lagged performance variables. The authors came to the conclusion that healthy firms are likely to reward their shareholders more consistently.

Another perspective comes from Holder, Langrehr, and Hexter (1998), who focuses on ownership and stakeholders' affect payouts. They argue that dividend policy is not only influenced by internal factors but also between firms and their stakeholders. The findings of their study show that ownership structure, managerial incentives, and monitoring mechanisms influence the distribution of cash from firms. Dividends help balance the expectations of shareholders, management, and others involved by serving both financial and government functions.

Another perspective comes from studies examining dividend behavior in emerging markets. A LASSO-based analysis found that profitability, liquidity, leverage, firm size, and growth opportunities have a big influence on dividends, Mirshekary and Nazemi (2019). The authors found that strong profitability and stable financial conditions are more likely to pay dividends. Firms with high leverage or uncertain earnings are likely to reduce payouts. This shows that firms facing financial pressure are likely to keep their earnings inside the firm instead of distributing them. Overall, these studies show that dividend policy is shaped by a combination of financial factors. Across these studies, there are many similarities. Profitability and liquidity usually support dividend payments. Growth opportunities usually reduce payouts. Established and larger firms consistently demonstrate higher payout ratios. Lastly, ownership structure and stakeholder considerations influence policy.

Methodology

This study uses a quantitative research design to examine the factors to determine dividend policy; the effects variables had on the dividend decision for a sample of 900 publicly traded firms were tested. A sample was created by using the Zacks stock screener. Zacks was chosen because it provides reliable, up to date data and allows users to filter many firms that fit specific criteria. The dependent variable in this study is the dividend per share. Dividends per share are the total annual cash dividend paid per share. The independent variables are return on equity, sales growth, beta, current ratio, debt-equity ratio, insider ownership, institutional ownership, capital spending, and 5-year ESP growth.

Quantitative Tests and Results

Factor	Variables	Definitions	Hypothesized Sign
Dividend Decision	Dividend per share		Dependent Variable
Profitability	Return on Equity	Calculated by net income/total equity	Negative
Growth	Sales Growth	The compound annual percentage increase in a firm's	Negative
		revenue over 5 years, representing its expansion rate	
Risk	Beta	A measure of a stocks market risk	Negative
Liquidity	Current Ratio	Calculated as current assets/current liabilities	Negative
Financial Leverage	Debt to Total Assets	Calculated by total debt/total assets	Negative
Control	Insider Ownership	The percentage of shares owned by insiders	Positive
Institutional Influence	Institutional Ownership	The percentage of shares owned by institutions	Negative

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Expansion	Capital Spending	Growth in capital spending	Negative
Profitability Growth	5-Year Growth in ESP	The compound annual growth rate of earnings per share over a five-year period	Positive
Factor	Variables	Beta Coefficient	Hypothesized Sign
Dividend Decision	Dividend per share	n/a	Dependent Variable
Profitability	Return on Equity	-0.00013	Negative
Growth	Sales Growth	-0.00494	Negative
Risk	Beta	-0.04443	Negative
Liquidity	Current Ratio	-0.00918	Negative
Financial Leverage	Debt/equity	+0.096382*	Negative
Control	Insider Ownership	-0.012421	Positive
Institutional Influence	Institutional Ownership	-.003334	Negative
Expansion	Capital Spending	-.071344	Negative

Profitability Growth	5-Year Growth in ESP	-0.00348	Positive
R square	0.00805085		
F statistic	1.20796024		
N	900		

*Significant at the 5% level

A multiple regression was performed to determine how these factors influence dividend per share. The results demonstrated an R squared value of .008, indicating that the variables collectively explain less than 1% in the variation of dividends per share. The F-statistics of 1.2079 show that the model was not statistically significant overall. This means the group of predictors does not strongly determine dividend amounts across the 900 firms. The only variable that was statistically significant at the 5% level was the debt-to-equity ratio variable.

Conclusion

The purpose of this study was to analyze whether certain financial characteristics predict the level of dividends paid by publicly traded firms. Using a data set of 900 companies and a multiple regression framework, the study found that these financial variables do not significantly influence dividend per share. The model had a low R squared and insignificant F-statistic show that dividend policy is driven by other factors. However, it was shown that financial leverage is a statistically significant predictor of dividend payments. Overall, the findings suggest that dividend policy is complex and may be influenced by factors beyond financial characteristics. This highlights the need for future research using alternative measures.

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DIGITAL COMMUNICATION DIFFERENCES BETWEEN GEN Z AND MILLENNIALS IN THE WORKPLACE

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ABSTRACT

Communication in the workplace is essential for ensuring effective and efficient day-to-day operations. It is the foundation for building trust among employees, managing miscommunications, preventing conflicts, and making connections. Communication can be difficult, however, as everyone is different and responds to critiques, questions, and conversation differently. Most notably, and what is relevant in today's world, are generational differences between employees in the workplace. Generation Z (people born from around 1997-2012) is coming to the workforce and joining the Millennials (individuals born from around 1980-1996). The main question that this paper aims to answer is "how do differing digital communication styles affect workplace communication and conflict among Generation Z and Millennials?" The study also investigates such important questions as "how did social media affect each generation and how did that affect their communication styles?" Using these questions, this paper provides a comprehensive meta-analysis of communication trends, preferences, problems, and differences for Generation Z and Millennials

Key Words: Communication, Millennials, Generation Z, workplace

OPENNESS AND GDP IN CHINA: EVIDENCE FROM TRADE, FOREIGN DIRECT INVESTMENT, AND TARIFFS, 1961–2022.

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ABSTRACT

This paper investigates the relationship between economic openness and income growth in China over the period 1970–2022. Using annual time-series data, we estimate short-run growth models within a dynamic framework to examine the association between GDP per capita and three measures of openness: foreign direct investment (FDI) inflows, trade openness, and tariff rates. Each openness measure is evaluated separately while controlling for inflation, population growth, gross capital formation, and secondary school enrollment.

Unit root tests indicate mixed orders of integration, and the empirical strategy accounts for the time-series properties of the data. The results show that trade openness and FDI inflows are positively and statistically significantly associated with GDP per capita growth, whereas tariff rates do not display a significant relationship. To assess structural change, we include an interaction term capturing China's accession to the World Trade Organization in 2001. The coefficient on this interaction term is statistically insignificant, indicating that WTO accession did not generate a measurable structural shift in the openness–growth relationship.

Overall, the results support the view that China's deeper integration into the global economy—particularly through increased trade and capital inflows—has been an important contributor to its sustained economic development.

Keywords: China; GDP per capita; economic openness; foreign direct investment; trade openness; tariffs; inflation; gross capital formation; OLS, short run growth model, population growth, school enrollment.

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CYBERBULLYING: EXAMINING SOCIAL MEDIA USAGE AND TROLLING INCIDENCE

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ABSTRACT

Social media is now used by more than two-thirds of the world population. One unfortunate consequence, however, has been the incidence of cyberbullying as evidenced by trolling. Because undergraduate business students will be future users and managers of social media, this study was undertaken to empirically examine social media participation and trolling incidence. Results demonstrate that undergraduates primarily utilize six sites with total social media time consistent during each of the last five years. In terms of trolling, results show correlations between usage minutes and gender relative to the quantity of trolls received. Moreover, while trolling incidence varied by year and by social media platform, both the percentage of students being trolled and the quantity of trolls received per person have been steadily increasing. These results suggest that there is an increasing level of online social discord and that educators should be cognizant and responsive to potential resultant negative student mental health concerns.

Key Words: Students Trolling, Social Media Usage, Empirical Study, Cyberbullying, Online Behavior, Business Students

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IMPACT OF TARIFFS ON FINANCIAL PERFORMANCE OF SELECTED COMPANIES

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ABSTRACT

Tariffs are taxes imposed by a government on goods imported from foreign countries. Tariffs protect domestic companies from foreign competition because they increase the cost of foreign goods in comparison with the goods produced or used as raw materials by the domestic companies. Tariffs are helpful in raising revenues for the government which can be used for the benefit of its citizens. Tariffs can also be used as a tool for leveraging trade negotiations with other countries. However, tariffs can also lead to higher prices for consumers because companies pass the additional cost of their products to their customers. Tariffs can also make domestic companies less efficient because of a lack or lower level of competition from foreign companies. In addition, tariffs can lead to trade wars because foreign countries might retaliate to levying taxes on goods exported from their countries. Tariffs have been used in our country for a very long time. In 1789, tariffs were imposed by our government primarily to raise revenues for the government. The Tariff Act of 1930 was mainly intended to protect American agriculture and industry from foreign competition. In recent years, our current administration has been using tariffs to raise revenues and a negotiating tool for trade agreements with other countries. My paper will review the impact of tariffs on the financial performance of our domestic companies. It will analyze whether the revenues of the products directly related to the tariffs increased or decreased, changes in cost of goods sold, and the overall effect on the financial performance.

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 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 innovative 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, highly 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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HIGHER EDUCATION INSTITUTIONS IN TURMOIL: STRATEGIC OPTIONS IN A DECLINING INDUSTRY

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ABSTRACT

In this paper, we highlight that the higher education industry is an industry in decline. It is an industry that is facing great turmoil and change, coupled with declining demand. Its methods of service delivery are facing disruption from innovative technological changes ranging from online course delivery to AI-based learning options. In the face of these changes, the industry remains overbuilt, with too many competitors. Furthermore, many industry participants feel that they can't adopt all the new delivery options due to resource rigidity. For example, universities that have physical assets such as dorms, dining halls, and instructional facilities are reluctant to adopt online delivery, which could lead to underutilization of existing assets. Instead, they engage in hypercompetition, trying to lure the shrinking number of in-person students left to their institutions. These efforts are usually accompanied by increasing numbers of administrators and a shrinking number of faculty, which further destabilizes the situation. We propose that solutions to this situation are similar to those available in any declining industry. Specifically, the literature in business suggests that declining industries can be managed by taking into consideration an institution's strengths and weaknesses, and the opportunities and threats faced in the industry. Options may be available ranging from exit to selective decline, to even growth, depending on the institution's resource profile and its stakeholders' preferences. However, it is important to realize that action needs to be taken to minimize inefficient resource allocation.

WHERE'S THE BEEF? FROM PASTURE TO PLATFORM: EMERGING LEADERS IN BEEF E-COMMERCE INNOVATION

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ABSTRACT

The U.S. beef industry currently faces unprecedented supply constraints, including historically low cattle inventories, heightened biosecurity risk associated with the screwworm fly, and structural processing limitations as meatpacking plants continue to close across the United States. In response to these challenges, emerging leaders within the industry are increasingly experimenting with direct-to-consumer beef sales. E-commerce is playing a larger and more significant role in shaping the modern beef market, as innovation and creativity are being leveraged to earn consumer trust under conditions of uncertainty. The purpose of this paper is to examine the growth of beef e-commerce models in the United States amid these difficult supply conditions. Specifically, this study explores how producers and entrepreneurial firms are navigating herd contraction, biosecurity risk, and processing constraints while continuing to meet consumer demand. Using a comparative industry analysis of leading beef e-commerce firms, supplemented with secondary data from the U.S. Department of Agriculture, Texas A&M AgriLife Extension, and prior entrepreneurship research, this paper evaluates strategic responses to these constraints. The evidence suggests that consumer demand for premium beef remains strong, particularly among customers who value knowing where their beef originates, that it is traceable, safe, and responsibly produced. This study extends e-commerce and entrepreneurship literature by demonstrating how policy environments, biosecurity concerns, and herd dynamics shape strategic decision-making within direct-to-consumer beef enterprises.

Key words: leadership, beef e-commerce; agricultural entrepreneurship; consumer trust; supply constraints

INTRODUCTION

It is increasingly clear that e-commerce has grown well beyond traditional retail markets and is now reshaping how agricultural producers distribute, market, and sell beef directly to consumers. Producers are taking advantage of online platforms to reach customers who value traceability, humane practices, and premium-quality beef, even as cattle inventories in the United States have declined to historically low levels. This shift is occurring at a critical moment in the beef industry, where consumer demand for high-quality, trustworthy products continues to increase while supply tightens due to herd contraction, biosecurity risk, and structural processing constraints. Despite these pressures, today's beef consumer increasingly desires a product that can tell a story. A narrative that communicates origin, sustainability, and trust, attributes that prior research has shown to play a vital role in shaping consumer confidence and food purchasing behavior (Manning & Soon, 2021). Within this challenging business environment, online platforms elevate opportunity by allowing producers to reduce market risk, strengthen consumer relationships, and differentiate their products beyond commodity pricing. E-commerce enables producers to communicate clear information about product origin and production practices, reinforce transparency, and guide consumers toward value-based purchasing decisions that emphasize quality and credibility rather than volume alone. As a

result, emerging leaders within the beef industry are finding new ways to innovate, scale market presence, and navigate constrained supply conditions while maintaining consumer trust. These developments suggest that leadership, digital strategy, and entrepreneurial adaptation now play a vital role in shaping competitiveness within the evolving U.S. beef market.

Accordingly, this study asks: how are emerging beef e-commerce enterprises leveraging digital platforms to lead, innovate, and remain competitive amid tightening supply conditions, biosecurity risk, and structural constraints within the U.S. beef industry?

Understanding this question requires engagement with several complementary streams of existing scholarship. Research in e-commerce and entrepreneurship demonstrates how digital platforms allow firms to communicate detailed product information, production practices, and brand narratives directly to consumers, thereby increasing transparency and reducing uncertainty in purchasing decisions. By making information about origin, quality, and production more visible and accessible, these platforms help firms build consumer trust and develop differentiated value propositions in markets characterized by risk and volatility.

Agricultural entrepreneurship literature further emphasizes the shift from commodity-based production toward value-added, direct-to-consumer models that prioritize transparency, storytelling, and producer identity. In parallel, scholarship on food systems and supply-chain risk highlights the growing importance of trust, traceability, and institutional credibility in shaping consumer decision-making within beef markets, where attributes such as safety, origin, and ethical production are difficult for consumers to directly evaluate prior to purchase. Together, these literatures provide a foundation for examining how leadership, innovation, and digital strategy intersect within the evolving beef e-commerce landscape.

II. E-COMMERCE, TRUST, AND CONSUMER VALUE CREATION IN BEEF MARKETS

Prior research on e-commerce and food systems demonstrates that online consumers increasingly seek more than transactional convenience when purchasing agricultural products. In markets characterized by quality uncertainty and limited pre-purchase evaluation, consumers rely heavily on trust, transparency, and perceived authenticity to inform their purchasing decisions. Digital platforms have expanded the ability of producers to communicate detailed information about product origin, production practices, and values, thereby shaping consumer perceptions of quality and credibility. A systematic review by Manning and Soon (2021) finds that trust and traceability play a significant role in food purchasing behavior, particularly in contexts where safety, origin, and ethical production cannot be directly assessed prior to consumption. This body of research suggests that e-commerce environments are uniquely positioned to reduce consumer uncertainty by making production narratives and information about origin and production practices visible and accessible.

In these conditions, consumers increasingly associate value creation with authenticity and storytelling. Online consumers are often drawn to brands that communicate a clear identity and a compelling narrative about how food is produced, by whom, and under what conditions. For example, ranch-to-consumer enterprises such as Five Mary's Farms illustrate how transparency and storytelling can transform beef from a commodity into a differentiated, trust-based product. Consumers attracted to these models are not solely motivated by taste or nutritional quality; they also seek reassurance that their purchase aligns with broader values related to sustainability, humane practices, and responsible land stewardship. In such cases, authenticity becomes a mechanism through which firms create emotional and relational value alongside functional product benefits.

Empirical research further indicates that consumers are willing to pay premium prices for meat products when credible information about production practices and sustainability is provided. Van Loo et al. (2014) demonstrate that transparency related to production methods and ethical considerations increases perceived value and justifies price premiums in meat markets. This willingness to pay reflects a broader consumer desire to believe that their purchasing decisions have positive implications. They seek high-quality products not only for personal health and intrinsic value, but also for their perceived contributions to environmental stewardship and producer well-being. For many consumers, paying a premium for traceable beef represents an opportunity to support sustainable agriculture and independent ranchers who seek alternatives to traditional commodity systems dominated by large packing plants and compressed margins. Collectively, this body of literature indicates that e-commerce is reshaping value creation in beef markets by enabling producers to center trust and authenticity within their competitive strategies. Digital platforms allow producers to clearly communicate where beef originates, who is responsible for its production, and the practices used to raise it, thereby strengthening consumer confidence and perceived value. Consumers increasingly evaluate beef purchases not only on price and availability, but on whether the product reflects shared values and supports producers navigating structural disadvantages within the conventional supply chain. As such, trust-based e-commerce models provide a pathway for emerging leaders in the beef industry to differentiate their offerings, justify premium pricing, and build resilient relationships with consumers amid tightening supply conditions.

III. STRUCTURAL SUPPLY CONSTRAINTS, BIOSECURITY RISK, AND HERD DYNAMICS IN THE U.S. BEEF INDUSTRY

While consumer demand for premium, traceable beef remains strong, the U.S. beef industry is simultaneously confronting severe and persistent supply-side constraints. Recent data from the U.S. Department of Agriculture indicate that the national beef cow herd has fallen to approximately 27.6 million head as of January 1, 2026 (USDA NASS, 2026), representing the lowest level since the early 1960s. As the breeding foundation of the beef supply chain, the beef cow herd anchors future production, and its continued decline signals a long-term structural contraction rather than a short-term cyclical adjustment. Because the beef cow herd represents the primary source of future calf production, sustained reductions at this level place long-term pressure on beef availability and price stability. This pressure is particularly evident in Texas, where state-level data indicate that declining herd numbers are already signaling higher beef prices for both producers and consumers, reinforcing concerns about prolonged supply tightness (Russell, 2026).

A central driver of herd contraction has been a prolonged period of drought combined with elevated production costs. Multi-year drought conditions across key cattle-producing regions have significantly reduced grazing capacity, forcing ranchers to rely on purchased feed and hay at historically high prices. As a result, producers have liquidated breeding cows earlier and more aggressively than in typical cyclical downturns. This widespread liquidation has limited the industry's ability to rebuild, even as some environmental conditions are beginning to improve. The cumulative effect has been a prolonged reduction in breeding stock rather than a temporary market adjustment.

Compounding this challenge, the U.S. calf crop has also declined to historically low levels. Estimates for the 2025 calf crop place total production at approximately 32.9 million head, the smallest number recorded since the early 1940s. Because calves represent the future flow of animals entering feedlots and processing facilities, reductions at this stage of the supply chain have delayed but significant

downstream effects. Fewer calves today translate into fewer finished cattle available for harvest in subsequent years, further constraining beef supply and limiting the industry's ability to respond quickly to rising consumer demand.

Efforts to rebuild the herd have been hindered by limited heifer retention. Heifer retention, the practice of holding back young females for future breeding, is essential for herd expansion, yet recent data suggest that retention levels remain insufficient to support meaningful growth. Although modest improvements are currently being reported, current retention rates remain well below historical levels associated with sustained herd rebuilding. As a result, the industry is stabilizing at a reduced capacity rather than entering a true expansion phase, reinforcing concerns that supply constraints may persist for many years.

Beyond herd dynamics, the industry also faces heightened biosecurity and infrastructure risks. Reports of the screwworm fly detected just south of the U.S.–Mexico border have renewed concerns about potential biological threats to cattle health and cross-border livestock movement. While outbreaks have not been detected within the United States, the proximity of such risks underscores the vulnerability of the beef supply chain to external biological shocks. At the same time, structural limitations within the processing sector, including the closure of numerous meat-packing plants and ongoing labor challenges, have reduced slaughter capacity and increased industry concentration. These constraints further limit system flexibility, contributing to the effects of herd contraction and biological risk on beef availability. These conditions indicate that current supply constraints do not stem from a single cause but instead arise from the combined effects of herd contraction, environmental pressure, biosecurity exposure, and processing limitations. This understanding is essential for explaining why emerging leaders and innovative business models, particularly those leveraging e-commerce and direct-to-consumer platforms, have become increasingly important in navigating the modern U.S. beef market.

IV. U.S. BEEF E-COMMERCE MARKET OVERVIEW

Against this backdrop of constrained supply, the U.S. beef market has experienced a notable expansion in direct-to-consumer and e-commerce-based business models. While traditional supply chains remain dominant in volume, digital platforms have increasingly emerged as viable channels for producers seeking to differentiate their products, strengthen relationships with consumers, and mitigate exposure to commodity pricing pressures. E-commerce has enabled beef producers to bypass conventional intermediaries, communicate directly with consumers, and articulate value through transparency, origin information, and production practices rather than price alone. As supply limitations persist, these platforms are playing a growing role in shaping how beef is marketed, priced, and trusted in the United States.

This section provides an overview of the U.S. beef e-commerce market, outlining its key characteristics, growth drivers, and strategic positioning within a constrained industry environment. Particular attention is given to how emerging firms leverage digital engagement, subscription models, and direct distribution to respond to tightening supply conditions while maintaining consumer trust and premium positioning.

V. COMPETITIVE ANALYSIS OF LEADING BEEF-COMMERCE FIRMS

To understand how these market dynamics are addressed in practice, the following section examines leading beef e-commerce firms and the strategic models they employ to compete under constrained supply conditions.

A. Porter Road

Porter Road represents a digitally native butcher model that emphasizes regional sourcing, in-house processing, and direct engagement with consumers through both subscription and à la carte offerings. The firm differentiates itself by highlighting craftsmanship, transparency in sourcing, and quality control rather than scale. Porter Road's strategy reflects an effort to balance growth with supply discipline, as regional sourcing and limited processing capacity naturally constrain expansion. Within a tightening supply environment, the company's emphasis on repeat customers and trust-based relationships illustrates how mid-sized e-commerce firms can maintain competitiveness without pursuing volume-driven growth.

B. Crowd Cow

Crowd Cow operates as an aggregated digital marketplace connecting consumers with independent ranchers across the United States and abroad. Its platform-centric model emphasizes traceability, producer storytelling, and consumer choice, allowing customers to select specific cuts and producers. This structure enables broader scale than single-ranch models while preserving farm-level visibility. However, Crowd Cow's reliance on multiple suppliers introduces coordination complexity and margin pressure, particularly under conditions of herd contraction. The firm's strategy highlights the tradeoff between scalability and operational complexity inherent in aggregated e-commerce platforms.

C. Belcampo (Historical Case)

Belcampo serves as a cautionary example of vertically integrated beef e-commerce. Prior to its closure, the company positioned itself around regenerative agriculture, transparency, and full supply-chain control, operating both online and through physical retail outlets. While this model allowed for strong brand differentiation and consumer trust, it also introduced significant operational and governance challenges. Belcampo's experience illustrates the risks associated with rapid expansion and complex vertical integration in capital-intensive protein markets, particularly when supply constraints and operational oversight are not carefully aligned.

D. D'Artagnan

D'Artagnan occupies a distinct position as a larger, diversified premium meat supplier offering beef alongside poultry and game products. Its long-established logistics network and national distribution capabilities provide scale advantages not available to most e-commerce entrants. Unlike ranch-centric brands, D'Artagnan's competitive strength lies in supply diversification and operational breadth rather than single-origin storytelling. This model offers resilience against localized supply shocks but relies less on direct producer-consumer identity, illustrating an alternative pathway for competing in constrained beef markets.

E. Five Mary's Farms

Five Mary's Farms exemplifies a ranch-to-consumer model built on transparency, authenticity, and personal connection between producers and customers. Operating at a deliberately limited scale, the firm emphasizes clear sourcing information, producer identity, and storytelling as central components of its value proposition. While herd size and production capacity naturally restrict growth, the model demonstrates how trust-based differentiation can justify premium pricing and foster strong consumer

loyalty. Five Mary’s illustrates how emerging leaders can leverage authenticity as a strategic asset, even when expansion is constrained by biological and operational realities.

VI. COMPARATIVE STRATEGICE ANALYSIS OF BEEF E-COMMERCE MODELS

The firms examined in Section IV represent distinct strategic responses to constrained supply conditions within the U.S. beef industry. While each operates within the same macro-environment of herd contraction, biosecurity risk, and processing limitations, their competitive strategies vary in terms of scale, supply-chain structure, and mechanisms for building consumer trust. To clarify these differences, Table 1 compares the leading beef e-commerce firms across key strategic dimensions relevant to value creation and leadership under constraint.

Table 1
Comparative Strategic Dimensions of Leading Beef E-Commerce Firms

Firm	Core Business Model	Scale Orientation	Trust-Building Mechanism	Growth Limitation
Porter Road	Digital butcher; regional sourcing	Mid-sized niche	Craftsmanship, sourcing transparency	Regional supply and processing capacity
Crowd Cow	Aggregated ranch marketplace	Platform-driven scale	Producer storytelling and traceability	Supplier coordination and margin pressure
Belcampo (historical)	Vertically integrated beef	Expansion-oriented	Sustainability and regenerative claims	Operational complexity and governance risk
D’Artagnan	Diversified premium meat supplier	National specialty scale	Brand reputation and logistics reliability	Less producer-centric differentiation
Five Mary’s Farms	Single-ranch direct-to-consumer	Boutique	Origin clarity and producer identity	Biological herd and land constraints

Strategic Interpretation

The comparison highlights a fundamental tradeoff shaping beef e-commerce strategy: the tension between scalability and authenticity. Ranch-centric models such as Five Mary’s Farms prioritize transparency, producer identity, and direct consumer relationships, enabling strong trust and premium pricing but limiting growth due to biological and land constraints. These firms demonstrate how leadership is applied through disciplined scale, emphasizing value over volume in a supply-restricted environment. In contrast, platform-based and aggregated models such as Crowd Cow pursue broader market reach by connecting multiple producers through a centralized digital interface. This approach allows for greater scalability and product diversity while preserving some degree of farm-level visibility. However, aggregation introduces coordination challenges and cost pressures that intensify under conditions of herd contraction. Leadership in this model requires governance structures capable of maintaining trust across a distributed supplier network while managing operational complexity. Larger, diversified firms such as D’Artagnan represent a third strategic pathway. By offering multiple protein categories and leveraging established logistics networks, these firms reduce dependence on any single supply source. The findings suggest that while beef e-commerce is structurally viable, it remains strategically constrained by herd contraction, biosecurity exposure, and processing

limitations. Accordingly, long-term success depends on leadership's ability to balance authenticity, supply security, and policy alignment while sustaining consumer trust.

The historical case of Belcampo illustrates the risks associated with attempting to combine deep vertical integration with rapid expansion. While its model initially capitalized on consumer demand for sustainability and transparency, the operational demands of controlling the full supply chain exposed governance and execution vulnerabilities. This case underscores the importance of leadership alignment between growth ambition, operational capacity, and supply realities in protein markets.

Collectively, these models demonstrate that successful beef e-commerce leadership under constrained supply conditions is not defined by size alone. Instead, competitive advantage emerges from aligning business structure, trust-building mechanisms, and growth expectations with biological, environmental, and infrastructural limits. These strategic tradeoffs provide a foundation for understanding how emerging leaders navigate uncertainty while maintaining consumer confidence and premium positioning in the evolving U.S. beef market.

VII. INDUSTRY RISKS AND EXTERNAL PRESSURES

Beyond firm-level strategy and consumer demand dynamics, the U.S. beef industry continues to face a range of external pressures that shape the operating environment for e-commerce enterprises. These risks, most notably biosecurity exposure, policy uncertainty, and processing capacity constraints further complicate efforts to scale direct-to-consumer beef models under already limited supply conditions.

Biosecurity Risk

Heightened biosecurity exposure represents a significant and ongoing risk to the beef supply chain. Reports of the screwworm fly detected just south of the U.S.–Mexico border have renewed concerns regarding the potential for biological threats to disrupt cattle health and cross-border livestock movement. While no outbreaks have been confirmed within the United States, the proximity of such risks underscores the vulnerability of the industry to external biological shocks. For beef e-commerce firms, these threats introduce uncertainty not only at the production level but also in consumer perception, where confidence in safety and supply continuity is critical to sustaining trust-based purchasing behavior.

Policy and Regulatory Pressures

Policy considerations further influence the long-term viability of beef e-commerce enterprises. Herd recovery requires coordination across producers, regulators, and market participants, yet policy alignment remains uneven. Incentives related to heifer retention, grazing access, trade policy, and labeling standards all affect producers' willingness and ability to rebuild herds. Recent discussions surrounding expanded beef imports from Argentina, alongside proposed tariff adjustments advanced during the Donald Trump administration, illustrate how trade policy can rapidly alter competitive dynamics within the domestic beef market. While such measures may offer short-term price relief or political signaling, inconsistent or short-term policy responses risk undermining entrepreneurial investment and innovation over the longer term. As a result, leadership within the industry increasingly involves navigating regulatory and trade uncertainty while advocating for policies that support sustainable herd rebuilding and fair market access.

Processing Capacity Constraints

Structural limitations within the processing sector continue to restrict the flexibility of the beef supply chain. The permanent closure of the Tyson Foods Lexington, Nebraska, beef plant—capable of harvesting nearly 5,000 head per day, or approximately 4.8% of total daily U.S. slaughter—illustrates

how capacity reductions during a period of historically low cattle inventories can amplify price volatility and operational strain. Unlike temporary disruptions such as the 2019 Holcomb fire, the Lexington closure represents a lasting loss of processing capacity at a time when packers are already unable to operate plants at full utilization due to limited cattle supplies. Economic research suggests that these price effects are driven primarily by capacity utilization constraints rather than increased market power, though the result for producers is similar: reduced flexibility, heightened regional price impacts, and delayed market access.

While new processing facilities are anticipated to come online, geographic dispersion and development timelines limit their ability to offset near-term losses, particularly for producers in the central Plains. These constraints place additional pressure on smaller and mid-sized operators and complicate growth trajectories for direct-to-consumer firms, where limited access to inspected processing can delay fulfillment, increase costs, and slow disciplined scaling. Collectively, these external pressures reinforce the reality that beef e-commerce enterprises operate within an environment shaped as much by biological, infrastructural, and institutional risk as by consumer demand. Understanding these constraints is essential for evaluating the strategic decisions of emerging leaders and the long-term sustainability of direct-to-consumer models in the modern beef market.

VIII. IMPLICATIONS FOR ENTREPRENEURS, INVESTORS, AND LEADERSHIP

The current environment of historically low cattle inventories, increased biosecurity exposure, and structural supply constraints has elevated the role of leadership in the U.S. beef industry beyond traditional measures of operational efficiency or scale. Emerging leaders in beef e-commerce are increasingly defined by their ability to navigate uncertainty, communicate trust, and align innovation with long-term industry sustainability. These leaders must simultaneously manage upstream biological and production risks while maintaining downstream consumer confidence through transparency, storytelling, and consistent quality assurance. As a result, leadership in this context requires a hybrid skill set that blends agricultural expertise with digital entrepreneurship, strategic communication, and adaptive decision-making.

From an entrepreneurial perspective, the findings suggest that leadership in beef e-commerce is less about rapid expansion and more about disciplined growth under constraint. Emerging leaders must make deliberate tradeoffs between scalability and authenticity, recognizing that supply limitations and herd recovery timelines impose natural ceilings on growth. Effective leaders position constraint not as a weakness, but as a strategic reality that informs pricing, customer education, and long-term brand trust. For investors and aspiring entrepreneurs, these dynamics highlight the importance of production models that prioritize resilience, ethical sourcing, and consumer trust as central components of competitive advantage in beef and protein-based e-commerce markets.

Policy and Future Industry Structure

Herd recovery represents not only an agricultural challenge but also a leadership and coordination problem requiring alignment across producers, policymakers, and market institutions. Policy consistency and long-term support mechanisms play a critical role in shaping entrepreneurial confidence and investment decisions. Without alignment between herd rebuilding efforts and market innovation, the growth potential of direct-to-consumer beef enterprises may remain constrained despite strong consumer demand.

IX. CONCLUSION

Drawing on a comparative analysis of leading beef e-commerce firms, this study examined the emergence of beef e-commerce models in the United States amid historically constrained supply conditions. The findings suggest that while beef e-commerce is structurally viable, it remains strategically constrained by herd contraction, biosecurity exposure, and processing limitations. Long-term success depends on leadership's ability to balance authenticity, supply security, and policy alignment while sustaining consumer trust. Herd rebuilding is not solely an agricultural issue, but an e-commerce scalability issue with implications for pricing, growth, and long-term competitiveness. As the industry moves from pasture to platform, leadership under constraint emerges as a defining factor in determining which firms can adapt, endure, and create value in a tightening supply environment. These dynamics underscore the growing importance of innovative, trust-driven leadership in shaping the future of the U.S. beef market.

X. FUTURE RESEARCH

Future research should explore areas critical to understanding the long-term trajectory of beef e-commerce. Longitudinal studies examining consumer trust and retention would provide insight into how transparency-driven strategies perform over time. Financial modeling of return on investment under constrained supply conditions could further inform entrepreneurial decision-making. Additionally, cooperative ranch aggregation models warrant examination as potential pathways for scaling trust-based e-commerce while preserving producer identity and supply discipline.

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THE SYNERGY OF TACTICAL ASSET MANAGEMENT AND DEFINED OUTCOME ETFS: A QUANTITATIVE AND BEHAVIORAL FRAMEWORK FOR GOAL-BASED INVESTORS

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ABSTRACT

Portfolio management has undergone profound evolution over the past several decades, progressing from the foundational concepts of Modern Portfolio Theory (MPT) to multi-factor asset pricing models and, more recently, to behavioral and goals-based frameworks. Throughout this evolution, investors and institutions have relied heavily on static allocations such as the traditional 60/40, 70/30, and 90/10 blends to balance risk and reward. These allocations were predicated on assumptions of stable correlations, rational investor behavior, and return distributions that reflect long-term historical averages. Yet the market environment of the last twenty years has repeatedly violated their assumptions. The Global Financial Crisis, the COVID collapse, the inflation shock of 2022, and increasingly frequent volatility clusters have exposed the fragility of traditional asset mixes. Correlations have at times spiked when diversification was most needed. Behavioral stress has led investors to abandon long-term strategies at the worst times. And static allocation has proven insufficient to navigate structural regime shifts driven by liquidity, monetary policy, and participation dynamics. These challenges underscore an emerging reality: static portfolios are not always adequate for a dynamic world. But what if there was a path to move beyond correlation towards symbiotic investment relationships? Today's investors require more than diversification, but multifaceted risk management through methodologies that respond to evolving market conditions, protects capital during adverse regimes, and enables disciplined participation during crisis. Volume research has demonstrated that volume-based signals often precede price-based signals at key turning points, offering earlier insights into regime transitions. When participation breadth weakens, capital-weighted volume contracts, or the Volume–Price Confirmation Indicator (VPCI) diverges from price, VF may reduce or increase TAM's exposure preemptively. This approach does not attempt to forecast markets; rather, it reads and gauges observable conditions that reflect the collective behavior of informed participants. The purpose of this whitepaper is to present a rigorous examination of this integrated framework.

Key Words: Modern Portfolio Theory, Tactical Asset Management, Volume Research

RED SEA SHIPPING ATTACKS BY HOUTHİ REBELS: TESTING THE MARKET EFFICIENCY IN THE GLOBAL SHIPPING AND LOGISTICS INDUSTRY

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ABSTRACT

This study will test market efficiency by determining the effects of Houthi rebel attacks on shipping container ships on the Red Sea. In 2023, Houthi rebels began attacking shipping vessels because they claimed they were linked to Israel, United States, or the United Kingdom in demand of a ceasefire in the Gaza war. This study tests market efficiency by analyzing 10 large logistics and shipping firms and compares them against the S&P 500. As these attacks increased in number and intensity, the shipping routes were too dangerous, leading to the industry experiencing changes in the stock values. Investors reassessed the cost, risk, and freight rates. The highlight of this study is from the incident on December 18th, 2023; many major carriers announced that they would be conducting halts and reroute ships away from the Red Sea. The study shows the attacks had an immediate effect on risk-adjusted returns, but prices adjusted and trended back toward usual levels quickly. This supports strong market efficiency.

Introduction

The market efficiency is described as the degree to which the market's stock prices reflect all available information (Boyle). I chose to test the market's actual efficiency through recent political events that have made a major impact on global trading and shipping costs. The Red Sea shipping attacks by Houthi rebels have impacted global shipping and the logistics industry. These rebels are conducting missile and drone attacks against commercial vessels, forcing the companies to reroute ships around the Cape of Good Hope. This increases transit times, insurance costs, and fuel usage. These attacks affect large ocean carriers such as Maersk, Hapag-Lloyd, COSCO, and ZIM as well as many logistics companies like FedEx, UPS, and DHL. As rates and risk spike, investors quickly re-priced logistics and shipping stocks. The key announcements and routing changes occurred when markets were open or just before the next trading day. We can test if stock prices adjust appropriately to the new information. This study will test the market efficiency for 10 companies in the shipping and logistics industry.

Literature Review

How did the Red Sea shipping attacks affect stock prices in the global shipping and logistics industry? The research on geopolitical risk and supply chain shocks shows sudden disruptions to major trade routes. These can generate short-term volatility in energy, transportation, and trade-sensitive sectors. The studies of these prior events, such as the 2021 Suez Canal blockade and Gulf of Aden piracy, found that the shipping companies and logistics firms experienced abnormal returns. These attacks are like those committed in the Red Sea because they increased uncertainty about freight capacity, insurance cost, and delivery times. This was quickly shown in stock prices. This

uncertainty affected the stock market instead. It became a test of how efficiently the markets process complex news about trade routes and conflict.

Semi-Strong Theory

To conduct this study, I am using a semi-strong form of an efficiency test. This form of the Efficient Market Hypothesis shows that the security prices adjust quickly to newly available public information. This leaves no opportunity for investors to consistently earn above average risk-adjusted returns. The Red Sea attacks caused routing changes that were reported in global news. The information was public and available to all investors. This study tests the theory that if the 10 shipping and logistics companies risk adjusted returns around the announcement date supported by semi-strong efficiency.

Methodology

This study will apply a standard risk adjusted event study that will evaluate how the market responds to the Red Sea shipping attacks on December 18th, 2023. First, the event date was found based on public announcements from major carriers, such as Maersk. This caused a halt and rerouting commercial traffic due to the attacks. Stock price data for 10 shipping and logistics firms, as well as the S&P 500, were collected from Yahoo Finance for a 210-day window consisting of an 180-day pre-event period (days -180 to -31) and a 60-day event window (days -30 to +30).

Daily holding period returns were calculated for all firms as well as the S&P 500. I used the pre-event period to run regressions for each firm with firm returns being the dependent variable and S&P 500 returns as the independent variable. The regression intercept and slope provided each firm's alpha and beta. The expected returns were computed during the event window using these coefficients and the S&P 500's daily return. Excess returns were found by subtracting expected returns from actual returns.

Average excess return for each event window day was calculated by averaging the firms' excess returns, and the cumulative average excess return was found by summing the average excess return over time. This measure allows us to evaluate whether returns reacted quickly to these events. As I predicted, they reacted in a semi-strong form of market efficiency.

Quantitative Tests and Results

This sample includes 10 different shipping and logistics companies that were affected by the attacks in the Red Sea. These were the hypotheses found:

H10: The risk-adjusted return of the stock price of all 10 shipping and logistics companies was not affected by the information on the event date.

H11: The risk-adjusted return of the stock price of the 10 shipping logistics companies was negatively impacted by the information on the event date.

H20: The risk-adjusted return of the stock price of the 10 companies is not significantly affected by the type of information around the event date.

H21: The risk-adjusted return of the stock price of the 10 shipping and logistics companies is significantly affected around the event date.

The alphas and betas are listed below. I calculated these values using the holding period return for each firm as the dependent variable and the holding return period for the S&P 500 as the independent variable. We used the pre-event period (days-180 to -31) to calculate the alpha and beta for all the firms. After the regression is run, the alpha is the intercept, and the beta is the x variable of regression results.

Table 1

Company Name	Ticker	Alpha (daily, approx.)	Beta (5Y)
A.P. Moller – Maersk A/S	AMKBY	0.00040	0.68
Hapag-Lloyd AG	HLAGF	-0.00020	1.39
COSCO Shipping Holdings Co.	CICOY	0.00030	0.93
ZIM Integrated Shipping Services	ZIM	-0.00005	1.63
Matson Inc.	MATX	-0.00030	1.33
United Parcel Service	UPS	-0.00035	1.09
FedEx Corporation	FDX	0.00010	1.33
Deutsche Post DHL Group	DPSGY	0.00020	1.33 (60-month)
Evergreen Marine Corp. (Taiwan)	2603.TW	-0.00025	1.33
Full Truck Alliance Co. Ltd.	YMM	0.00005	0.21

Once I found the expected return, I calculated the excess return using the formula actual return – expected return. These values are used to calculate the average excess return. Which I plotted on the first graph.

The second graph is CAER. I found this by adding all the average excess return values together. The CAER was strongly negative and quick after the event day, but trends back towards zero.

Conclusion

The study used a semi-strong form test of the market's reaction to the Red Sea shipping attacks. The routing changes were announced on December 18, 2023. The test ultimately supports H11 and H21. The graphs show that the industry experienced a negative reaction to the event date. This was followed by a slow recovery as investors updated their expectations about costs, rates, and long-term demand. Both single day and single announcement events have strong impacts on the respective

industries. Overall, the abnormal returns and their quick reversion toward zero support the semi-strong form of market efficiency.

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News coverage of Red Sea shipping attacks and rerouting decisions referenced from major financial news outlets such as The Wall Street Journal, Reuters, and Bloomberg.

BUILD ENVIRONMENT RISK GOVERNANCE: A ZERO-TRUST FRAMEWORK FOR SOFTWARE SUPPLY CHAIN VISIBILITY

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ABSTRACT

Software supply chain attacks have increased by over 700% since 2019 (Sonatype, 2022), with the average breach now costing organizations \$4.45 million (IBM Security, 2023). Beyond direct remediation costs, these incidents erode customer trust—a business asset that directly correlates with revenue retention and market valuation. Research indicates that 66% of consumers would not trust a company following a data breach, and breached organizations experience average stock price declines of 7.5% with prolonged recovery periods. While regulatory frameworks increasingly mandate Software Bills of Materials (SBOMs) for component transparency, a critical governance gap persists: organizations lack visibility into the build environments where software is assembled. This research introduces a risk management framework that extends supply chain governance to include build environment metadata. Grounded in zero-trust principles from NIST 800-207, the framework provides a composite health scoring model that translates technical pipeline configurations into executive-level risk metrics suitable for board reporting and stakeholder communication. A 60-day pilot deployment across 30 repositories demonstrated that the framework enables 100% organizational coverage without disrupting development workflows. The pilot identified that 67% of repositories contained configurations vulnerable to supply chain compromise, yet only 12% would trigger traditional compliance alerts—representing substantial unquantified business risk. This paper contributes to the information technology governance literature by demonstrating a scalable approach to protecting organizational trust through proactive build environment risk management.

Keywords: Risk management, IT governance, software supply chain, revenue protection, stakeholder trust

INTRODUCTION

The software supply chain has emerged as an existential risk vector for organizations across all sectors. High-profile incidents including the SolarWinds breach (2020) and Codecov compromise (2021) demonstrated that attackers increasingly target the automated systems that build and deploy software rather than the software itself (CISA, 2021). These incidents resulted in billions of dollars in combined damages and affected thousands of organizations, including federal agencies and Fortune 500 companies.

The business consequences extend far beyond immediate remediation costs. SolarWinds' market capitalization declined by approximately \$1 billion in the weeks following disclosure, and the company faced years of reputational recovery efforts (Reuters, 2021). Customer trust, once broken, proves difficult to rebuild. Research by the Ponemon Institute indicates that organizations experiencing data breaches see customer churn rates increase by an average of 3.9%, with business losses—including customer turnover, lost revenue from system downtime, and the cost of acquiring new business—representing the largest component of total breach costs (IBM Security, 2023). The threat continues to escalate. In March 2025, a supply chain attack against the GitHub Action `tj-actions/changed-files` exposed secrets across more than 23,000 repositories (CISA, 2025). The attack mechanism was notably simple: threat actors compromised a bot account's access token, then

retroactively modified existing version tags to point to malicious commits. Any repository running workflows with this action during the exploitation window had its CI runner memory dumped, leaking AWS access keys, GitHub tokens, and private RSA keys directly into workflow logs. The attack did not require breaking encryption or exploiting zero-day vulnerabilities; it simply leveraged the implicit trust that developers place in third-party actions integrated into their pipelines. CISA added CVE-2025-30066 to its Known Exploited Vulnerabilities catalog and mandated remediation for federal agencies, underscoring the severity of build environment compromise.

The strategic implications are clear: software supply chain risk has escalated from a technical concern to a board-level governance issue with direct implications for business continuity, customer retention, and shareholder value.

In response, regulatory bodies have mandated greater supply chain transparency. Executive Order 14028 requires federal contractors to provide Software Bills of Materials (SBOMs) documenting component dependencies (White House, 2021). The SEC's 2023 cybersecurity disclosure rules require public companies to report material cyber incidents and describe their risk management processes (SEC, 2023). Yet despite these regulatory advances, a fundamental governance gap persists: SBOMs document what components comprise an application but provide no visibility into how that application was assembled.

This gap creates substantial unmeasured business risk. The build environment—the automated pipeline that compiles code, runs tests, and produces deployable artifacts—operates with elevated privileges and access to sensitive credentials. When compromised, as in the SolarWinds incident, attackers can inject malicious code that propagates to every customer installation. For software vendors, this transforms a security incident into a customer trust crisis that threatens the entire business model. Current governance frameworks systematically overlook this attack surface because no standardized approach exists for auditing build environment configurations at organizational scale. This research addresses this governance gap by introducing a build environment risk framework grounded in zero-trust principles. The framework translates technical configurations into a standardized health score suitable for executive reporting, compliance documentation, and stakeholder communication. By adopting a “zero-touch” implementation approach that requires no changes to existing development workflows, the framework addresses the adoption friction that has historically limited the effectiveness of security governance tools.

The contributions of this paper are threefold. First, it establishes a theoretical foundation for build environment governance grounded in zero-trust principles and linked to business outcomes. Second, it presents empirical evidence that build environment misconfigurations are pervasive and systematically undetected by traditional compliance approaches. Third, it demonstrates the feasibility of enterprise-scale build environment governance as a mechanism for protecting organizational trust and business continuity.

LITERATURE REVIEW

The Business Impact of Security Breaches

Security breaches impose costs that extend well beyond immediate incident response. Cavusoglu et al. (2004) found that breached companies experienced average stock price declines of 2.1% within two days of disclosure, with effects persisting for months. More recent analysis by Kamiya et al. (2021) documented that firms suffering data breaches experienced significant declines in sales growth and customer acquisition rates for up to three years post-incident.

Customer trust represents a particularly fragile business asset. The Edelman Trust Barometer consistently identifies data security as a top factor in consumer trust decisions (Edelman, 2024). Research by Ponemon Institute found that 66% of consumers surveyed would not trust a company that experienced a breach involving their personal data (Ponemon, 2022). For software vendors whose products are integrated into customer operations, a supply chain compromise can trigger contractual penalties, customer departures, and lasting reputational damage that threatens business viability.

The financial services and healthcare sectors face amplified consequences due to regulatory penalties. However, trust erosion affects all industries. When customers lose confidence in a vendor's ability to secure its software supply chain, switching costs that previously protected revenue streams become insufficient barriers to churn. The SolarWinds incident demonstrated this dynamic: despite the company's established market position, numerous customers initiated vendor replacement processes following the breach (Gartner, 2021).

Software Supply Chain Risk Management

Software supply chain risk has attracted increasing scholarly and regulatory attention following a series of high-impact incidents. Ohm et al. (2020) documented the rising frequency of dependency-based attacks, where adversaries compromise widely-used software libraries to gain access to downstream organizations. Ladisa et al. (2023) developed a comprehensive taxonomy of supply chain attack vectors, identifying build system compromise as among the most severe due to the difficulty of detection and breadth of impact. Recent industry data indicates that 22% of supply chain attacks now target CI/CD pipelines and build environments directly (ReversingLabs, 2025), reflecting a strategic shift by adversaries toward automation infrastructure.

The National Institute of Standards and Technology (NIST) has responded with guidance including the Secure Software Development Framework (SSDF) and Cybersecurity Supply Chain Risk Management (C-SCRM) practices (NIST, 2022). However, these frameworks emphasize policy and process controls rather than providing quantitative metrics suitable for risk measurement and comparison. This creates challenges for organizations seeking to benchmark their supply chain security posture or communicate risk exposure to boards, investors, and customers.

Limitations of Software Bills of Materials

Software Bills of Materials have emerged as the primary governance mechanism for supply chain transparency. Mandated for federal contractors under Executive Order 14028 and increasingly expected by enterprise customers, SBOMs provide a standardized inventory of software components and their known vulnerabilities (NTIA, 2021). Research by Xia et al. (2023) found that SBOM adoption significantly improved organizations' ability to respond to vulnerability disclosures such as Log4Shell.

However, SBOMs address only one dimension of supply chain risk. As Koishybayev et al. (2022) observed, SBOMs document the "what" of software composition but not the "how" of software assembly. Build environments introduce distinct risks including compromised build tools, leaked credentials, and inadequate access controls—none of which appear in SBOM inventories. This creates a systematic blind spot in current governance approaches.

The March 2025 tj-actions/changed-files incident illustrates this blind spot precisely. Most development teams reference CI/CD automation tools using mutable version tags (e.g., @v45) rather

than immutable cryptographic hashes, operating under the assumption that tagged versions represent stable, reviewed artifacts. When attackers modified version tags to reference malicious commits, every workflow referencing those tags automatically executed compromised code on its next run (Semgrep, 2025). Organizations that had configured their workflows to reference immutable commit hashes were unaffected, but this practice remains the exception rather than the rule. Critically, no SBOM would have detected this compromise—the vulnerability existed not in what code was assembled, but in how the assembly process itself was configured.

Zero-Trust Architecture and Continuous Verification

Zero-trust architecture, formalized in NIST Special Publication 800-207, provides a theoretical foundation for addressing build environment risk (NIST, 2020). The zero-trust model assumes that no system component should be implicitly trusted and that continuous verification is necessary to maintain security. Rose et al. (2020) demonstrated that zero-trust principles significantly reduce the impact of compromised components by limiting lateral movement and privilege escalation. Applying zero-trust principles to build environments requires treating every tool, configuration, and credential access as potentially compromised. This represents a departure from traditional approaches that treat internal build systems as trusted infrastructure. The challenge lies in implementing continuous verification without creating operational friction that impedes development velocity—a tension that has historically limited security tool adoption (Assal & Chiasson, 2018).

The Security Friction Problem

Research consistently identifies friction as the primary barrier to security governance adoption. Braz et al. (2022) found that developers routinely bypass security controls perceived as impeding productivity, while Thomas et al. (2021) documented how security tool alert fatigue leads to systematic underresponse. This creates a governance paradox: tools that provide comprehensive coverage often achieve poor adoption, while tools with high adoption often provide inadequate coverage.

Addressing this paradox requires governance approaches that operate transparently without requiring behavioral changes from development teams. The concept of “zero-touch” security—comprehensive monitoring that requires no workflow modifications—has emerged as a design principle for next-generation governance tools (Rashid et al., 2023). However, limited empirical research exists on the effectiveness of zero-touch approaches for supply chain governance specifically.

THEORETICAL FRAMEWORK

Extending Zero-Trust to Build Environments

The proposed framework operationalizes zero-trust principles for software build environments. Following NIST 800-207, the framework assumes that no pipeline component—including build tools, workflow configurations, credential stores, or execution environments—should be implicitly trusted. Instead, each component must be continuously verified against established security baselines. This approach addresses the architectural assumption that enabled incidents like SolarWinds: that build systems, because they operate within organizational boundaries, can be trusted to produce uncompromised outputs. By treating build environments with the same skepticism applied to external network traffic, organizations can detect compromises that would otherwise propagate undetected through the software delivery pipeline—and ultimately to customers whose trust depends on software integrity.

Linking Security Posture to Business Outcomes

The framework explicitly connects build environment security to business outcomes through the trust-revenue relationship. Academic research has established that customer trust directly correlates with purchasing behavior, loyalty, and willingness to pay premium prices (Morgan & Hunt, 1994; Sirdeshmukh et al., 2002). For software vendors, trust is particularly critical because customers integrate vendor products into their own operations, creating dependency relationships that amplify the consequences of security failures.

A supply chain compromise does not merely expose customer data—it transforms the vendor’s product into an attack vector against the customer’s own systems. This violation of trust is categorically different from other security incidents because it weaponizes the business relationship itself. The framework therefore positions build environment governance not as a technical compliance exercise but as a customer trust protection mechanism with direct revenue implications.

Multi-Dimensional Risk Assessment

The framework assesses build environment risk across multiple complementary dimensions. Rather than relying on single-point indicators, the model evaluates configurations that collectively determine an organization’s exposure to supply chain compromise. These dimensions address distinct attack vectors documented in the academic literature and observed in real-world incidents.

The specific dimensions and their weightings represent proprietary methodology developed through iterative refinement. However, the general categories align with established supply chain security guidance from NIST, CISA, and the SLSA framework (Google, 2023). Each dimension contributes to a composite assessment that reflects overall build environment health.

Composite Health Scoring

The dimensional assessments combine into a weighted composite score that translates technical configurations into executive-interpretable risk metrics. Following established practices in cybersecurity risk quantification (Hubbard & Seiersen, 2016), the scoring model normalizes diverse technical indicators into a consistent A-through-F grading scale. This enables benchmarking across business units or time periods, prioritization of remediation resources, stakeholder communication of supply chain risk in accessible terms, and trending to demonstrate governance effectiveness over time.

Research Propositions

Based on the theoretical framework, this study advances the following propositions:

Proposition 1: Build environment governance frameworks will identify security violations undetected by traditional SBOM-based compliance approaches, revealing previously unquantified business risk.

Proposition 2: Zero-touch security architectures that operate without requiring developer workflow modifications will achieve higher organizational coverage rates than tools requiring per-repository adoption.

Proposition 3: Composite health scoring that translates technical configurations into executive-interpretable grades will facilitate more effective stakeholder risk communication than raw technical metrics.

Proposition 4: Organizations that proactively govern build environment risk will demonstrate stronger customer trust retention following industry-wide security incidents than organizations without such governance.

METHODOLOGY

Research Design

This study employs design science research methodology to develop and evaluate the proposed framework (Hevner et al., 2004). Design science is appropriate for research that produces artifacts—in this case, a risk quantification framework—intended to address identified organizational problems. The research proceeded through iterative cycles of framework development, implementation, and empirical evaluation.

Framework Implementation

The framework was implemented as a governance tool designed for enterprise deployment. The implementation prioritized two design requirements derived from the literature. First, zero-touch operation: the tool collects build environment metadata through organizational APIs without requiring modifications to repository configurations or development workflows, addressing the friction barrier identified in prior research. Second, scalable coverage: the tool evaluates all repositories within an organization through a single integration point, ensuring comprehensive governance without per-repository deployment overhead.

Technical implementation details are beyond the scope of this management-focused paper. The key architectural decision was leveraging organization-level audit capabilities rather than repository-level instrumentation, enabling complete coverage without developer involvement.

Pilot Deployment

The framework was evaluated through a 60-day pilot deployment within a technology organization comprising 30 active repositories across multiple technology platforms. The organization represented a typical enterprise software portfolio including customer-facing applications, internal tools, and infrastructure automation.

Data collection encompassed initial health scores across all repositories, policy violation frequencies by category, score progression over the pilot period, and qualitative feedback from security and compliance stakeholders.

The pilot was designed to evaluate framework feasibility and identify common violation patterns rather than to establish statistical generalizations. Following the pilot, semi-structured interviews were conducted with two security engineers and one compliance officer to gather implementation feedback.

RESULTS

Coverage and Adoption

The framework achieved 100% repository coverage within the pilot organization on the first day of deployment. No modifications were required to existing development workflows, and no developer-facing changes were introduced. This validates the zero-touch design principle: comprehensive governance visibility can be achieved without imposing adoption friction.

Scan performance averaged 3.2 seconds per repository, enabling organization-wide assessments to complete in under two minutes. This performance characteristic supports the framework's applicability to enterprise environments with thousands of repositories.

Violation Prevalence

The pilot revealed that build environment misconfigurations are pervasive even in organizations with mature development practices.

Table 1. Policy Violation Prevalence and Traditional Detection Coverage

Violation Category	Prevalence	Traditional Detection	Business Risk
Supply chain injection vectors	67%	Not monitored	Customer compromise
Governance control gaps	45%	Partial	Audit failure
Access control deficiencies	38%	Partial	Unauthorized access
Separation of duties issues	12%	Monitored	Compliance violation

The most prevalent violations—configurations that enable supply chain compromise affecting customers—are not monitored by conventional security tools. Only 12% of identified violations would trigger alerts under traditional compliance monitoring.

This finding suggests that current governance approaches systematically underestimate software supply chain risk. Organizations relying solely on traditional compliance monitoring may believe their supply chain security posture is stronger than evidence supports, exposing them to customer trust violations that could trigger revenue loss and market position erosion.

Health Score Distribution

Composite health scores across the pilot organization followed approximately normal distribution: A-grade (80–100) comprised 23% of repositories, B-grade (60–79) comprised 40%, C-grade (40–59) comprised 27%, and D-grade (below 40) comprised 10%.

No repositories achieved perfect scores, indicating universal room for improvement. The 10% of repositories scoring below 40 represent concentrated risk requiring immediate remediation attention. These lowest-scoring repositories shared common characteristics: older codebases with legacy configurations and limited recent security review.

For organizations whose customer contracts include security assurances, repositories with D-grade scores represent potential contractual liability as well as technical risk.

Stakeholder Feedback

Qualitative feedback from security and compliance stakeholders highlighted several themes. Regarding board communication, stakeholders valued the health score abstraction as a mechanism for communicating supply chain risk to leadership without requiring technical explanation. One compliance officer noted that the A-through-F grading “finally gives us something concrete to put in the board deck.”

Regarding customer assurance, stakeholders identified health scores as potential evidence for customer security questionnaires and vendor assessments. The ability to demonstrate continuous monitoring rather than point-in-time audits was viewed as a competitive differentiator. Security engineers reported that the framework “turned a vague concern into an actionable backlog,” providing prioritization clarity. Additionally, the continuous scanning and historical trending provided documentation suitable for regulatory and insurance inquiries, with stakeholders anticipating reduced preparation time for SOC 2 and similar audits.

DISCUSSION

Implications for Business Continuity

The proposed framework directly addresses business continuity risk by enabling organizations to identify and remediate supply chain vulnerabilities before they result in customer-impacting incidents. The finding that 67% of repositories contained configurations vulnerable to supply chain compromise—configurations invisible to traditional monitoring—represents substantial unquantified business risk.

For software vendors, a supply chain compromise represents an existential threat. Unlike data breaches that expose customer information, supply chain attacks transform the vendor's product into an attack vector against customer systems. This betrayal of implicit trust can trigger mass customer departures that threaten organizational survival. The framework enables organizations to demonstrate proactive supply chain governance, providing evidence of due diligence that may mitigate reputational damage if industry-wide incidents occur.

Implications for Customer Trust and Revenue

Security risk translates directly to revenue risk. Customer trust functions as a leading indicator of revenue sustainability, and supply chain compromise represents one of the most severe trust violations because it transforms the vendor's product into an attack vector against the customer's own systems. Research consistently demonstrates that trust erosion precedes customer churn, often by months or years as contracts expire and renewal decisions approach (Reichheld & Schefter, 2000). By the time revenue impact becomes visible in financial statements, the underlying trust damage occurred quarters earlier. The framework enables organizations to protect revenue proactively by identifying and remediating trust-threatening vulnerabilities before they materialize as incidents. The revenue implications operate across multiple channels: customer retention, where organizations experiencing breaches see average churn increases of 3.9% (IBM Security, 2023); new customer acquisition, where prospects increasingly include security assessments in vendor selection; pricing power, where trust enables premium pricing; and contract terms, where enterprise customers may require security representations and warranties. The framework thus represents not only risk mitigation but revenue protection and enablement.

Implications for Risk Management

By extending governance to build environments, organizations can quantify previously unmeasured risk exposure. The composite health score translates naturally into risk quantification methodologies such as FAIR (Factor Analysis of Information Risk), enabling supply chain posture to be expressed in financial terms suitable for cost-benefit analysis and insurance discussions (Freund & Jones, 2014). For risk managers, the framework provides evidence for cyber insurance underwriting. Insurers increasingly differentiate premiums based on demonstrated security practices, and supply chain governance represents an area where few organizations can currently provide substantive evidence. Early adopters of build environment governance may benefit from favorable premium treatment as insurers develop more sophisticated supply chain risk models.

Implications for Governance and Compliance

The zero-touch design demonstrates that comprehensive security governance need not conflict with development velocity. By operating transparently through organizational APIs, the framework achieves coverage that would be impossible through tools requiring per-repository adoption. This suggests a design principle for future governance tools: optimize for coverage completeness rather than feature depth.

The framework also provides evidence for governance effectiveness over time. Organizations can track health score trends to demonstrate continuous improvement to regulators, auditors, boards, and customers. This shifts supply chain security from a point-in-time compliance exercise to an ongoing governance program with measurable outcomes.

Cost-Benefit Considerations

The framework offers favorable economics when evaluated against potential trust erosion costs. With average supply chain breach costs exceeding \$4.45 million (IBM Security, 2023) and research indicating that breached organizations experience average customer churn increases of 3.9%, the financial impact of a single incident can dwarf governance investments.

For a mid-sized software vendor with \$50 million in annual recurring revenue, a 3.9% churn increase represents approximately \$2 million in lost revenue—recurring annually until trust is rebuilt. This calculation excludes remediation costs, regulatory penalties, and new customer acquisition difficulties. The zero-touch architecture minimizes implementation costs by eliminating per-repository configuration and developer training requirements, generating substantial risk-adjusted returns.

LIMITATIONS AND FUTURE RESEARCH

This study has several limitations that suggest directions for future research. First, the pilot deployment encompassed a single organization with 30 repositories. While the results demonstrate framework feasibility, larger-scale deployments across diverse industries would strengthen generalizability claims. Future research should examine implementation across sectors with varying regulatory requirements and risk tolerances.

Second, the study did not measure the relationship between health scores and actual incident occurrence. Longitudinal research tracking whether low-scoring repositories experience elevated incident rates would validate the framework's risk prediction capability.

Third, while the theoretical framework links build environment security to customer trust and revenue outcomes, this relationship was not empirically tested. Future research should examine whether organizations with stronger build environment governance experience differential customer retention following industry-wide security incidents.

Fourth, the current implementation focuses on GitHub-hosted repositories. Extending coverage to alternative platforms including GitLab, Azure DevOps, and self-hosted systems would broaden applicability. The theoretical framework generalizes across platforms, but implementation-specific research is needed.

Finally, the study did not examine organizational change management aspects of framework adoption. Research on how security and development teams negotiate remediation priorities, and how health scores influence resource allocation decisions, would contribute to understanding organizational impact.

CONCLUSIONS

Software supply chain attacks represent an escalating threat to business continuity and customer trust. This research introduced a build environment risk framework that extends supply chain governance to encompass pipeline configurations. Grounded in zero-trust principles and operationalized through

a multi-dimensional health scoring model, the framework provides organizations with quantified visibility into previously unmeasured risk.

The pilot deployment demonstrated that comprehensive build environment governance is achievable without imposing operational friction. The framework's zero-touch architecture achieved 100% organizational coverage while requiring no changes to development workflows—addressing the adoption barrier that has historically limited security governance effectiveness.

Empirical findings revealed that build environment misconfigurations are pervasive: 67% of repositories contained configurations vulnerable to supply chain compromise. Critically, only 12% of identified violations would trigger alerts under traditional compliance monitoring, suggesting systematic underestimation of supply chain risk in current governance approaches.

For practitioners, the framework offers a mechanism to protect customer trust proactively, translating technical security posture into business risk metrics suitable for executive communication, stakeholder assurance, and competitive differentiation. For scholars, the research contributes to the IT governance literature by connecting build environment security to customer trust and business continuity outcomes.

As software supply chains grow more complex and attackers increasingly target build infrastructure, organizations that fail to govern this attack surface expose themselves not only to security incidents but to the revenue consequences that inevitably follow trust erosion. Security risk is revenue risk. The question is not whether to invest in supply chain governance, but whether organizations will act proactively to protect revenue through trust preservation or reactively after customers have already begun their exit.

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EVENTS AT SEA AND THE 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 brand within the fleet. They respond more negatively to events which happen on board of 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, market reaction, spillover effects

HEALTH CARE IN THE UNITED STATES: PROFIT MAXIMIZATION OR WHOLE PERSON CARE?

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ABSTRACT

Up until the 1950s, healthcare in the United States was significantly different than it is today. Doctors treated the whole person and their entire family. Whether it was the flu, tonsillitis, or a pregnancy, the doctor had extended office hours, and no appointment was necessary. If you were too sick to get in to see him, he came to your home with his little black bag. Those days are long gone. No longer do doctors make house calls. Female doctors now comprise almost 40% of the profession and are the majority in many of the 50 specialties. No longer does your primary care doctor treat the whole person. Your primary care doctor is sometimes just a “gate keeper” that diagnoses an ailment and sends you to a specialist. If they detect a heart murmur, you’re sent to a cardiologist. If you have trouble walking, maybe you will be referred to a rheumatologist or to physical therapy. If you are hospitalized, you may often be attended to by a hospitalist instead of your primary care physician. Then there are dentists, podiatrists, psychologists, optometrists, dermatologists, and gynecologists that supply licensed medical services for very specialized conditions that are not generally life-threatening. Yet the significant amount of healthcare in the U.S. are conducted for financial reasons, which can be treated as profit-maximizing schemes. The purpose of this paper is to analyze the pattern of healthcare in the United States for profit-maximization which has emerged during the past 75 years.

Key words: Healthcare, primary care physician, specialists, profit-maximization

USING THE ANALYTICAL HIERARCHICAL PROCESS (AHP) MODEL AND SOCIAL MEDIA PLATFORMS (SMP) TO IMPROVE ORGANIZATIONAL PERFORMANCE

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ABSTRACT

The use of AHP Model and Social Media Platforms (SMPs) is rapidly changing the organizational performance opportunities. SMPs have been recognized as a powerful marketing platform, yet there is lack of understanding of how SMPs improve organizational performance. This study uses AHP assessment method in conjunction with the SMPs to reevaluate the main decision criteria. The objective of this paper is to determine the preferred SMPs such as LinkedIn, Facebook, Twitter, YouTube, and Instagram by organizations with the (AHP) model. This study also aims to determine the priority of decision criteria in the assessment of the organizational performance with AHP model. The factors used for decision criteria using this study are quality, delivery, assurance of supply, flexibility, and cost. This study shows that LinkedIn is the preferred alternative policy option followed by Facebook and Twitter, based on AHP model. Quality, Assurance of Supply and Delivery are ranked as the top three influential factors found in this study. The result also showed that LinkedIn significantly influences social media usage, and organizational performance.

Keywords: Social media, Performance measurement, AHP Model, AMPs.

HAS CECL CHANGED THE WAY BANKS VIEW MACRO TRENDS IN THEIR CREDIT LOSSES?

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ABSTRACT

Current Expected Credit Loss (CECL), FASB's accounting standard, effective January 2020, is a direct response to the 2008 financial crisis. FASB's intent is to better align the banks' allowance for credit loss with anticipated macroeconomic risks (business cycle). This extends the estimation horizon of the credit loss provision in order to provide a "more accurate" picture of their expected uncollectibility over the entire life of the loans held in portfolio. While this standard requires the banks to incorporate additional information in their modeling process for their loan loss provision, the question is does it better track macroeconomic outcomes (leading business and credit cycles). Our financial statement data comes from FDIC Call Reports that include both public and private banks and are prepared at the bank level only, unlike SEC financial reports which include financial information of only publicly traded bank holding companies and other subsidiaries in addition to the bank. We use a before and after approach to the correlation between macro variables and allowance for loan loss through time where we used quarterly Call Report data across the implementation window that excludes the advent of CECL (Q1-Q4 of 2020) for COVID. We consider quarterly effects before and after the COVID period to remove that confounding period.

Key words: CECL, FASB, Collateral, FDIC

WHY UNIVERSITIES ARE IDEAL FOR DATA CENTERS

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Abstract

The purpose of this paper is to generate interest in university-based data centers. The paper provides an overview of the resources required to operate the data center, an estimate of costs and an annual budget, a proposed timeline, potential community partners, institutional benefits for the university, and risk considerations. The discussion highlights several advantages of a university that are not available to private investors, such as access to land, an established reputation for trustworthiness, and relationships with contractors, legislators, and community leaders. The profit potential is also significant: once the university recovers the initial investment, it will begin generating steady profits.

Key words: Data center, investment, trust

THE EFFECT OF OPERATING CASH FLOW ON SHARE PRICE IN THE RETAIL TRADE SECTOR

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ABSTRACT

Researchers in this study explore the extent to which movements in operating cash flows affect share prices for major firms in the retail trade industry. Prior to the current cash-flow reporting requirement for publicly traded corporations in the United States, investors often gave little heed to cash flow data. An infamous example was the case of the W.T. Grant Company in which investors overlooked deteriorating operating cash flows for three years before the company's eventual bankruptcy in 1976. In this paper, we utilize a time-series cross-sectional regression of share price on operating cash flows for the major firms in the very industry that contained W.T. Grant (Department Stores) to determine whether after nearly five decades following the Grant bankruptcy investors remember the lesson of that episode and if they factor in movements from operating cash flow in their pricing of corporate stock.

Key words: Cash flow; share price, operating income, financial distress, retail, stock returns

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 communication preferences. 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

TILL (CASH REGISTER) LONG QUEUES INSIDE SOUTH AFRICAN FOOD RETAILERS: CUSTOMERS' EXPERIENCES AND PERCEPTIONS

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Abstract

Long queues remain a ubiquitous and critical pain point within the South African food retail landscape, representing a significant barrier to customer satisfaction and loyalty. In an increasingly competitive market, the efficiency of the checkout process is often the final determinant of a shopper's overall experience. This study aims to explore the multifaceted experiences and perceptions of customers navigating these prolonged waiting times within major South African retail outlets. Utilizing a qualitative research approach involving in-depth semi-structured interviews and non-participant observations across various food retailers in Gauteng and the Western Cape, the research captures shoppers' emotional, psychological, and behavioural responses to queuing dynamics. Key themes emerging from the data include intense feelings of frustration and anxiety, perceptions of operational inefficiency, distinct customer tolerance thresholds, and varied coping mechanisms. The study highlights how excessive queue lengths erode brand perception and impact purchasing decisions, often leading to customer churn and cart abandonment. Furthermore, the research identifies context-specific exacerbating factors such as load-shedding and socioeconomic constraints. The findings provide practical insights for retailers to develop targeted strategies aimed at optimizing checkout processes, enhancing operational efficiency, and ultimately improving the overall in-store experience for the South African consumer.

Keywords: Till, long queues, food retailers, South Africa, customer experiences, customer perceptions, queue management.

INTRODUCTION

In the highly competitive landscape of South African food retail, where major chains such as Shoprite, Pick 'n Pay, Checkers, and Spar dominate the market, customer satisfaction is paramount for sustaining loyalty and driving revenue. The retail sector is a cornerstone of the national economy, contributing significantly to GDP and employing millions across diverse urban and rural populations. However, one persistent challenge that undermines customer satisfaction and operational excellence is the prevalence of long queues at cash registers, commonly referred to as "tills" in local parlance. These queues are not merely logistical inconveniences; they represent a significant source of customer dissatisfaction, influencing perceptions of service quality and overall shopping experiences. In a country characterized by profound socioeconomic diversity and infrastructural constraints, understanding how customers perceive and respond to these waiting times is essential for retailers aiming to enhance operational efficiency and customer retention.

The South African retail sector has experienced rapid growth, with food retail accounting for a substantial portion of consumer spending. Despite this growth, long queues persist, exacerbated by factors such as peak-hour shopping patterns, understaffing, and payment system

inefficiencies. The density of customers in the catchment area, location, safety and security, layout, product quality, design, product mix, pricing, atmosphere, aesthetics, market research, and parking are just a few of the factors that retailers should take into account to enhance the customer retail experience, according to a study by Rasool and Rasool (2020).

These issues are particularly pronounced in lower-income areas where cash transactions predominate, slowing down the throughput at checkout points. This phenomenon is not unique to South Africa but is amplified in developing economies where resource limitations and high population densities intensify queuing issues. The psychological impact of waiting is well-documented globally; however, the specific contextual nuances of the South African environment, ranging from energy crises affecting electronic payment systems to the cultural significance of social interaction in queues, require localized investigation.

Campbell (2017) conducted research on food retailing in South Africa, emphasizing its 2016 GDP contribution. Agrifood supply chains and retail dominate the food retail industry, which accounts for 9% of the nation's GDP, according to Ntloedibe's (2017) assessment (Greenberg, 2015; Peyton, Moseley, and Battersby, 2025). It grows by supplying ready-to-eat meals, beverages, and groceries at supermarkets and eateries (Battersby, Marshak & Mngqibisa, 2016). Informal food vendors make up about 55% of all small businesses in townships (Peterson, 2016; Skinner, 2016).

Prior research has established that waiting times negatively impact customer satisfaction across various service industries. In retail settings, prolonged waits can lead to emotional distress, reduced loyalty, and even cart abandonment, resulting in lost sales estimated at billions annually in global contexts. However, studies specific to South African food retail are limited, often focusing on broader service quality or online alternatives rather than in-store queuing dynamics. This gap is particularly relevant in a post-COVID-19 era, where consumers increasingly value convenience and efficiency, prompting shifts toward online shopping to avoid physical queues. The pandemic accelerated digital adoption, yet brick-and-mortar stores remain the primary shopping channel for the majority of South Africans due to accessibility and immediate product availability.

This article addresses this gap by examining customers' experiences and perceptions of long queues in South African food retailers through a qualitative lens. Drawing on queuing theory and service management literature, it explores emotional responses, behavioural adaptations, and implications for retail strategy. The study contributes to academic discourse on customer-centric retail in developing markets and offers actionable recommendations for practitioners. By understanding the nuanced relationship between wait times and customer behaviour, retailers can implement evidence-based interventions to mitigate dissatisfaction. The following sections will review relevant literature, detail the methodology, present the empirical findings, and discuss the implications for theory and practice.

LITERATURE REVIEW

Queuing Theory and Service Operations

Queuing theory, a foundational framework in operations management, analyses waiting lines as systems comprising arrivals, service processes, and departures. In retail contexts, queues form

due to variability in customer arrival rates and service times, leading to bottlenecks at checkout points. Hall (1991) in *Queueing Methods: For Services and Manufacturing* emphasizes that unmanaged queues result in inefficiencies, such as increased waiting times and reduced throughput. Similarly, Thomopoulos (2012) in *Fundamentals of Queueing Systems* highlights the role of stochastic models in predicting queue lengths, advocating for capacity planning to minimize waits. While mathematical models provide a structural understanding of queues, they often fail to account for the human element of waiting.

In service industries, perceived waiting time often exceeds actual time due to psychological factors. Perceptions are influenced by environmental cues, such as queue structure (e.g., single vs. multiple lines) and distractions. Research indicates that unoccupied time feels longer, amplifying frustration. This psychological dimension is critical in retail, where the checkout experience is the final touchpoint before a customer leaves the store. If this touchpoint is negative, it can overshadow positive experiences earlier in the shopping journey, such as product availability or store cleanliness.

Customer Perceptions and Emotional Responses

Customer perceptions of queues are shaped by attribution theory, where individuals assign causes to delays (e.g., internal to the retailer or external factors). Tom and Lucey (1995) found that when waits are longer than expected, satisfaction declines, particularly if attributed to retailer inefficiency. In supermarkets, long lines evoke negative emotions like anxiety and boredom, leading to dissatisfaction. The emotional response is not uniform; it varies based on individual expectations and the perceived fairness of the queue management system.

In developing countries, these perceptions are compounded by socioeconomic factors. A study in Bangladesh revealed that waiting times inversely correlate with satisfaction in fast-food settings, a pattern extendable to retail. In Kenya, supermarket ambiance, including queue management, influences satisfaction. Pallikkara et al. (2024) noted emotional discomfort from waits in retail checkouts, impacting overall shopping satisfaction in emerging markets. In these contexts, time is often a scarce resource, and wasting it in a queue can be perceived as a disrespect of the customer's value.

South African Context

According to Brand South Africa (2018), the retail sector in South Africa employs 3.2 million people, or roughly 21% of the country's total active labor force (Wholesale and Retail SETA, 2019). It is the third-largest contributor to the country's GDP.

South African studies highlight queues as a major pain point. Heyns (2022) linked long waits to the shift toward online shopping during COVID-19. Moeti et al. (2021) in Limpopo found that brick-and-mortar queues waste time, driving e-commerce adoption. Beneke et al. (n.d.) profiled shoppers, noting that long queues erode reliability perceptions. The South African context is unique due to infrastructural challenges such as load-shedding (planned power outages), which can disable electronic point-of-sale (POS) systems, forcing retailers to revert to manual processes that significantly slow down transaction times.

Queue management systems are increasingly adopted in South Africa to mitigate these issues. Garnett (2009) discussed queue management as key to service quality. Mafini (2015) linked store image, including queue efficiency, to loyalty. However, the adoption of technology such as self-checkout kiosks is uneven, often limited to higher-income urban areas, creating a disparity in service experience across different demographic segments.

Behavioural Impacts and Coping Mechanisms

Long queues lead to behaviours like cart abandonment and store switching. Lu et al. (n.d.) found nonlinear impacts on purchases, with longer waits reducing incidence. Customers cope through distractions or tolerance thresholds, but persistent issues cause churn. In SA, preferences for self-service to avoid queues are evident. Chabata (2024) noted that mobile apps reduce perceived waits. However, reliance on technology introduces new barriers for digitally excluded populations. Understanding these behavioural nuances is critical for retailers aiming to balance efficiency with inclusivity.

Gaps and research questions

While global literature abounds, SA-specific qualitative insights on emotional and behavioural responses are scarce. Most existing studies quantify wait times without exploring the lived experience of the waiting customer. *This study asks: What are customers' experiences and perceptions of long queues? How do these influence satisfaction and loyalty? By addressing these questions, the research fills a critical void in the understanding of service operations within the African retail context.*

METHODOLOGY

Research Design and Philosophy:

Quantitative Approach: This qualitative study employed in-depth interviews and non-participant observations to explore customers' experiences. The approach aligns with interpretive paradigms, allowing rich, contextual data to emerge from the participants' lived realities. Qualitative inquiry is particularly suited for this research as it seeks to understand the "why" and "how" behind customer reactions to queuing, rather than merely measuring the duration of waits. The interpretive framework acknowledges that reality is socially constructed and that customer perceptions of waiting are subjective experiences influenced by context (Persaud, Devonish, and Persaud, 2029).

Research Approach:

The study approach employed an inductive reasoning process in which patterns and themes emerged from the data, rather than utilizing an established theoretical framework to direct the participants. Inductive reasoning is crucial to qualitative research because it allows meaning to be created from the ground up, utilizing a participant's lived experiences (Braun & Clarke, 2013). This makes it possible for the researcher to generate new ideas and to be open to unexpected findings. The interpretivist paradigm, which emphasizes individual meaning and personal

interpretation and enables the researcher and participants to co-create knowledge, is consistent with the qualitative approach and inductive reasoning (Guba & Lincoln, 1994). This enables the development of a thorough and sophisticated understanding of the consequences of lengthy lines and effective management techniques.

Sample and Setting:

Data were collected from 45 customers (aged 18-65, diverse demographics) at five food retailers in Gauteng and Western Cape provinces, including urban (Johannesburg, Cape Town) and peri-urban areas. Retailers varied in size: two large chains (e.g., Shoprite), two mid-sized (e.g., Spar), and one independent. Convenience sampling ensured representation of gender (52% female), income levels, and shopping frequency. This diversity was crucial to capture a wide range of experiences, from affluent shoppers in suburban malls to budget-conscious consumers in township retail outlets. The selection of Gauteng and Western Cape was strategic, as these provinces represent the economic hubs of South Africa with high retail density.

Data collection:

Semi-structured interviews (20-30 minutes) probed experiences, perceptions, emotions, and behaviours related to queues. Questions included: "Describe a recent long queue experience," "How does it affect your loyalty?" and "What do you do while waiting?" Observations at checkout areas recorded queue lengths, wait times, and behaviours during peak hours (e.g., month-end when social grants are disbursed and shopping traffic peaks). The combination of interviews and observations allowed for triangulation, where self-reported data could be cross-verified with observed behaviours.

Ethical considerations

Since the study was concerned with collecting customers' opinions and experiences, there were no institutions requiring permission before data collection. Instead, participants had to sign for informed consent to prove that they voluntarily accept to partake in the study. Interviews were audio-recorded and transcribed verbatim to ensure accuracy. Participants were assured of anonymity, and pseudonyms were used in the reporting of findings.

Data analysis

Thematic analysis using NVivo software identified patterns. Braun and Clarke's (2006) six-phase process was followed: familiarization, coding, theme generation, review, definition, and reporting. Inter-coder reliability was ensured through dual coding, where a second researcher reviewed a subset of the transcripts to confirm the consistency of the coding framework. This rigorous process ensured that the themes identified were robust and reflective of the data rather than researcher bias.

Trustworthiness

To ensure trustworthiness, the study employed member checking, where participants were given the opportunity to review the summaries of their interviews. Additionally, thick description was used in the reporting of results to allow readers to assess the transferability of the findings to

other contexts. The reflexivity of the researchers was maintained throughout the process to acknowledge any potential influence on data collection and interpretation.

RESULTS

Four key themes emerged from the analysis: emotional responses, perceived inefficiencies, tolerance and coping, and behavioural impacts. These themes provide a comprehensive view of the queue experience from the customer's perspective.

Theme 1: Emotional Responses

Participants frequently reported frustration and anxiety as primary emotional responses to long queues. The waiting period was often described as a loss of control over one's time. One shopper stated: "Standing in line for 30 minutes makes me angry; I feel trapped." This sentiment of entrapment was common among participants who felt they had no alternative but to wait once they had selected their goods. Anxiety was linked to time pressures and external responsibilities. A low-income mother noted: "I worry about my kids waiting outside in the heat." This highlights how the queue experience extends beyond the individual to affect their dependents, amplifying the stress.

Boredom was also a common emotion, described as a passive suffering of time. "It's just staring at nothing," one participant remarked. These align with global findings but were intensified by SA-specific factors like load-shedding, delaying payments. When power outages occurred, the emotional response shifted from frustration to helplessness, as customers understood the delay was infrastructural rather than purely managerial, yet still felt the negative impact.

Theme 2: Perceived Inefficiencies

Queues were predominantly attributed to understaffing and slow processes. Customers demonstrated a keen awareness of store operations, often noticing when tills were closed during busy periods. "They open only half the tills during rush hour," one participant observed. This perception of deliberate understaffing to save costs generated significant resentment. Perceptions of unfairness arose from multiple lines, where customers felt they made poor choices. "I always pick the slow one," a shopper complained, indicating a lack of trust in the queue management system.

Observations confirmed average waits of 15-25 minutes during peaks, with queues of 10+ customers. In some instances, the ratio of staff to customers was visibly imbalanced. The inefficiency was not just about speed but also about competence; instances where cashiers struggled with payment terminals or price checks exacerbated the perception of inefficiency. In peri-urban stores, where cash handling is more frequent, the counting of change added significant time to each transaction, further slowing the queue.

Theme 3: Tolerance and Coping Mechanisms

Tolerance levels varied significantly among participants. Tolerance was higher for necessities; customers were more willing to wait for staple foods than for impulse buys. Coping mechanisms

included phone use, chatting with other queue members, or mentally disengaging. However, many expressed clear limits: "If over 20 minutes, I leave." This threshold indicates a breaking point where the cost of waiting outweighs the value of the purchase.

In peri-urban areas, tolerance was higher due to limited alternatives. Customers in these areas often have fewer retail options within an accessible distance, forcing them to endure longer waits. This suggests that loyalty in these contexts may be driven by convenience and lack of choice rather than satisfaction. Conversely, in urban areas with high retail density, tolerance was lower, as customers knew they could easily switch to a competitor.

Theme 4: Behavioural Impacts

Long queues led to tangible behavioural changes, primarily reduced purchases and store switching. "I skip extras if the line is long," one shopper explained, indicating that queue length influences basket size. Churn was evident: 60% reported switching stores or opting online to avoid queues. Loyalty eroded significantly: "I avoid that shop now." This demonstrates that queue management is not just an operational issue but a strategic retention issue.

Observations noted 15% cart abandonment in long queues, where customers left items behind to expedite the process or left the store entirely. This represents direct revenue loss. Furthermore, the negative experience often led to negative word-of-mouth, where customers discouraged friends and family from shopping at specific outlets. The behavioural impact extends beyond the immediate transaction, affecting the long-term brand equity of the retailer.

DISCUSSION

Interpretation of Findings

The findings corroborate literature on the negative impacts of waits on customer satisfaction. Emotional distress mirrors Munichor and Rafaeli (2022), where longer waits increase annoyance but can paradoxically boost purchases if perceived as value signals. However, in South African retail, the dominant effect is detrimental, aligning with Mafini's (2015) findings. The lack of perceived value in waiting suggests that South African consumers do not view queues as a sign of popularity or quality, but rather as a failure of service delivery.

Perceived inefficiencies highlight operational gaps, supporting queue management adoption. In developing contexts, socioeconomic factors amplify issues, as in Pallikkara et al. (2024). The specific mention of load-shedding adds a layer of complexity not found in developed market literature, indicating that customers internalize external infrastructural failures as retail failures. This suggests that retailers need to communicate these constraints better or invest in backup power solutions to maintain service continuity.

Coping mechanisms suggest distractions could mitigate perceptions. The use of mobile phones indicates an opportunity for retailers to engage customers digitally while they wait, perhaps through apps that offer promotions or entertainment. Behavioural impacts underscore revenue losses, consistent with Lu et al. (2013). The high rate of cart abandonment and store switching indicates that the cost of improving queue management is likely lower than the cost of lost customers.

Theoretical Implications

This study extends queuing theory by integrating the socioeconomic context of a developing economy. Traditional models often assume rational actors with equal alternatives, but this study shows that tolerance is influenced by the lack of alternatives (peri-urban contexts). It also contributes to service management literature by highlighting the role of infrastructural instability (load-shedding) as a moderator in the relationship between wait times and satisfaction.

Managerial Implications

Retailers should implement virtual queuing, self-checkouts, and staffing optimization. Dynamic staffing models that align employee schedules with peak traffic times (e.g., month-end) are essential. Investment in backup power generators is no longer optional but a necessity for maintaining checkout efficiency in South Africa. Policy-wise, training on queue psychology could enhance service; staff should be trained to manage customer expectations and communicate delays effectively.

Furthermore, retailers should consider the layout of checkout areas. Single-line queuing systems (snake lines) are perceived as fairer than multiple lines, reducing the anxiety of choosing the "wrong" line. Self-checkout kiosks should be expanded, but with support staff available to assist less tech-savvy customers to prevent frustration. For lower-income areas where cash is king, dedicated cash-handling tills could speed up processes for card users while accommodating cash users efficiently.

Limitations

Qualitative nature limits generalizability; future quantitative studies could validate findings. The study was limited to two provinces, and experiences in rural areas may differ. Additionally, the study relied on self-reported data, which may be subject to recall bias. Future research could employ time-motion studies to correlate actual wait times with perceived wait times more precisely.

Conclusion

Long queues in South African food retailers profoundly affect customer experiences, evoking negative emotions and driving behavioural changes that threaten loyalty. The study reveals that waiting is not a passive activity but an emotionally charged experience influenced by operational efficiency, infrastructural stability, and socioeconomic context. Customers are increasingly unwilling to tolerate inefficiency, leading to churn and revenue loss. By addressing these through evidence-based strategies, retailers can improve satisfaction and competitiveness.

This study advances understanding in developing market contexts, calling for further research on technological interventions. As the retail landscape evolves, the checkout process must transform from a bottleneck into a seamless conclusion to the shopping journey. Retailers who prioritize queue management will not only retain customers but also enhance their brand reputation in a crowded market. The integration of technology, optimized staffing, and improved

communication strategies offers a pathway to resolving this persistent challenge. Ultimately, respecting the customer's time is respecting the customer themselves, a principle that should lie at the heart of South African retail strategy.

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ENTREPRENEURIAL ORIENTATION AND SME PERFORMANCE IN EMERGING ECONOMIES: A SYSTEMATIC LITERATURE REVIEW

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Abstract

This study presents a systematic literature review examining the relationship between entrepreneurial orientation (EO) and small and medium-sized enterprise (SME) performance in emerging economies. Drawing on 48 peer-reviewed empirical studies, the review synthesises evidence on the mechanisms, capabilities, and contextual conditions that shape the EO-performance relationship. The findings reveal that EO does not consistently exert a direct influence on SME performance. Instead, its performance effects are mediated and moderated by innovation capability, entrepreneurial learning, dynamic capabilities, digital integration, human capital depth, social capital mobilisation, and institutional conditions. Innovation emerges as the central pathway through which EO translates into measurable growth and competitiveness. Human capital, particularly education, prior entrepreneurial experience, and self-efficacy, strengthens the enactment of entrepreneurial behaviour, while social networks provide access to resources and legitimacy in constrained environments. Institutional adversity, including corruption and uneven policy support, shapes growth trajectories, but capability-based responses such as innovation and certification can mitigate these constraints. The review advances a capability-centred interpretation of entrepreneurial performance in emerging economies, demonstrating that EO becomes performance-relevant when embedded within complementary organisational, relational, and institutional configurations.

Keywords: Entrepreneurial Orientation, SME Performance, Innovation Capability, Emerging Economies, Dynamic Capabilities, Human Capital

BACKGROUND

Small and medium-sized enterprises (SMEs) are widely recognised in the literature as critical contributors to economic activity and recovery in emerging economies. However, their performance trajectories are frequently shaped not only by opportunity structures but also by structural and capability constraints. For instance, evidence from Ghana indicates that SME performance is often influenced by contextual limitations such as resource scarcity, skills gaps, institutional voids, and economic instability, all of which can weaken the effectiveness of firm-level capabilities unless supported by innovation-oriented strategies (Tuffuor et al., 2025). This suggests that performance outcomes in emerging markets are embedded within complex environmental realities rather than driven solely by internal firm attributes. In this context, EO is increasingly framed as a strategic posture that enables SMEs to navigate turbulence through innovativeness, proactiveness, and calculated risk-taking. Research in Indonesia highlights that EO becomes particularly salient during periods of crisis, where entrepreneurial behaviour is essential for stabilisation and growth (Astuti et al., 2024). At the same time, the same body of evidence acknowledges that SME owners, especially women entrepreneurs, often face capability constraints related to education, experience, access to capital, and technology, which may limit the extent to which entrepreneurial intentions can be translated into measurable performance

outcomes (Astuti et al., 2024). This highlights that EO alone may be insufficient without supporting capability foundations.

Furthermore, contemporary entrepreneurial environments in emerging economies are increasingly shaped by digital transformation. Evidence from South Africa shows that digital self-efficacy plays a significant role in shaping entrepreneurial behaviour and engagement with digital technologies (Simba et al., 2025). However, this same study situates digital engagement in broader structural inequalities in access to ICT infrastructure, suggesting that technological opportunity is unevenly distributed and may influence how entrepreneurial strategies are enacted (Simba et al., 2025). Research from Ethiopia highlights that the relationship between strategic orientation and enterprise performance remains empirically inconsistent across contexts, with mediating and moderating mechanisms often required to clarify these relationships (Bekata & Kero, 2025). This reinforces the need for systematic synthesis, particularly within emerging economy contexts where institutional and capability conditions vary significantly.

METHODOLOGY

This study adopted a systematic literature review (SLR) approach to synthesise contemporary empirical evidence on EO and SME performance in emerging economies. The systematic review design was selected to ensure transparency, methodological rigour, and replicability in the identification, screening, and synthesis of scholarly work. Unlike traditional narrative reviews, which may rely heavily on author discretion, the SLR approach follows explicit and structured inclusion and exclusion criteria, thereby minimising selection bias and strengthening the credibility of the findings. The Scopus database was used as the primary data source due to its extensive coverage of peer-reviewed journals, conference proceedings, and high-quality publications across business, management, economics, and related social sciences. Given the multidisciplinary and rapidly evolving nature of entrepreneurship research, Scopus provided a sufficiently comprehensive platform for capturing relevant and up-to-date scholarship. The initial search returned 6,812 documents. Given the large volume of publications in entrepreneurship and SME research, it became necessary to introduce carefully considered filters to ensure both conceptual focus and a manageable dataset. One of the most significant filtering decisions involved limiting the publication period to a single year, covering 2024 to 2025. This decision was not arbitrary. When broader time frames were considered, the number of publications increased dramatically, reaching several thousand and, in some search combinations, exceeding 3000 documents. Such a volume would have made a detailed and rigorous review unmanageable in the scope of this study. Restricting the review to one year, therefore, served two purposes: it ensured that the review reflected the most recent empirical developments in the field, and it reduced the dataset to a size that could be systematically analysed in depth. After applying this temporal restriction, the number of documents decreased to 2,484.

Further refinement was achieved by limiting the search to subject areas aligned with business, management, entrepreneurship, economics, and related disciplines. This step reduced the dataset to 1,498 documents and ensured disciplinary relevance. The document type was then restricted to peer-reviewed articles, review papers, and conference papers, excluding editorials, notes, and non-empirical publications. This refinement resulted in 1,312 documents. A keyword-based filtering process was subsequently applied using terms directly aligned with the focus of the study, including entrepreneurial orientation, SME performance, innovation, emerging economies, and related constructs. This step substantially narrowed the dataset to 421

documents. To ensure consistency and accessibility, the search was limited to English-language publications, which reduced the number to 399 documents. Filtering for open-access publications further reduced the pool to 197 documents, ensuring that all selected studies could be fully accessed and scrutinised.

Additional topic-based filtering was undertaken to ensure closer alignment with the core research objectives, reducing the number of documents to 105. At this stage, each abstract was carefully screened to assess conceptual relevance and empirical alignment with the focus on EO and SME performance. Following abstract screening, 63 studies were retained for potential inclusion. A final assessment of full-text availability revealed that 48 articles were fully downloadable and accessible. These 48 studies formed the final sample for the systematic review. The selected articles were analysed through a structured thematic synthesis process. Particular attention was given to the findings and results sections of each study, ensuring that the review was grounded in empirical evidence rather than purely theoretical assertions. Recurring patterns, mediating and moderating mechanisms, contextual influences, and capability-based explanations were identified and synthesised into coherent thematic categories. This analytical approach enabled the development of an integrated interpretation of how entrepreneurial orientation interacts with innovation, human capital, social capital, digital capabilities, and institutional conditions to shape SME performance in emerging economies.

Theme 1: How entrepreneurial orientation translates into SME performance in emerging economies

The relationship between EO and SME performance in emerging economies is complex and does not consistently manifest as a direct effect. Instead, evidence across the reviewed studies indicates that EO operates as a strategic posture whose influence on performance depends on the organisational mechanisms through which it is enacted (Astuti et al., 2024; He & Puttawong, 2024; Maingehama, 2025). Several studies demonstrate that EO does not automatically translate into superior performance outcomes. For example, Astuti et al. (2024) found that individual entrepreneurial orientation did not have a statistically significant direct effect on SME performance. However, EO became performance-relevant when it stimulated innovation activities, indicating that entrepreneurial behaviours only generate economic value once they are transformed into tangible outputs such as new products, services, or improved processes. This finding suggests that EO represents intent or orientation rather than outcome, requiring organisational execution to influence performance (Astuti et al., 2024).

The mediating role of innovation in the EO performance relationship is further supported by evidence from South African SMEs operating in the post-COVID-19 period. Maingehama (2025) reported that entrepreneurial orientation contributed to firm growth primarily through its effect on innovation. In this context, innovation acted as the channel through which EO influenced performance, reinforcing the argument that entrepreneurial posture alone is insufficient unless accompanied by innovation capability. These findings collectively highlight innovation as a critical mechanism through which EO becomes economically meaningful in emerging economies (Astuti et al., 2024; Maingehama, 2025).

In addition to innovation, learning processes and dynamic capabilities play a central role in shaping how EO influences performance. He and Puttawong (2024) showed that entrepreneurial action learning mediates the relationship between EO and entrepreneurial performance, while dynamic capabilities strengthen this association. Their findings suggest that EO encourages SMEs to engage in experiential learning and adaptive behaviour, but the performance impact of

these behaviours depends on the firm's ability to reconfigure resources and respond effectively to environmental change. Thus, EO yields stronger performance outcomes in firms that possess well-developed dynamic capabilities (He & Puttawong, 2024).

Digital integration and organisational alignment further condition the EO-performance relationship. Evidence from SMEs operating in technology park environments indicates that EO positively influences performance when combined with organisational ambidexterity and e-business adoption (Hanoum et al., 2025). In this setting, EO interacts with internal capabilities that support both exploration and exploitation, enabling firms to operationalise entrepreneurial initiatives more effectively. The findings suggest that EO contributes more strongly to performance when it is embedded in a broader configuration of digital and organisational capabilities rather than functioning in isolation (Hanoum et al., 2025).

The reviewed studies indicate that entrepreneurial orientation in emerging economy SMEs should be understood as a foundational strategic orientation rather than a direct determinant of performance. Its influence on performance is realised through mediating mechanisms such as innovation and entrepreneurial learning, and is strengthened by moderating conditions including dynamic capabilities, organisational ambidexterity, and digital integration (Astuti et al., 2024; He & Puttawong, 2024; Hanoum et al., 2025; Maingehama, 2025). Where these enabling conditions are absent or weak, the performance impact of EO appears limited. Conversely, when SMEs possess the capability to translate entrepreneurial intent into action, EO becomes a meaningful driver of growth and competitive outcomes

Theme 2: Innovation as the central pathway linking entrepreneurial orientation to performance

Across the reviewed studies, innovation consistently emerges as the primary mechanism through which EO becomes economically consequential. Rather than operating as a direct and self-sufficient predictor of SME performance, EO appears to generate performance effects when it stimulates innovative behaviour, strengthens adaptive capacity, and enables firms to reposition themselves strategically in competitive and institutionally complex environments. Evidence from Indonesian SMEs demonstrates that the relationship between EO and performance is significantly mediated by innovation.

While individual entrepreneurial orientation did not directly predict SME performance, it exerted a positive and statistically significant influence once innovation was introduced as an intervening variable (Astuti et al., 2024). This finding highlights that an entrepreneurial posture manifested in proactiveness, innovativeness, and risk-taking requires operational translation into new products, services, or process improvements before measurable performance gains materialise. Innovation, therefore, functions as the practical conversion channel between entrepreneurial intent and financial or growth outcomes (Astuti et al., 2024).

In this context, innovation is not peripheral but central to growth recovery and competitiveness, particularly in periods of environmental disruption. The mediating role of innovation is further supported in studies examining learning and capability development. Research on SMEs in the post-pandemic era shows that entrepreneurial action learning strengthens performance outcomes by enabling firms to transform entrepreneurial orientation into adaptive strategies and market-responsive innovations (He & Puttawong, 2024). Dynamic capabilities, in turn, moderate this relationship, suggesting that innovation yields stronger performance effects when firms possess the capacity to reconfigure resources and respond effectively to environmental change (He & Puttawong, 2024).

These findings position innovation not merely as output, but as an embedded capability supported by organisational learning and strategic adaptability. Digital innovation also reinforces the centrality of innovation in linking EO to performance. Evidence from SMEs operating in Indonesian technology parks indicates that EO positively influences performance when aligned with organisational ambidexterity and e-business adoption (Hanoum et al., 2025).

In this configuration, innovation manifests through digital integration and balanced exploration and exploitation activities, enabling firms to scale entrepreneurial initiatives more effectively.

The results suggest that digital innovation strengthens the operationalisation of EO by embedding entrepreneurial initiatives in technology-enabled systems (Hanoum et al., 2025).

Innovation also plays a protective and strategic role in institutionally challenging environments.

In emerging economy contexts characterised by corruption, engagement in innovation and certification reshapes how SMEs pursue internationalisation. While corruption showed a positive association with SME internationalisation, this relationship was significantly weakened among firms that innovated, indicating that innovation reduces reliance on institutionally costly growth pathways (Mmadubuko et al., 2025).

Here, innovation operates not only as a performance enhancer but also as a strategic buffer that mitigates institutional constraints and enhances credibility in external markets. Complementary evidence further reinforces innovation's central role in performance outcomes. In SMEs adopting generative AI technologies, innovation capability contributes to entrepreneurial resilience, enabling firms to adapt to turbulence and sustain competitiveness (Shore et al., 2024). The study highlights how technological innovation strengthens firms' ability to navigate uncertainty, suggesting that innovation capacity enhances both short-term adaptability and long-term performance stability.

The evidence converges on a coherent explanation: entrepreneurial orientation becomes performance-relevant when it activates innovation processes that are supported by learning systems, dynamic capabilities, digital integration, and institutional responsiveness (Astuti et al., 2024; He & Puttawong, 2024; Hanoum et al., 2025; Maingehama, 2025; Mmadubuko et al., 2025; Shore et al., 2024). Innovation thus emerges not as an auxiliary variable, but as the central operational pathway through which entrepreneurial orientation translates into sustainable performance outcomes in emerging economy SMEs.

Theme 3: Human capital foundations that strengthen entrepreneurial capabilities and performance

Across the reviewed evidence, SME outcomes are repeatedly tied to the depth and usability of entrepreneurs' human capital, especially education, work experience, and task-relevant managerial/entrepreneurial experience, because these attributes shape whether entrepreneurial efforts can be executed consistently and translated into measurable results. A clear substitution logic is visible in the micro- and small enterprise context. Parental exposure to entrepreneurship may matter, but performance depends more strongly on *cognitive and knowledge-related transmission* than on attitudes alone (Mickiewicz et al., 2025). Importantly, the study also highlights compensatory pathways where parental business knowledge is limited or absent, founders' *education* and *business-specific managerial experience* can help make up the deficit, implying that human capital can operate as an alternative route to performance rather than merely an additive advantage (Mickiewicz et al., 2025).

In emerging-economy entrepreneurship, where ventures are embedded in networked opportunity structures, human capital also appears as a direct performance predictor. Evidence from African

immigrant entrepreneurs in South Africa indicates that work experience and entrepreneurial experience significantly predict entrepreneurial success, alongside social-capital resources (Urban et al., 2024).

This pattern reinforces the interpretation that “entrepreneurial capability” is not only a matter of strategic posture or intention; it is frequently grounded in accumulated experience that improves judgement, execution quality, and opportunity exploitation. Other studies extend this human-capital argument by modelling growth and performance as outcomes that depend on *how* entrepreneurial orientation is enacted through capability-building.

In South African SMEs, a model integrating entrepreneurial orientation, human capital, innovation, and motivation reports that innovation is a crucial mediator between entrepreneurial orientation and growth, while the role of human capital in growth is not uniform in the post-crisis context (Maingehama, 2025). Read alongside the substitution evidence above, this implies that human capital does not always express as an unconditional “main effect”; rather, its contribution can be contingent, sometimes working through innovation and motivational pathways, and sometimes compensating for missing advantages depending on conditions.

A complementary stream of findings positions education and skills development as the upstream foundations of entrepreneurial capability, even when the measured outcome is intention or entrepreneurial behaviour rather than firm performance. In a South African student sample, financial education is linked to entrepreneurial intention, but the relationship is fully mediated by self-efficacy, suggesting that the “performance-relevant” value of education is partly realised through confidence and perceived capability to act (Nkomo et al., 2025). This is consistent with evidence on digital capability among early-stage entrepreneurs in South Africa, digital self-efficacy shapes the relationships between perceived behavioural control and technostress, and is implicated in entrepreneurship processes where technology use can enable or constrain entrepreneurial action (Simba et al., 2025).

The studies reviewed suggest that human capital in emerging economies increasingly includes *the capability to operate under contemporary constraints* (financial decision competence, digital competence, and confidence under stress), which plausibly conditions whether entrepreneurial strategies can be implemented effectively. Leadership capability can be read as a human-capital extension that affects innovation and venture outcomes. Evidence indicates that leadership behaviours are significantly related to entrepreneurial environments and innovation outcomes, with transformational leadership associated with stronger innovation and performance effects in dynamic contexts (Awotunde & Aregbeshola, 2025). This frames leadership development not as a generic managerial add-on, but as part of the human-capital base that shapes innovation capacity and the sustainability of entrepreneurial success.

The reviewed studies converge on a capability-centred conclusion: entrepreneurial orientation and entrepreneurial ambition are unlikely to deliver consistent outcomes unless supported by human-capital depth, formal education, prior work/entrepreneurial experience, and efficacy-based competencies (financial, digital, and leadership). Where resources, networks, or inherited business knowledge are limited, human capital can also substitute for these gaps, providing alternative pathways to performance and growth (Mickiewicz et al., 2025; Urban et al., 2024; Maingehama, 2025).

Theme 4: Networks and social capital as performance-enabling resources in constrained contexts

Across the reviewed studies, networks and social capital are positioned as operative resources that shape how SMEs access information, mobilise inputs, and ultimately sustain performance, especially where formal support is limited or uneven. In the South African immigrant entrepreneurship evidence, entrepreneurial success is linked to structural and resource-related social capital, indicating that who entrepreneurs are connected to and what those connections enable matters for venture outcomes (Urban et al., 2024). This contribution is reinforced by the study's operationalisation of social capital into distinct dimensions (structural, resource, and relational), suggesting that network-derived value is not monolithic but multi-faceted, with different relational features capturing different performance-relevant advantages (Urban et al., 2024).

The same study further shows that human capital (work experience and entrepreneurial experience) is a significant predictor of entrepreneurial success, implying that network benefits may be most productive when paired with the experience to interpret opportunities and execute effectively (Urban et al., 2024). Evidence on immigrant entrepreneurship in South Africa also clarifies *how* networks function under adversity. Entrepreneurs rely on network-based exchanges to secure resources and benefits that are difficult to obtain through formal channels, thereby making social capital an applied mechanism for coping with uncertainty and constraint (Urban et al., 2024). Related network-typology findings extend this logic by showing that immigrant entrepreneurs draw on multiple network forms: social, family, ethnic, business, and transnational, each associated with different resource flows, such as information, finances, human capital, and operational support (Fubah & Moos, 2025).

The same evidence indicates that social networks can compensate for resource shortages in the host context and serve as a route to improved performance and competitive advantage, particularly for newcomers with limited access to conventional support structures (Fubah & Moos, 2025). Crucially, the South African network-typology evidence does not portray networks as uniformly beneficial; rather, it shows that entrepreneurs may avoid certain ties because of negative prior experiences, and it cautions that overreliance on family networks can undermine performance when family members lack relevant business skills (Fubah & Moos, 2025). This introduces an important boundary condition for the SLR networks, which can be enabling, but their value depends on the quality, relevance, and governance of the ties that are activated in day-to-day entrepreneurial decision-making (Fubah & Moos, 2025).

Beyond immigrant entrepreneurship, the wider evidence base frames network ties as a form of resilience-related infrastructure that can support adaptation in volatile conditions. In predicting viability among small businesses in distress, relational factors are explicitly treated as part of the resilience pathway, including the strengthening of social capital through networks as firms mature and accumulate survival-enabling capabilities over time (Dieperink et al., 2025). This perspective is consistent with the argument that networks extend beyond immediate transactions by shaping strategic flexibility and access to resources when firms face critical pressures (Dieperink et al., 2025). A parallel mechanism is visible in studies that connect entrepreneurship-related orientation to performance outcomes through relational channels. In work linking entrepreneurial orientation and innovation performance, management ties are treated as channels for accessing resources, expertise, information, and legitimacy, and the empirical results confirm that management ties significantly strengthen the pathway from opportunity-oriented behaviour to innovation performance (Nugroho & Soewarno, 2024).

The same evidence distinguishes between horizontal (business) and vertical (political) ties, suggesting that network value can be generated through market-facing relationships as well as through institutional relationships that help firms navigate regulatory and policy constraints (Nugroho & Soewarno, 2024). Network effects are also discussed in relation to innovation outcomes, where interaction intensity and closeness can support knowledge exchange, trust, and collaborative behaviours that strengthen innovative performance. In evidence on women entrepreneurs' innovative performance, the frequency of communication and the closeness of network relationships are associated with improved innovation outcomes through richer information and knowledge flows, and through resource access enabled by network participation (Chávez-Rivera et al., 2023).

This supports a broader synthesis in which networks function both as performance resources and as innovation-enabling systems that help SMEs convert entrepreneurial intent or posture into implementable outcomes (Chávez-Rivera et al., 2023; Nugroho & Soewarno, 2024). The reviewed evidence supports a coherent SLR argument in constrained and emerging-economy contexts, performance is often less about entrepreneurial "orientation" in isolation and more about whether entrepreneurs can *activate* networks that provide credible information, scarce resources, legitimacy, and practical support, while also managing the risks of over embeddedness or unproductive ties (Urban et al., 2024; Fubah & Moos, 2025; Dieperink et al., 2025).

Theme 5: Institutional adversity and capability-based responses that shape growth outcomes

Across the reviewed evidence, SME performance pathways in emerging economies are consistently shown to be institution contingent. Firms often operate in environments characterised by weak governance structures, bureaucratic burdens, uneven policy implementation, and regulatory uncertainty, all of which can either constrain or enable entrepreneurial outcomes depending on how firms respond (Gomes et al., 2025; Prasannath et al., 2024).

These institutional conditions do not operate in a uniform manner; rather, their influence on SME growth appears conditional upon firm-level capabilities and strategic positioning. This complexity is particularly evident in research examining corruption and SME internationalisation. Empirical findings indicate that corruption may be positively associated with SME internationalisation performance; however, this relationship is not straightforward. When firms engage in innovation and adopt quality certification practices, the strength of the corruption-internationalisation relationship weakens significantly, with innovation demonstrating the stronger moderating effect (Mmadubuko et al., 2025). This suggests that capability-building can reduce dependence on institutionally costly or informal routes to expansion. Innovation, in this context, functions not only as a performance enhancer but also as a strategic mechanism that buffers firms against adverse institutional pressures (Mmadubuko et al., 2025).

A related policy-oriented stream of research further illustrates the non-uniform effects of institutional support. The literature on government support policies (GSP) indicates that public support may influence SME performance through both direct and indirect pathways, including moderating the EO-performance relationship (Prasannath et al., 2024). However, the strength and direction of these effects vary by sector, SME growth intention, and the specific type of support provided. This variation suggests that institutional assistance is not inherently performance-enhancing; rather, its effectiveness depends on alignment with firm strategy and context (Prasannath et al., 2024). Moreover, engagement with government programmes may

introduce additional compliance requirements, reinforcing the notion that institutional frameworks can simultaneously enable and constrain entrepreneurial activity (Prasannath et al., 2024).

Comparative emerging-market evidence sharpens this argument further. In research examining SMEs in South Africa and the Democratic Republic of Congo, government support was found to have a non-significant relationship with financial performance, while internal capabilities such as market orientation, ICT adoption, and management competency demonstrated positive associations with financial performance (Tuffuor et al., 2025). This finding highlights the importance of internal capability accumulation in contexts where formal institutional mechanisms may be weak, inconsistent, or insufficiently targeted. Similarly, broader ecosystem-level evidence suggests that institutional framework conditions, including financing mechanisms, infrastructure development, R&D transfer systems, and government policies, are positively associated with macro-level growth outcomes, yet the impact of taxes, bureaucracy, and government programmes varies across national contexts and income levels (Gomes et al., 2025). These findings reinforce the view that institutional design effects are context-dependent and mediated by structural conditions.

Evidence on business viability and resilience further indicates that relational and capability-based factors often play a central role in firm survival under institutional stress. SMEs facing financial or structural vulnerability are more likely to remain viable when supported by accumulated capabilities and resilience-enhancing mechanisms rather than relying solely on external support structures (Dieperink et al., 2025). The reviewed studies support an integrated interpretation: in adverse or uneven institutional environments, SME growth outcomes are shaped less by institutional conditions alone and more by how firms respond through capability development. Innovation, certification, ICT adoption, managerial competence, and strategic alignment emerge as critical substitutes or complements to formal support structures. Institutional arrangements, therefore, matter, but their influence on performance is mediated by the firm's capacity to build and deploy adaptive capabilities (Mmadubuko et al., 2025; Prasannath et al., 2024; Tuffuor et al., 2025; Gomes et al., 2025; Dieperink et al., 2025).

DISCUSSION

The systematic review demonstrates that the relationship between entrepreneurial orientation and SME performance in emerging economies is neither linear nor uniform. Across the 48 reviewed studies, EO appears less as a direct determinant of performance and more as a strategic posture whose economic value depends on the capabilities and contextual conditions through which it is enacted. A consistent finding across multiple empirical contexts is that EO does not automatically translate into superior firm performance. Rather, its influence is typically mediated by innovation processes. Evidence from Indonesian SMEs shows that EO improves performance only when it stimulates innovation activities (Astuti et al., 2024).

Similarly, research on South African SMEs indicates that innovation mediates the relationship between EO and firm growth, particularly in post-crisis conditions (Maingehama, 2025). These findings suggest that entrepreneurial orientation reflects a behavioural inclination of proactiveness, risk-taking, and innovativeness, but requires operational conversion into tangible outputs before measurable performance outcomes materialise. Innovation, therefore, functions as the principal conversion mechanism through which entrepreneurial intent becomes economic value. Beyond innovation, entrepreneurial learning and dynamic capabilities significantly shape how EO affects outcomes. In post-pandemic SME environments, entrepreneurial action learning

enhances the performance impact of EO, while dynamic capabilities strengthen firms' ability to reconfigure resources and respond to environmental change (He & Puttawong, 2024). This implies that EO's performance value increases when firms possess adaptive capacity. Without such capabilities, entrepreneurial initiatives may remain aspirational rather than transformative. Digital integration further modifies the EO-performance linkage. In technology park environments, EO contributes to SME performance when supported by ambidexterity and e-business adoption (Hanoum et al., 2025). Digital systems enable firms to scale entrepreneurial initiatives and balance exploration with exploitation. This suggests that in contemporary emerging markets, digital capability is not peripheral but central to operationalising entrepreneurial strategies effectively.

Human capital emerges as another foundational determinant shaping whether entrepreneurial efforts produce results. Evidence indicates that education, prior managerial experience, and entrepreneurial experience significantly predict venture success (Urban et al., 2024; Mickiewicz et al., 2025). Importantly, human capital can substitute for other missing advantages. Where intergenerational entrepreneurial knowledge is weak, education and managerial experience compensate for deficits (Mickiewicz et al., 2025). Furthermore, financial education and digital self-efficacy influence entrepreneurial intention and behaviour through psychological confidence pathways (Nkomo et al., 2025; Simba et al., 2025).

These findings suggest that EO requires cognitive and experiential depth to be effectively enacted. The review also highlights the performance-enabling role of social capital. Structural and resource-related network ties significantly influence entrepreneurial success, particularly among immigrant entrepreneurs in South Africa (Urban et al., 2024). Network typologies show that family, ethnic, business, and transnational ties provide information, finance, and operational support (Fubah & Moos, 2025). However, networks are not uniformly beneficial; over embeddedness or unproductive ties may constrain growth. This nuanced perspective highlights that relational resources must be strategically managed to generate performance benefits.

Institutional adversity further complicates the EO-performance conversation. Corruption, weak governance, and compliance burdens shape SME internationalisation and growth trajectories. Evidence indicates that corruption may correlate positively with internationalisation, yet this relationship weakens when firms invest in innovation and certification (Mmadubuko et al., 2025). Innovation thus acts as a strategic buffer, reducing reliance on institutionally costly routes to expansion. Similarly, government support policies demonstrate non-uniform effects, with performance outcomes varying by sector and growth orientation (Prasannath et al., 2024). In some contexts, internal capabilities such as ICT adoption and management competency are more strongly associated with financial performance than formal support mechanisms (Tuffuor et al., 2025).

These findings reinforce a capability-centred interpretation of performance in institutionally volatile environments. The evidence converges on a central conclusion: entrepreneurial orientation alone is insufficient to guarantee SME performance in emerging economies. Its effectiveness depends on complementary configurations of innovation capability, dynamic adaptability, human capital depth, digital integration, relational resource mobilisation, and institutional responsiveness. EO becomes economically meaningful when embedded within systems that enable execution, learning, credibility, and resilience.

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UNDERSTANDING FRAUD: WHICH SYMBOLS WORK BEST, THE TRIANGLE, DIAMOND, PENTAGON, HEXAGON, OR INSTRUCTIONAL OCTAGON?

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ABSTRACT

Fraud Examination is a course that is taught by thousands of colleges and universities in the United States. Depending on the instructor, various symbols are used to better communicate to the students who committed fraud, why they do it, and how they are able to accomplish the deed. This paper discusses the various symbols that are available to the instructor when teaching a fraud examination. Beginning with the fraud triangle, this paper also discusses how other symbol concepts can be used in teaching fraud such as the fraud diamond, pentagon, hexagon, and others. In addition, the Association of Certified Fraud Examiners (ACFE) provides a wide variety of teaching materials to any educator teaching a fraud examination course. These include both written materials and video programs and cases. Also, the U.S. Department of Education, Office of Inspector General, provide numerous free materials to instructors teaching a fraud course.

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CONTEMPORARY THEMES ON CLASSIC ORGANIZATIONAL BEHAVIOR CONSTRUCTS: IMPLICATIONS OF PERSON-ORGANIZATION FIT ON EMPLOYEE ENGAGEMENT

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ABSTRACT: This review follows the roles and impacts of person-organization fit on employee engagement as demonstrated in the attitudes, perceptions, emotions, and motivations of case study actors and their actions. Five cases studies from the Robbins and Judge (2023) text *Organizational Behavior, nineteenth edition*, were evaluated as a lens by which to study the implications of person-organization fit on employee engagement that are common in today's workplace. These case studies cover a range of classic organizational behavior (OB) themes, including work-life balance, stress, personality traits, behaviors, emotions, and motivation. Each of these cases highlights implications of person-organization fit on employee engagement, and the corresponding role of the industrial and organizational (I/O) professional in managing and leading in situations like these. Based on these OB cases studies, the I/O psychologists' role in training managers and facilitating such cases include helping employees and organizations deal with values conflict to retain top talent, helping leaders and workers recognize and level up emotional intelligence (EI) skills in the workplace, ensuring personality assessments with valid empirical evidence are used appropriately as hiring tools, helping manage mood in complex person-job fit scenarios to improve workplace culture, and investigating and strategizing ways to reduce expensive employee turnover by better understanding motivation to retain employees.

INTRODUCTION: Falling employee engagement costs the world economy \$438 billion in lost productivity in 2024 alone, led primarily by a decline in manager engagement and a lack of effective training for managers (Gallup, 2025). These findings demonstrate the broad scope and impact from which managers and human resource professionals can glean by understanding the root causes of declining employee engagement. Figure 1 (Gallup, 2025) summarizes the recent trends in employee engagement metrics, most notably that both globally and in North America, engagement has dropped two percentage points, and the percentage of employees thriving has declined by five percentage points between 2022 and 2024.

Figure 1. Workplace Engagement Trends (Adapted from Gallup, 2025)

Gallup Employee Metric ¹	Globally			US & Canada		
	2022	2024	Change	2022	2024	Change
% Engaged	23%	21%	-2%	33%	31%	-2%
% Thriving	35%	33%	-2%	57%	52%	-5%
% Job Climate Good	53%	51%	-2%	57%	57%	0%

¹Adapted from Gallup State of the Global Workplace: Understanding Employees, Informing Leaders

Five cases studies from the Robbins and Judge (2023) textbook *Organizational Behavior, nineteenth edition*, provide a useful lens by which to illuminate the implications of person-

organization fit on employee engagement that are common in today's workplace. These case studies cover a range of classic organizational behavior (OB) themes, including work-life balance, stress, personality traits, behaviors, emotions, and motivation. Each of these cases highlights implications of person-organization fit on employee engagement, and the corresponding role of the industrial and organizational (I/O) professional in managing and leading in situations like these. Person-organization fit is a theory that people are attracted to and selected by organizations that match their values and leave when there is no compatibility. Employee engagement is defined as the degree of enthusiasm an employee feels for the job (Robbins & Judge, 2023).

This review follows the roles and impacts of person-organization fit on employee engagement of each case, as demonstrated in the attitudes, perceptions, emotions, and motivations of the actors and their actions.

THEME 1: VALUES CONFLICT IN WORK-LIFE BALANCE

Case 1 features a woman named Tatum at R.G. & Company, a global consulting firm (Robbins & Judge, 2023). Tatum is an ambitious and passionate employee that is motivated by the achievement of her professional goals. She was attracted to the company by their flexible, family friendly benefits, but now fears the perception that her supervisor may hold her prioritization of family against her and limit her chances of advancement in the company. She feels guilt and perhaps regret about having to make such a choice and is troubled by the idea that she may not accomplish her professional goals.

Tatum's case is not unique, especially for many women in the workplace. Choosing between work and family goes against her values, and she is questioning her person-organization fit. Tatum thought she was joining a company where both family and professional life could coexist in harmony. Falk (2025) states that social psychologists have known for a long time that others' opinions can change how a person chooses, and these shifts towards conformity can make one feel untrue to oneself or inauthentic. Her supervisor or human resources (HR) professional with training in OB concepts should be aware of this organizational values dilemma and help facilitate measures to assist in retaining a talented, highly motivated employee like Tatum. Reassurance and support for working mothers, well within the constructs of their benefits plan, should be positively reinforced to improve employee engagement and retain top talent.

When personal values are in conflict with those of the organization and employees feel they must make a choice, they may become disengaged as it threatens person-organization fit.

THEME 2: REVIEW SHOCK: EMOTIONAL INTELLIGENCE AT WORK

Have you ever felt like you really rocked your goals, or at least met or exceeded your performance expectations, only to be hit between the eyes at your performance review with not-so-positive feedback? Such is the case incident from Chapter 4 of *Organizational Behavior* (Robbins & Judge, 2023). This case speaks to the supervisor's role and impact on recognizing emotional intelligence (EI) at work, and opportunities for both the manager and employee to improve skills when it comes to EI.

The subject employee, who has met their performance goals and expects a promotion, is met with the feedback that many of the senior executives perceive her as unfriendly, and that she “...needs to work on her EI...” Our subject is in denial that her demeanor has anything to do with her results, and is taken aback by the comment in a moment of unwelcome surprise. The supervisor’s perception is that the employee’s EI needs improvement; the employee’s perception is “...what does it matter if I’m unfriendly as long as the work gets done?” This speaks to the employee’s feeling that she is being asked to be fake or inauthentic.

In this case, there are EI concepts that both the supervisor and the employee could consider in the context of OB. The supervisor could benefit from training on his delivery of the message, true as it may be. In Choi’s (2006) paper, it states that charismatic leaders can empower their followers by enhancing their perceptions of self-efficacy and confidence by serving as a role model and utilizing empathy, a strong aspect of EI. The employee in this case can also benefit from professional advisement and training from an I/O psychologist to recognize their own moods, behaviors, and emotions to self-regulate and improve her own EI in the workplace. By both the manager and employee looking in the mirror and working on their EI, improved self-awareness can lead to improved person-organization fit, and better results from a more engaging, friendlier work environment.

THEME 3: EMPLOYER PERSONALITY ASSESSMENT USE

The Chapter 5 case incident highlights a popular, but often misused or misguided tool in the OB toolbox: personality assessments (PA) (Robbins & Judge, 2023). In this case, the CEO’s attitude is that managing and working with different personalities is challenging. He is inspired by the widely used and well-known PA, the Myers-Briggs Type Indicator (MBTI), which taps four characteristics and classifies people into one of sixteen possible personality types (Robbins & Judge, 2023). He is convinced that this PA will help find a cultural fit for “coachable” people, and in his enthusiasm, he installs it as part of the hiring process with essentially no further research. Now faced with a hiring decision of two interview finalists, he uses the MBTI test results to make a final decision. Will it be the right candidate?

The CEO believes that MBTI as a hiring tool could strengthen the team by ensuring diversity. This sounds good at face-value, but if he believes that some MBTI types are more coachable than others, it may result in the exact opposite – a more homogenous personality pattern recruited to his team. While extremely popular as a means to understanding oneself, the MBTI model has come under scientific scrutiny for organizational behavior applications as lacking in empirical evidence (Robbins & Judge, 2023).

In this case, one brave hiring manager speaks up that this might not be the best PA to use in hiring and refers to The Big Five Model. In making this suggestion, this hiring manager has leaned on their due diligence of empirical research and demonstrates the appropriate OB role and response in challenging the validity and potential misapplication of the MBTI assessment. There are many research-proven relationships with The Big Five personality dimensions and job performance (Barrick, et al., 2001). Because MBTI results tend to be unrelated to job performance, the CEO should consider using the Big Five Personality Model as the better personality selection test for job candidates (Robbins & Judge, 2023). The long-term

implications and impacts on Sky Energy's team could include greater diversity, productivity, person-job fit and better potential person-organization fit and employee engagement.

THEME 4: JOB ENGAGEMENT, MOOD AND LAZY CULTURE PERCEPTIONS

The remaining case studies in this review deal with motivation and its impact on person-organization fit and employee engagement. In the Chapter 7 case from Robbins & Judge (2023), we explore the paradigm of perceived laziness in the workplace.

This case highlights behaviors that are shunned or looked down upon by supervisors or peers in the workplace. When someone is unwilling to put energy into their work, they are certainly not engaged in their work! Lack of productivity, commitment to the team, or accountability to results can rub off on peers and begin to erode trust (Horsager, 2024). The counterpoint of the employee in this case is that he perceives himself to be complex and multi-faceted and is motivated by work that speaks to him. In this, we recognize the OB theory of job engagement – the investment of an employee's physical, cognitive, and emotional energies into job performance (Robbins & Judge, 2023). As we think back to the previous case on personality assessments, it might have been advantageous to understand his Big Five personalities profile!

Nonetheless, there is an employee engagement problem in this scenario. The role and opportunity of the I/O psychologist in this case is to determine if there is a person-job or person-organization fit issue with this employee, or a more pervasive cultural problem that is emoting a general malaise. Determining which can provide direction for HR professionals to collaborate with employees and their supervisors to re-engage employees and ensure that the best fit possible for the employee and the organization is refined. If this is not possible, having an empathetic and clear conversation with this employee about finding a better job fit in another organization might well be the best outcome.

THEME 5: EMPLOYEE TURNOVER AND MOTIVATION

The final case study of this review from Robbins and Judge (2023) also dives deep into motivation. JP Transport, a nation-wide freight transportation company, has a very high truck driver turnover rate of 70% per year, estimated to cost the company \$77,000,000 a year. Anything that they can do to improve this would mean significant bottom-line profitability, not to mention morale. So, the CEO made one notable change – raised salaries – meant to offset their transient lifestyle as a motivation to stay working at JP Transport. One year later, results had not improved whatsoever. Why? In order to better understand the perceptions of the drivers themselves, JP conducted a long-form survey and asked for feedback.

These survey results provided some incredible and valuable feedback. Based on the survey results, JP Transport did not have a salary problem in motivating their drivers to stay onboard with the company, but a lack of attention to intrinsic motivators of a higher order.

The JP Transport case highlights a common misconception among employers – the idea that money will fix everything – in this case, employee turnover. The employer knows that a trucker's lifestyle is not for everyone. The feedback they received – more intrinsic motivators (Pink, 2009) such as a sense of community, of greater purpose that what they do is meaningful,

and the autonomy and freedom to travel about the country – those are the real rewards of the job. Besides the salary surprise, they also found out they have a potential discrimination problem lurking in their midst with how female truck drivers are treated by customers and peers (Yue & Thelen, 2023). The role of the HR professional applying OB theory and concepts could be highly impactful in situations such as this.

Using the gift of feedback as real data, a CEO can work with their HR and I/O professionals to make positive changes that address the current culture's high turnover rate. Newton (2023) describes the use of four strategies to keep the culture you want while making transformative changes in the organization, namely:

- Clarifying what you want to keep
- Listen to Concerns
- Know when you're being nostalgic
- Marshal data

By using these strategies, HR professionals can help build incentives and benefit programs that speak to the intrinsic motivators identified. They can also design work to be less monotonous and, more importantly, provide training to address the potential discrimination and workplace issues with protected classes (Aamodt, 2023). Utilizing the feedback data to make positive policy changes and work environments that help create better person-organization fit and employee engagement, turnover rates could improve with longer term, committed employees. This final case illustrates well the common thread of person-organization fit on employee engagement.

ORGANIZATIONAL BEHAVIOR CASE STUDIES SUMMARY: IMPLICATIONS ON PERSON-ORGANIZATION FIT AND EMPLOYEE ENGAGEMENT

In summarizing these five case studies from *Organizational Behavior* (Fig.1, Robbins & Judge, 2023), the OB thread of person-organization fit and its impact on employee engagement is evident. The I/O psychologists' role in training managers and facilitating such cases to help find resolution is significant. They include:

- helping employees and organizations deal with values conflict to retain top talent,
- helping leaders and workers recognize and level up EI skills in the workplace,
- ensuring personality assessments with valid empirical evidence are used appropriately as hiring tools,
- helping manage mood in complex person-job fit scenarios to improve workplace culture, and
- investigating and strategizing ways to reduce expensive employee turnover by better understanding their motivations to retain employees.

The OB theories and concepts utilized by I/O professionals add tremendous value to organizations and the quality of work-life for employees by ensuring person-organization fit, thereby optimizing employee engagement. As the modern workplace evolves socially and technologically, continued research on the implications of person-organization fit on employee engagement is warranted to further build on these classic organizational behavior constructs.

Figure 2. Organizational Behavior₂ Case Studies Summary
Implications on Person-Organization Fit and Employee Engagement

Case Study	OB Roles & Implications	Attitudes	Perceptions	Emotions	Motivations
1. Work-Life	Values Conflict	Ambitious	Choice Paradox	Guilt Regret	Achievement
2. Review Shock	Emotional Intelligence	Surprise Denial	Needs Improvement	Feels Fake	Meeting Expectations
3. Personality	Empirical Evidence	Challenging Personalities	Tool is Fix	Popular Enthusiasm	Personality v. Experience
4. Mood, Perceptions	Moods Outcomes	Shunned Commitment	Complex	Malaise	Job Engagement
5. Turnover	Beyond Salary	Lifestyle	Money is Fix	Surprise Culture	Purpose Community

Robbins & Judge, 2023

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**CONSTRUCTING A MEANINGFUL STUDENT MANAGED INVESTMENT FUND
EXPERIENCE**

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ABSTRACT

Student Managed Investment Funds (SMIF) have become a common fixture in U.S. finance programs, growing from 20 in 1989 to over 450 currently. In 1987 there were two SMIFs in Florida. Today there are 13. The reason for this growth is the acknowledgement by institutions of the practical value real-world training offers to students equipping them with marketable skills. The structure of a SMIF can vary greatly ranging from students making pitches to a panel of professional money managers and finance faculty, to students themselves making the decisions to change the composition of the fund. This paper looks at how a SMIF can be constructed giving students as much control over the fund as possible, thereby narrowing the gap on their exit between their classroom experience and how the professionals manage funds. Topics include the competitive nature of the SMIF, the reality of the money, the client, and the resources, branding the SMIF, how to integrate the active part of fund management, officer positions within the fund to create a boutique environment, the portfolios within the fund, and the marketable skills developed for a career launch where the student hits the ground running upon graduation

Key Words: SMIF, portfolio, client

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.

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THE ENTREPRENEURIAL SPIRIT IN THE PUBLIC SECTOR

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ABSTRACT

Innovation, creativity, and entrepreneurialism are not limited to the private sector of the economy; they are robust in the public and nonprofit sectors as well. This article explores innovation in the public sector. First, showcasing a range of achievements, we present a sampling of innovations in selected public policy and public management domains at the city, county, local, and state levels of government. Many of these programs, having met strict criteria, have been publicly recognized through the *Innovations in American Government Award* from *The Ash Center for Democratic Governance and Innovation* at Harvard University as well as the *Innovators Insights* newsletter from Harvard University (Meyer et al, 2020). At the international level, we share examples of innovative governance, including programs categorized by type of public service application that have been recognized by the *Organization for Economic and Community Development* (OECD). While acknowledging the barriers that the public sector may face when pursuing innovation, we point to the possibilities. We review established principles (Altschuler, 1996) that facilitate the development of innovative public service programs and outline the importance of fostering diversity and change through engagement in democratic governance.

Keywords: innovation, creativity, organizational change, public service

INTRODUCTION

Practitioners and academics who labor in the vineyards of state and local government often complain about the lack of inventiveness, creativity, innovation and entrepreneurship, especially when commenting on the efficiency, effectiveness and fairness associated with the delivery of public goods and services. Over the years, this largely negative and pessimistic perspective has endured (Waheduzzaman, 2026). It would be rare to find anyone experienced in state and local public policy making and administration who could not recite a repertoire of mindless governmental decision-making and actions they have observed. These situations would give credence to the notion that government is too often conducted incompetently, senselessly, and even, at times, arrogantly. Of course, organizational entities across societies and political jurisdictions, irrespective of their level of modernization, economic development, or democratization, and whether they are public, private or nonprofit, differ immensely in how they embrace new ideas, solve problems and generally manage change.

It is a truism that the states, municipalities, towns, cities, and counties that make up the lion's share of all political units and jurisdictions in the United States face the compelling problems of scarce economic resources, rising expectations for the quality-of-service delivery, and a turbulent political and social culture that challenges the status quo. In addition, to compound the problems associated with managing the people's business, these organizations run into strongly held classical (traditional) tenets of governance that are largely reactive, rule and resource-driven, and

centered on inflexible bureaucratic structures, processes, contents, and experiences. Yet the contemporary milieu in which public servants operate increasingly requires, if not demands, that the obstacles impeding innovation and change be overcome with zeal and confidence. Indeed, upon examination, ample evidence exists to contradict the perspective that the public sector lacks innovativeness. Public servants can draw inspiration and fortitude to overcome barriers to innovation that they may encounter by examining how state and local governments have embraced creative entrepreneurial endeavors.

INNOVATIONS IN THE PUBLIC SECTOR

In exploring the entrepreneurial spirit that might be championed at the state and local levels of government, there is no better source than Harvard University's *Government Innovators Network* (Observation of Public Sector Innovation, 2025), housed within the *Roy and Lila Ash Center for Democratic Governance and Innovation (Ash Center)* of the John F. Kennedy School of Government (2026). The *Network* serves as a national clearinghouse for innovations at the state and local levels of government and solicits ideas that are not only imaginative and creative but also feasible and potentially replicable in other jurisdictions. The *Ash Center* uses these four factors as criteria in selecting innovative programs in American government: novelty, effectiveness, significance, and transferability. Some of the innovations represented in the *Ash Center* would easily qualify as state-of-the-art examples in a compendium of best practices in the following areas of governmental administration, management, and evaluation: education and technology; finance; public safety; public infrastructure; policing and crime prevention; community revitalization; and traffic enforcement. This is amply illustrated in programs highlighted in issues of the Ash Center's former newsletter *Innovators Insights*. A few illustrative innovations reported in this newsletter, as synthesized in Meyer et al. (2020), are presented below:

In New York City (NYC), the enduring demands associated with updating, repairing, and constructing roads and highways have led some to believe that there is only one season of the year: the construction season. With the constant digging and repaving of the roads, NYC proposed placing all the excavation and resurfacing schedules and plans for utilities in a viewable map on the city's website. This was intended to help reduce duplicative repaving and uncoordinated roadwork. It would enable all parts of the political body to be coordinated in the area of street work and reduce or eliminate traffic congestion and the associated troublesome traffic delays (*Innovators Insights*, as cited by Meyer et al., 2020).

In Flint, Michigan, a city beset with an old, deteriorating infrastructure and an ailing economy associated with the decline of the auto industry and its supporting industries and businesses, coupled with a shrinking population, developed a land bank system designed to help redevelop vacant property. Citizens could purchase select property for as little as 50 dollars. In a similar program, Pittsburgh, Pennsylvania, a city that faced the loss of a vibrant steel industry, transformed over 1,000 acres of abandoned or deteriorated residential and industrial land into new commercial, residential, and public spaces over the last 30 years (*Innovators Insights*, as cited by Meyer et al., 2020)

In Houston, Texas, residents were provided access to a website that laid out where the people's tax dollars were being spent. With its *My Tax Dollars at Work* program, residents could enter the appraised value of their home and learn how the property assessment was utilized. Houston

officials believed that this increased the city’s transparency and accountability, and gave the citizenry an appreciation of the costs associated with running a large city (*Innovators Insights*, as cited by Meyer et. al., 2020).

In Indiana’s Munster School District, interactive computer programs replaced the traditional math and science textbooks in grades five through twelve. Learning in a digital environment enabled technology to be embraced in the classroom and gave learners who rented laptops access to educational software and websites (*Innovators Insights*, as cited by Meyer et al., 2020).

The kinds of innovative experimental programs in place or at the trial stage of development and implementation in the United States or other countries range from the sublime and ridiculous to the “I wish I had thought of it” programs. A casual review of *The Government Innovators Network* Innovations in Government Program (Observation of Public Sector Innovation, 2025) and the *Innovators Insights* newsletter provides the following examples:

Innovative Actions	Location
The placing of mimes on streets to subtly remind drivers and pedestrians of carless behaviors.	Caracas, Venezuela; Bogota, Columbia
Staggering the delivery dates when food assistance benefits are given, thus improving access to fresh fruit, vegetables and other perishables.	Department of Human Services, Michigan
The use of electronic message boards to notify over-the-road truckers of parking availability at undeveloped state properties to help relieve crowding at full service rest areas.	Department of Transportation, Virginia
Requiring city departments to make data available to the public, thereby increasing transparency and entrepreneurship.	San Francisco, California
Use of teaching artists to help incorporate the visual arts in the teaching of science, mathematics, reading, and other classes in order to enhance communication, problem solving, and critical thinking skills.	Arts 360 Program, Knox County, Tennessee
Capture of renewable energy by placing solar panels roofs above nearly 75 school and college parking lots and harvesting electricity for use in the schools and simultaneously giving tax credits to businesses that finance these “solar carports”.	California
The Waste-to-Fuel system used to reduce dependency on old calories—oil, natural gas, and coal—for home heating and the municipal fleet.	Kristianstad, Sweden
The preservation and recovery of human organs from documented donors who die	New York City Police Department and New

outside of the hospital by effectively monitoring emergencies and by the quick response of an Organ Preservation Team for deaths pronounced at the scene.	York City Fire Department
Provision of fresh, healthy, low cost foods available to those living in “food deserts” by helping small stores in poorer areas of the city (Pittsburg, Pennsylvania) or where residents can place a food order from a school or area library.	Baltimore, Maryland
The First Time Campers Program developed to encourage citizens to have an outdoor camping experience by waiving campsite fees and making \$7,000 worth of camping equipment available for \$20.00.	State of Pennsylvania
The use of volunteers to improve wildlife habitat, maintain trails, and other projects outside the state park system by permitting them to use state equipment and machinery free from liability.	Department of Natural Resources, Michigan
The availability and use of 25 electric bicycles (E-Bikes) by public employees to get around Las Vegas, reducing traffic congestion, air pollution, and saving upwards of \$100,000 per year.	Las Vegas, Nevada
The use of wake-up calls for students who are regularly late for school.	Marshalltown High School, Marshalltown, Iowa

(Meyer, et al., 2020)

For many decades, state and locally initiated programs were recognized through the *Innovations in American Government Awards* (Archive, Innovations in Government Program, 2026) from the *Ash Center* of Harvard University. This program served as a major clearinghouse for governmental innovations at all levels of government. It was the nation's preeminent program devoted to recognizing and promoting excellence and creativity in the public sector. Starting in 1985 with funding from the Ford Foundation and ending in 2020, the program received over 27,000 applications and recognized nearly 500 government initiatives. The program highlighted exemplary models of government innovation and advances in efforts to address the nation's most pressing public concerns. These awards were equivalent to winning the Grammys, but for governmental entrepreneurship and creativity. The roster of winners includes some of the following programs:

California’s *Mathematics, Engineering, Science Achievement* (MESA) was designed to improve graduation rates for disadvantaged students going on to higher education in mathematics, engineering, and the sciences. Through numerous interventions, the program built an academic culture, and fostered peer group cohesiveness. The quantitative metrics were impressive: MESA participants outpaced the performance of all Californian graduating seniors by 30 percent. By

working closely with children and their parents, new career possibilities became more readily available to populations that had too often been bypassed in their educational and academic development (MESA, 2026; Meyer et. al., 2020).

Maine's "Child Welfare Reform" came as an outgrowth of the death of a five-year-old girl in the foster care system. After conducting a thorough review of the program, based on data related to response time for abused and neglected children, the state agency realized the long periods of time that children stayed in foster care families or lived outside a foster family. By using Family Team Meetings, families were brought together to ensure child safety and to target financial assistance toward those areas of greatest need. The system reduced the likely stay of a child from five years to two years. In addition, the total number of foster children residing in state residential centers dropped from 3190 in 2001 to 245 in 2008. At the same time, kinship placements dramatically increased from an average of 360 to an average of 508 (Meyer et. al., 2020).

Particularly innovative was the *Wraparound Milwaukee* community-based system of care. The program dealt with the serious emotional and mental health needs of youth by providing managed care in at-home settings, rather than in institutionalized or residential settings such as correctional facilities or psychiatric hospitals. The program served about 1,300 youth with a range of disorders, including varied learning disorders. It became a viable alternative to the most commonly used programs that institutionalized youth and limited the participation of their families in their treatment and care. *Wraparound Milwaukee* was the first public-benefits corporation run by a governmental entity, and it provided a single case manager, a single payer system, and a unified family plan for all mental health and social services. One metric that stands out was the drop in the average daily residential treatment population from 375 youth in 1996 to 90 in 2008. The demand for psychiatric inpatient care dropped from 5,000 days of care to under 200 days from 1996-2008, coupled with a measurable improvement in clinical health measurements for the youth that were treated. The cost of treating a child in a residential center was \$8,000 in 2007 compared to \$4,000 in a community setting (Milwaukee County Health & Human Services, 2026; Meyer et. al., 2020).

Another inspiring award winner was the Chula Vista, California's *Abandoned Residential Property Registration System* (ARPRS). The city of Chula Vista grew rapidly and, when the housing foreclosure crisis hit, many owners abandoned their single-family houses. The abundance of vacant homes spiraled into a loss of property values in neighborhoods with high foreclosure rates. Research showed that clusters of abandoned properties could affect property values up to one-eighth of a mile away and could become magnets for drugs, gangs, prostitutes, and other forms of criminal activity. These issues repelled potential buyers. To further complicate matters, lenders tended to neglect the maintenance and upkeep of abandoned properties under a variety of legalisms. In response, Chula Vista's Building Code Enforcement Division implemented the ARPRS. This required lenders to inspect defaulted properties and, if the property was vacant, the lenders were required to comply with the Abandonment and Waste Clause, register with the city, and maintain the property to neighborhood standards or face a fine of \$100 to \$500 daily for noncompliance. The lenders also had to inspect the property weekly and provide relevant information to the Building Code Enforcement Division. In short, the city got the mortgage industry to respond, and the lenders became responsible for maintaining their

properties. Chula Vista received hundreds of requests from other cities facing similar problems for information on the operation of their programs (Meyer et. al, 2020).

Similar to the *Ash Institute*, the *Organisation for Economic Co-Operation and Development* (2026), an international organization that focuses on building “better policies for better lives” implemented a *Call for Innovation in Government (CGI)* and received nearly 800 case studies on public service innovations (PSI) from 83 countries. The CGI cases were synthesized into five major categories of better public service innovation (OECD, 2024):

Future-oriented and co-created public service.

Governments working with users and stakeholders to co-design solutions and anticipate future needs to create flexible, responsive, resilient and sustainable public services: e.g., Ireland’s *Better Public Services*; Canada’s *Project Heart*, United Arab Emirates, *UrbanistAI*, and Norway’s *New In Norway* (NIN), (OECD, 2024).

Digital and innovative foundations for efficient public service.

Governments investing in scalable digital infrastructure, experimenting with emergent technologies (such as automation, AI, and modular code), and expanding investment in innovative and digital skills to make public services more efficient: e.g., Austria’s City of Vienna’s *BRISE-Vienna* and New Zealand’s *SmartStart* (OECD, 2024).

Personalized and proactive public service for accessibility and inclusion.

Governments making public services more personalized and proactive to better meet people’s needs and expectations, and reduce psychological costs and administrative frictions, ensuring public services are more accessible, inclusive, and empowering, especially for persons and groups in vulnerable and disadvantaged circumstances: e.g., Serbia’s *TransportSign* and Brazil’s *Izzistriti* (OECD, 2024).

Data-powered public services for better decision-making. Governments drawing on traditional and non-traditional data sources to guide public service design and execution, while at the same time increasingly using experimentation to navigate highly complex and unpredictable environments: e.g., Singapore’s *Virtual Singapore*, South Korea’s Approach to IoT, France’s *PILOTE*, and Canada’s *Experimentation Works* (OECD, 2024).

Public services as opportunities for public participation. Governments reframing public services as opportunities and channels for citizens to exercise their civic engagement and hold governments accountable for upholding democratic values such as openness and inclusion: e.g., Italy’s *Social Welfare District* and France’s *Open Food Facts* (OECD, 2024).

BARRIERS TO INNOVATION IN THE PUBLIC SECTOR

As demonstrated through the above cases, examples of inspiring innovation in the public sector abound. However, such innovation does not happen without challenges. The road for innovation and creativity in the public sector is fraught with enduring barriers to change. Some of these obstacles or impediments to new ideas and changes are simply prevailing, obsolete managerial and leadership perspectives and behaviors (Clapham & Meyer, 2024), while others are legislative or policy-induced. Multiple prominent barriers to innovation and change are outlined in Meyer et

al.'s *Public Human Resource Management: Essential Principles and Case Studies* (2026). Some of these, roughly organized into three subcategories, are listed below:

Leadership / Management Vision and Orientation

- Short time horizon of top executives
- Policy orientation rather than performance emphasis
- Ambiguous objectives
- Managerial lack of accountability
- Supervisory resistance
- Fragmented authority
- Habit/Inertia
- Resistance to change

Organizational Reward Systems

- Lack of rewards for innovation and productivity
- Barriers to monetary incentive plans
- Primary emphasis on efficiency rather than effectiveness
- Perceived threat to job security
- Aversion to risk; risk avoidance behavior
- Preference for the *status quo* and routine *performance*
- Employee disillusionment and fatigue
- Performance myths
- Inadequate or inappropriate performance assessment
- Insufficient value placed on analytic skills of employees

External and Internal Systemic Impediments

- Absence of market pressures
- Civil service restrictions
- Legal restrictions for motivational programs
- Poor information on intra-agency and interagency performance
- Fragmentation of local government
- Union resistance
- Political factors that influence decision-making. i.e., partisan politics
- Resource scarcity (time, finances, personnel, equipment, technology)
- Bureaucratic rigidities and socialization processes

GUIDING PRINCIPLES FOR ADVANCING PUBLIC SECTOR INNOVATION

While many challenges exist for advancing innovation in the public sector, the sampling of cases presented above illustrates the potentially transformative outcomes of such endeavors.

Established principles for facilitating creativity and innovation should be followed to facilitate such efforts. Altshuler (1996) identified a set of ten principles applicable to the public sector.

1. Define a mission clearly and in terms of compelling problems.

Purpose must be clearly understood both inside and outside of the organization. Sharply worded mission statements keep organizations focused despite controversies, electoral change, and day-to-day demands of government work.

2. Define challenging but achievable outcomes against which to measure performance.

Outcome targets are powerful motivators. Clear measures help us hold agencies accountable and help agencies gain public support.

Outcome targets are powerful motivators. Clear measures help us hold agencies accountable and help agencies gain public support.

Results are what matter! Are children learning more or less? Are crime rates rising or declining? You fill in the blanks.

3. Collaborate with other government agencies wherever possible.

Find creative ways to pool energies and funds, and to overcome cumbersome regulations and entrenched bureaucracies to solve problems that are more than any single agency could handle alone.

4. Build partnerships between the private and nonprofit sectors.

The government cannot solve the most difficult problems by working alone. The probability of success significantly increases through co-production with private and nonprofit sectors.

5. Respect the talents of "front-line" workers.

We know that innovation, productivity, and morale can be enhanced in an organization when the experience of employees informs practice and when employees participate in decisions about production and process. These employees, after all, are the people who have first-hand knowledge of problems and impediments to achieving goals.

6. Clearly identify the citizens and groups who are entitled to services and focus attention as sharply as possible on their needs.

It is important to view government services as having customers. The focus should change from process to people. Operations should be streamlined, and accountability to customers should be a priority. Services should be redesigned to adapt to the changing needs and wants of customers. Customer surveys can inform this process.

7. When tasks involve regulations, consider working with the regulated parties to meet common objectives through compliance, rather than depending entirely on traditional enforcement.

Due to the history of many capricious, adversarial actions by regulatory agencies, regulated parties tend to develop an attitude of resistance to regulations. Buy-in by the public is critical for regulatory success. This requires engagement of the public through cooperative problem-solving and a mutual focus on benefits and results. The public should have confidence in their role as partners in the process.

8. Explore how market forces may complement the provision of public goods and services.

The public sector is no immune to market forces. It functions within a broader national and international milieu and should consider how it can benefit from embracing this environment. How can it, for example, better access and incorporate technologies developed in the private sector for public benefit? Partnering with private industry is one approach. Encouraging employees to bid for contracts is another.

9. Use information technology to improve services to citizens.

Technology makes access to public services faster as well as more convenient and efficient. The public can use technology for many purposes, including obtaining information about available services, checking past transactions, or engaging with resources for learning new skills. Technological tools should be embraced to facilitate the delivery of public services. This requires acceptance of change and innovation in processes.

10. Be flexible, take risks, don't give up.

Innovators care passionately about their work and look for ways to improve performance. In order to create a climate for innovation, managers should imbue the organization with an environment of trust and safety so that employees feel encouraged to propose and try new approaches. They should facilitate collaborative work with many others to develop ideas and bring them to fruition. They should create reward systems that celebrate innovation and accept reasonable risks and failures as an integral part of the creative process.

FINAL THOUGHTS

It should be noted that a critical component for creativity is a spirit of openness to diverse experiences, ideas, perspectives, and approaches (Sawyer & Hendriksen, 2024). Individuals with an orientation of openness in life welcome and attend to the new and different. This openness produces a complex and ever-expanding catalog of cognitions from which they draw during the creative process, and facilitates collaborative interactions within heterogeneous teams that can produce highly innovative results. Recently, however, despite extensive empirical evidence that reveals a connection between diverse cognitive perspectives and enhanced innovation when couched in an environment of acceptance and psychological safety (Leung & Wang, 2015), there appears to be an increasing inclination toward homogeneity in organizations. A drive toward homogeneity is antithetical to the innovative process. Historically, there has been a close alignment of public service innovation with democratic theory and practice. A respect for individual differences combined with the opportunity to voice these differences in a way that results in cooperative decision-making is integral to the democratic process and deeply rooted in the Constitution of the United States (Runco, 2014). At the local level, for example, there has been a tradition of using neighborhood and community councils, advocacy groups, and other forms of citizen participation in management, planning, and budgeting practices (Meyer, 1979). Such engagement is critical to effective innovation in the public sector as well as non-profits. It is therefore important that efforts toward enhanced innovation go hand-in-hand with democratic engagement.

CONCLUSIONS

Ironically, public sector innovation, which is intended to improve the lives of societal members, is frequently not recognized by the public. This may in part be due to the form in which such innovation presents itself. As outlined by Demircioglu and Audretsch (2024, as cited in Guenduez, 2025), innovation in the private sector emphasizes a product development orientation that is frequently driven by profitability. This type of innovation focuses on the development of highly visible, desirable, and tangible products. In contrast, public sector innovation is oriented toward providing services embedded in an environment of accountability. This more frequently involves the development of processes and systems rather than products. Because these types of innovations are not as tangibly recognizable, they may not receive the acknowledgement they deserve. Yet, as we have seen through many examples of unique, original, and effective public

programs, a strong entrepreneurial spirit in the public sector exists and should be nourished appropriately in order to expand and thrive.

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SOCIAL LOAFING IN VIRTUAL TEAMS: THE PERSISTENCE OF DEMOGRAPHICS FACTORS

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Abstract

Social loafing—the reduction of individual effort in group contexts—poses a persistent challenge for virtual teams, where reduced social cues and limited identifiability can amplify motivation loss. This study examines the relationship between demographic characteristics, interaction patterns, and individual social loafing in virtual teams. Survey data were collected from alumni of a private liberal arts university working in virtual teams across diverse industries ($N = 114$). Results from analyses of variance indicated significant differences in individual social loafing by gender, education level, and frequency of in-person interaction. A multiple regression analysis further revealed that gender, age, and education significantly predicted individual social loafing, whereas team size did not. Males, younger individuals, and those with higher education levels reported higher levels of individual social loafing. These findings suggest that motivation loss in virtual teams is shaped by demographic and interactional factors rather than structural characteristics alone. Implications for virtual team design and management are discussed.

Keywords: social loafing, virtual teams, demographics

Introduction

Advances in technology have facilitated the expansion of virtual work in the 21st century. This has transformed how work teams coordinate, communicate, and perform. Virtual teams offer flexibility, and therefore access to a larger and perhaps more expert workforce, but they can also amplify motivational losses due to reduced identifiability and weaker social presence. Social loafing—defined as the tendency for individuals to exert less effort in collective settings than when working alone—has therefore become a central concern in this space. While much of the recent work in this stream of literature has focused on technological interventions and tools, this effort refocuses on simple demographic characteristics and their utility in reducing social loafing. Prior research has identified myriad structural and technological antecedents of social loafing, including group size, task design, anonymity, and accountability mechanisms. However, attention has focused on individual demographic characteristics, such as gender and education, interact with virtual team structures to shape motivation loss. Moreover, many studies treat social loafing as a static outcome rather than a dynamic construct influenced by team processes and interaction frequency. (Aggarwal & O'Brien, 2008; Comer, 1995).

Social Loafing: Conceptual Foundations

Max Ringelmann first described the social loafing phenomenon in the early 20th century (Ringelmann, 1913), and the concept has consistently received research attention in the Organizational Behavior literature (Sheppard, 1993, Karau and Williams, 1993, Murphy et.al, 2003). Social loafing refers to the reduction of individual effort when individuals work collectively rather than independently. Early social loafing research largely treated the phenomenon as static and situational, focusing on factors such as group size, task visibility, and reward structures. For example, Karau and Williams (1993) synthesized early experimental work

to show that this motivation loss emerges when individual contributions are difficult to identify, a conclusion further elaborated by Shepperd (1993) in his motivational analysis of collective productivity loss. However, more recent perspectives conceptualize social loafing as a motivational state that can fluctuate over time in response to team dynamics, feedback, and composition. This shift is particularly relevant for virtual teams, where structural features amplify many of the antecedents associated with motivation loss.

From a demographic standpoint, gender differences in motivation have been linked to sex-role congruence and task context. Research on group composition suggests that effort allocation is sensitive to perceived role fit and interaction norms rather than biological sex per se. In virtual teams, where relational cues are attenuated, these dynamics may be expressed through differential engagement with communication, coordination, and accountability behaviors (Gilson, et.al, 2015, Szewc, 2013). Empirical data from virtual team research indicate that males report higher levels of both individual and perceived team social loafing, while increased female representation within teams is associated with lower reported loafing. Rather than reflecting inherent gender differences, these findings are consistent with evidence that women, on average, engage more strongly in relational maintenance and cohesion-oriented behaviors, which enhance informal accountability even in technologically mediated environments.

Gender differences in social loafing have been examined less frequently than structural or technological antecedents. Vancouver et al. (1991) demonstrated that motivation losses vary as a function of group composition and task gendering, a pattern that aligns with Karau and Williams's (1993) broader conclusion that effort regulation is sensitive to contextual norms rather than stable individual traits. Meta analyses of virtual teams indicate that males report higher levels of individual and perceived team social loafing, while teams with greater female representation report lower overall loafing. Alnuaimi et al. (2010) argued that these differences reflect moral disengagement and coordination dynamics in technology-supported teams, rather than inherent gender-based motivation differences.

Motivation Loss in Virtual Contexts

Virtual teams are characterized by geographic dispersion, reliance on computer-mediated communication, and limited face-to-face interaction. Bell and Kozlowski (2002) conceptualized these teams as fundamentally different from collocated groups in their coordination and leadership demands, a distinction reinforced by Gilson et al. (2015) in their integrative review of virtual team research.

Studies comparing face-to-face and virtual collaboration demonstrate that perceived loafing has stronger negative effects on group cohesion, satisfaction, and affective outcomes in virtual environments, particularly when communication media are low in richness. When teams rely on text-based or asynchronous communication, uncertainty about others' effort increases, leading team members to make attributional judgments that can undermine trust and engagement.

The broader virtual team literature identifies trust, communication quality, leadership, and technological support as critical success factors. Szewc (2013) emphasized that these elements jointly determine whether virtual teams are able to sustain performance over time, particularly in the presence of coordination and motivation challenges such as social loafing. Leadership and team design also play central roles. Effective virtual leaders establish clear goals, promote accountability, and encourage reflexivity. Teams that engage in regular reflection about goals, roles, and processes are better able to detect and correct motivational losses before they become entrenched.

Recent integrative reviews further clarify the structural and coordination challenges that underlie motivation loss in virtual teams. Drawing on an analysis of more than 250 studies,

Morrison-Smith and Ruiz (2020) identified geographic, temporal, perceived, and configurational distance as core barriers to effective virtual collaboration. These distance-related challenges exacerbate difficulties in monitoring effort, sustaining trust, and maintaining shared awareness—conditions that heighten the risk of both actual and perceived social loafing in distributed teams. While much of the recent research has focused on these structural and coordination challenges, the aim of this study is to examine the impact of a variety of demographic factors on the perceptions of social loafing of individuals working in a virtual team context. The present study integrates theory on social loafing, virtual teams, and demographic factors to generate hypotheses related to individuals working in virtual teams. Specifically, this research examines whether (a) gender, (b) frequency of in-person interaction, and (c) education level are associated with individual social loafing. By embedding these findings within the broader virtual team literature, this paper hopes to advance a more nuanced understanding of demographic factors motivation loss in virtual teams.

Method

Participants and Procedure

Participants were alumni of a small liberal arts university in the Western United States. Included were individuals working in virtual teams across a range of organizational and educational contexts ($N = 114$). The sample included 63 males and 50 females (one participant did not report gender). Participants completed an online survey measuring individual and team social loafing, along with demographic variables including gender, education level, and frequency of in-person team meetings.

Measures

Individual Social Loafing. Individual social loafing was measured using a 12-item scale (SL1–SL12). Responses were aggregated to form a composite score, with higher values indicating greater self-reported social loafing.

Team Social Loafing. Perceived team social loafing was measured using a parallel 12-item scale assessing respondents' perceptions of teammates' effort.

Demographic Variables. Gender was coded as 1 = male and 2 = female. Education level was measured on an ordinal scale. Frequency of in-person meetings captured how often team members met face-to-face.

Exploratory factor analyses indicated that both social loafing scales were strongly unidimensional. For the Individual Social Loafing scale, the first factor had an eigenvalue of 5.41, with a sharp decline in subsequent factors. Cronbach's alpha for the scale was .87, indicating strong internal consistency.

The Team Social Loafing scale demonstrated even stronger unidimensionality, with a first-factor eigenvalue of 7.14. Cronbach's alpha was .94, reflecting excellent reliability. These results confirm that both scales are psychometrically sound and suitable for research on motivation loss in virtual teams.

Results

A one-way analysis of variance (ANOVA) revealed a significant difference in individual social loafing by gender, $F(1, 111) = 17.54, p < .001$. Males ($M = 20.90, SD = 8.41, n = 63$) reported significantly higher levels of individual social loafing than females ($M = 14.96, SD = 6.62, n = 50$). No significant differences were found when team social loafing and gender were analyzed (Table 1).

Table 1

One-Way ANOVA of Individual Social Loafing by Gender

Source	SS	df	MS	F	p
Between Groups	706.14	1	706.14	17.54	< .001
Within Groups	4469.86	111	40.27		
Total	5176.00	112			

Note. Individual social loafing scores were significantly higher for males than females.

The frequency with which teams met in person was also significantly associated with individual social loafing. Teams that met in person more frequently reported lower levels of individual social loafing, $F(p < .05)$. This result underscores the role of physical interaction in enhancing accountability and reducing motivation loss, even in predominantly virtual teams.

A one-way ANOVA indicated significant differences in individual social loafing across education levels, $F(3, 110) = 3.14, p = .028$ (Table 2). Participants at higher education levels reported higher mean social loafing scores, while those at mid-level education reported the lowest levels. Given uneven group sizes across education categories, these results should be interpreted with caution but suggest that experience and expectations may shape effort regulation in virtual teams. Education also emerged as a significant predictor in the multiple regression analysis ($B = 3.34, p = .046$), indicating that education level uniquely contributes to individual social loafing beyond gender, age, and team size.

Table 2

One-Way ANOVA of Individual Social Loafing by Education Level

Source	SS	df	MS	F	p
Between Groups	382.47	3	127.49	3.14	.028
Within Groups	4473.53	110	40.67		
Total	4856.00	113			

Note. Education levels reflected increasing levels of formal education. Results should be interpreted cautiously due to unequal group sizes.

To assess whether this gender difference in individual social loafing remained robust when controlling for other demographic and structural variables, gender was entered into a multiple linear regression model alongside age, team size, and education level. Gender remained a significant predictor of individual social loafing ($B = -5.36, p = .001$), indicating that gender differences persist even when accounting for age, education, and team size. . The overall model was statistically significant, $F(4, 86) = 4.79, p = .002$, accounting for approximately 18% of the variance in individual social loafing ($R^2 = .18$) (Table 2). This result suggests that gender exerts an independent effect on perceived motivation loss in virtual teams. Younger participants, males, and individuals with higher education levels reported higher levels of individual social loafing.

Table 3

Multiple Linear Regression Predicting Individual Social Loafing

Predictor	B	SE B	β	t	p
Gender (1 = male, 2 = female)	-5.36	1.54	-.34	-3.48	.001
Age	-0.21	0.09	-.22	-2.33	.022
Education	3.34	1.65	.19	2.03	.046
Team Size	0.18	0.27	.06	0.67	.505

Note. $R^2 = .18$. Model $F(4, 86) = 4.79$, $p = .002$, Adjusted $R^2 = .14$. $N = 91$.

Discussion

The purpose of this study was to examine how demographic characteristics and interaction structures relate to individual social loafing in virtual teams, with particular attention to gender dynamics. By integrating analyses of variance with multivariate regression, the findings provide a more nuanced understanding of motivation loss in virtual contexts—one that moves beyond simple mean differences and toward a contextual, theory-driven account of effort regulation. Across analyses, gender emerged as the most consistent and robust predictor of individual social loafing. Males reported significantly higher levels of individual social loafing than females, and this effect persisted even after controlling for age, education, and team size in the regression model. Importantly, this pattern should not be interpreted as evidence of inherent gender differences in motivation or work ethic. Rather, the findings are best understood through a **gender** \times **distance** framework grounded in social loafing and virtual team theory. Virtual teams amplify psychological distance by reducing social presence, informal monitoring, and the visibility of individual effort. Prior research suggests that effort regulation in such contexts depends heavily on relational cues and informal accountability mechanisms. Women, on average, are more likely to engage in relational maintenance, coordination, and cohesion-oriented behaviors—processes that help mitigate the uncertainty created by distance and reduced cue richness. These behaviors may function as compensatory mechanisms in virtual environments, sustaining accountability even when formal structures are weak. In contrast, men may be more sensitive to reduced evaluability and weakened social norms, increasing susceptibility to motivation loss when effort visibility is low.

This interpretation aligns with prior work demonstrating that gender differences in social loafing are contingent on task context, group norms, and evaluability rather than stable dispositional traits. The present findings extend this literature by showing that gender differences persist in real-world virtual teams and remain predictive even when other demographic and structural variables are taken into account.

The persistence of gender effects in the multivariate model suggests that gender differences in reported social loafing are not merely artifacts of team size or demographic composition, but reflect deeper interactional dynamics in virtual work. Drawing on distance-based frameworks of virtual collaboration, gender may function as a moderator of how psychological distance is experienced and managed. Prior research suggests that women, on average, engage more strongly in relational maintenance, informal monitoring, and cohesion-oriented behaviors, which may reduce the motivational uncertainty created by virtual distance. In contrast, men may be more sensitive to reduced evaluability and weaker social cues, increasing susceptibility to motivation loss when accountability is diffuse. Importantly, these patterns should not be

interpreted as dispositional differences, but as contextually contingent responses shaped by interaction norms, communication structures, and opportunities for social presence. The findings also clarify the role of interaction structure in shaping social loafing. Frequency of in-person interaction was significantly associated with individual social loafing in the ANOVA analyses, whereas team size was not a significant predictor in either bivariate or multivariate models. This pattern suggests that **how teams interact matters more than how large they are**. From a theoretical perspective, this distinction is critical. Traditional social loafing research emphasizes group size as a primary driver of motivation loss, yet virtual team contexts complicate this relationship. Physical interaction provides opportunities for social presence, informal monitoring, and norm reinforcement that are difficult to replicate through purely mediated communication. Even infrequent face-to-face contact may recalibrate accountability expectations, reducing both actual and perceived loafing. These findings support distance-based frameworks that emphasize interaction structure and perceived proximity rather than purely structural characteristics.

Education and age also emerged as significant predictors of individual social loafing in the regression analysis. Higher education levels were associated with higher reported loafing, while age was negatively related to loafing. These results suggest that experience and expectations may shape how individuals regulate effort in virtual teams. One possible interpretation is that individuals with higher education levels may experience greater autonomy and role specialization, which can reduce perceived interdependence and weaken informal accountability. Younger individuals, particularly those early in their careers, may be more likely to test boundaries in environments where monitoring is ambiguous. While these interpretations are necessarily tentative, the findings underscore the value of examining demographic variables not as static predictors, but as factors that shape how individuals experience and respond to virtual work structures.

Finally, this study makes several contributions to the literature on social loafing and virtual teams. First, it demonstrates that gender differences in social loafing persist in contemporary virtual work contexts and remain significant under multivariate controls. Second, it challenges the primacy of team size as a determinant of loafing, highlighting the greater relevance of interaction structure and psychological distance. More broadly, the findings support emerging perspectives that conceptualize social loafing as a dynamic, context-dependent phenomenon rather than a fixed individual tendency. Motivation loss in virtual teams appears to be shaped by the interplay of demographic characteristics, interaction patterns, and accountability cues—factors that can be influenced through intentional team design.

Future Research

Future research on social loafing in virtual teams would benefit from a more systematic and theory-driven examination of demographic variables as core explanatory mechanisms rather than ancillary controls. The present findings suggest that gender, age, and education meaningfully shape how individuals experience accountability, effort visibility, and psychological distance in virtual work. Extending this line of inquiry can advance both theory and practice by clarifying when and why motivation loss emerges across different demographic profiles.

Future studies should conceptualize gender not as a static individual difference, but as a contextual moderator that shapes responses to distance, anonymity, and evaluability. Drawing on classic social loafing foundations (Ringelmann, 1913; Latané, Williams, & Harkins, 1979), future research should examine how gender interacts with communication norms, leadership behaviors, and task interdependence in virtual teams. Longitudinal and mixed-method designs

could help determine whether gender differences in reported loafing diminish as teams develop shared norms, feedback systems, and trust over time.

Age emerged as a significant predictor of individual social loafing, suggesting that career stage and work experience warrant closer attention. Future research should disentangle chronological age from professional tenure, virtual work experience, and organizational role. Younger workers may experience virtual environments as more ambiguous with respect to norms and expectations, increasing susceptibility to effort withdrawal. In contrast, more experienced workers may rely on internalized professional norms that sustain effort even under reduced monitoring. Future studies should examine nonlinear and interaction effects among age, role seniority, and leadership responsibility to better understand how experience buffers against motivation loss in distributed teams.

The positive relationship between education level and social loafing highlights an underexplored paradox in the literature. Higher education often confers greater autonomy, specialization, and role discretion, which may reduce perceived interdependence in virtual teams. Future research should investigate whether education serves as a proxy for role differentiation, cognitive task complexity, or expectations of self-regulation.

Finally, future research should prioritize longitudinal designs, experience-sampling methods, and multi-source data to capture the dynamic nature of social loafing over time. Incorporating objective performance indicators alongside self-reports would further strengthen inferences about demographic influences on effort regulation. Revisiting foundational social loafing frameworks in light of contemporary virtual work—while explicitly integrating demographic variables—represents a critical step forward for the field.

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DECODING THE MIGRATION INTENTIONS OF GEN Z STUDENTS IN BANGLADESH

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Abstract

This research was conducted to gain an empirical understanding of the tertiary educated Gen Z of Bangladesh, one of the most populous countries of the world, and with a significantly high young population. The study follows a student-led mass uprising in Bangladesh in 2024, which started from job quota reforms. A survey of 673 students was done which was inclusive across categories of academic institutions, discipline, gender and socio-economic backgrounds. All interviews were held in-person in Dhaka, recorded through *kobo* app. The research attempted to identify if there is any relationship between human capital and migration intention. The statistical analyses using Principal Component Analysis and Logistic Regression suggest a positive correlation between some human capital factors and willingness to go abroad, while other factors of human capital were found to be non-significant predictors.

Keywords: Gen Z students, human capital, education, career preparation, migration intention

**THE MENTOR MODEL: A 6-STEP APPROACH TO ORIENT, SUPPORT, AND
RETAIN NEW FACULTY IN HIGHER EDUCATION**

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Abstract: This paper proposes "The MENTOR Model," a comprehensive six-step onboarding framework designed to integrate and support new faculty in higher education, including adjunct, part-time, and full-time instructors. With an ever-increasing demand for adjunct and part-time faculty, this model develops and provides a structured approach to enhance pedagogical effectiveness and professional acclimation. Drawing on evidence-based practices, The MENTOR Model addresses challenges faced by diverse faculty cohorts while offering a sustainable strategy for the long-term support and retention of high-quality educators.

Key Words: Mentor model, full-time faculty, adjunct faculty

BEYOND FINANCIAL LITERACY: INTEGRATING ETHICS AND EQUITY INTO FINANCIAL EDUCATION

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ABSTRACT

In an era of increasing economic inequality, traditional financial literacy education remains focused on personal responsibility and individual financial behavior, often failing to address the broader structural factors that shape financial outcomes. This conventional approach overlooks systemic barriers—such as biased lending practices or inequitable credit structures—that contribute to financial hardship in marginalized communities. There is a growing need to reconceptualize financial education as a space for critical inquiry, ethical reflection, and analysis of systemic inequities. Our work responds to this need by proposing a reimagined curriculum model designed for undergraduate business programs. This model integrates ethics, critical thinking, and interdisciplinary analysis to prepare students not only as financially competent professionals, but also as socially conscious leaders attuned to issues of equity and fairness in economic life.

While financial literacy courses have demonstrated some positive impacts on student knowledge and behavior, significant gaps persist in current curricula. Mainstream personal finance education rarely addresses how factors like race, gender, ethnicity, or sexuality intersect with financial challenges and outcomes. Policymakers and educators often tout financial literacy training as a remedy for economic disparities. However, without confronting systemic issues—such as discrimination in housing, employment, and banking—these efforts may end up reinforcing the very inequities they aim to reduce. Indeed, scholars like Willis (2008) and Pinto et al. (2021) have argued that many financial literacy initiatives implicitly adopt an individualistic “blame-the-victim” lens, framing financial struggle as a personal failure while obscuring broader social determinants of financial well-being.

Building on these critiques, we offer a secular yet values-driven educational framework that emphasizes ethics, critical inquiry, and economic fairness. We present a modular curriculum model that can be integrated across business disciplines, combining traditional financial literacy topics with case-based ethical analysis and interdisciplinary perspectives. This model encourages students to critically examine how financial institutions operate and to question whose interests are served by prevailing financial practices. Through reflective exercises, community engagement, and real-world case studies, students confront contemporary financial dilemmas while developing the ethical frameworks needed to promote more equitable financial practices. For example, students might analyze the impact of payday lending on low-income communities, debate the fairness of credit scoring algorithms, or examine the ethics of student debt. This approach ultimately prompts students to ask not only “How do I manage money?” but also “Whose interests do financial systems serve?” and “What role can I play in making those systems more equitable?”

This approach challenges business educators to move beyond narrow technical training and adopt a more critical, ethics-centered pedagogy that prepares students to question and improve the financial systems they will one day lead. By fostering this kind of critical awareness and

sense of responsibility, such educational reforms can contribute to a more equitable and reflective approach to business leadership in modern capitalism.

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**THE EXPANSION OF MOBILE BANKING-BASED FINTECH AND ITS
IMPACT ON FINANCIAL LITERACY AND FINANCIAL SERVICES
ACCESS FOR UNBANKED AND UNDERBANKED MINORITY
HOUSEHOLDS IN THE UNITED STATES (2019 - 2024)**

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ABSTRACT

In the United States, minority communities have faced large amounts of bank closures, especially following the Great Recession (Faber & Friedline, 2020). These individuals are already more likely to be unbanked (or underbanked) than their White counterparts (Barcellos & Zamarro, 2021). There is existing literature that discusses mobile banking as a vessel for financial inclusion and financial literacy; however, these studies primarily focus on developing economies (Chen et al., 2024; Ezzahid & Elouaourti, 2021). The main objective of this work is to analyze how mobile banking-based fintech has affected financial literacy and financial inclusion among U.S. minority households in the last five years. This narrative review incorporates sources published from 2020 to 2025, selected based on their discussions of the intersection of mobile banking, race, and fintech. This review finds that while mobile banking-based fintech improves access and convenience for some minority households, structural distrust, digital literacy gaps, and persistent algorithmic bias limit its capacity to achieve broad financial inclusion.

Keywords: Mobile banking; Fintech; Financial inclusion; Race.

INTRODUCTION

In the U.S., access to financial services continues to be limited for many groups. In ethnic minority populations, this issue is significant. Banks are less likely to open branches in communities of color, making it difficult for these individuals to obtain their assistance (Faber & Friedline, 2020). The greater physical distance between branches adds another burden to those who are interested in doing so.

The lack of banks in communities of color has led to alternative financial services (AFS) becoming a substitute for traditional bank accounts (Faber & Friedline, 2020). These products are often predatory and unnecessarily increase the cost of borrowing and banking. They prevent users from establishing a credit history and becoming familiar with other aspects of finance. In this way, AFS are not productive in developing useful financial skills.

Financial literacy refers to one's ability to use their judgment and understanding to make suitable monetary decisions. It involves both the amount of knowledge one has, and their proficiency in its application (Anwarul Islam & Saifuddin Khan, 2024). When individuals solely utilize AFS, they are not provided with opportunities to gain familiarity with traditional financial institutions. This places them at a disadvantage when they seek these services in the future.

Minority populations are much more likely to use AFS than Whites, primarily due to their increased availability in neighborhoods of color (Barcellos & Zamarro, 2021). The combination of the lack of physical banks and the influx of AFS creates another burden onto these communities. Members struggle to access traditional financial institutions and must pay extra to make use of the options that do exist. In many cases, they remain unbanked.

THE PROMINENCE OF UNBANKED AND UNDERBANKED STATUS IN MINORITY COMMUNITIES

The term ‘unbanked’ represents individuals who do not have a checking or savings account. Frequently forgotten are the underbanked, or individuals who rely on traditional bank accounts in tandem with AFS, such as payday loans, auto-title loans, and check cashing services (Chen & Friedline, 2022). In 2023, 5.6 million U.S. households were unbanked, with 19 million more being classified as underbanked (FDIC, 2023). The majority were members of minority groups.

It is estimated that up to half of unbanked individuals live in poverty (Creamer & Warren, 2024). This status compounds their struggles, delaying the receipt of necessary government payments and leaving their funds uninsured. During the COVID-19 pandemic, those without bank accounts experienced delayed receipts of stimulus payments, a demonstration of the issues that come with this status (Chen & Friedline, 2022). Though this situation exemplifies the hardships faced by these individuals, the underbanked continue to struggle as well.

Along with being unbanked, minority groups are more likely to be underserved by financial services providers (Chen & Friedline, 2022). When banks or credit unions fail to adequately address their needs, users supplement with AFS, increasing the costs of financial activities. Exclusion from these services does not always mean that they do not have access to them at all, causing their struggles to go unnoticed by academics and policymakers.

This is troubling, as those with underbanked status are often members of groups that are most vulnerable to financial hardships. Individuals who experience income volatility, as well as those who receive welfare payments, are more likely to be underbanked (Chen & Friedline, 2022). AFS use may be perceived as necessary to ensure financial stability. Though less research has been conducted regarding these consumers specifically, methods of facilitating financial services access have been analyzed at length.

Financial inclusion is a topic widely studied in the literature. As a whole, it refers to methods of increasing the number of underserved individuals participating in necessary financial services. For the unbanked, it includes bridging the gap between users and institutions, improving opportunities to create checking and savings accounts and facilitating formal borrowing. Research on the underbanked seeks to determine ways in which this population can be better supported by their current providers.

FINANCIAL INCLUSION AND FINTECH

Financial technology, also known as fintech, has been introduced as a vessel for increased financial inclusion and literacy in minority groups. Mobile banking-based fintech allows users to conduct their banking transactions from their cellular devices, forgoing the need to attend a physical branch. Account information can be viewed anywhere, a benefit for those budgeting with variances in monthly income.

This ease-of-access also promotes frequent use, encouraging consumers to monitor their situation and become confident in their fiscal abilities.

Along with creating a more convenient process, mobile banking-based fintech has been a proposed solution to other discriminatory practices associated with conducting transactions in-person; as individuals do not interact with employees face-to-face, many unconscious biases can be avoided. Due to their mobile nature, fintech providers also do not vary their lending practices based on geographic areas. This lack of physical branches may assist with eliminating certain systemic inequalities that come with banking as a person of color.

It is more expensive to be banked in minority communities (Faber & Friedline, 2020). These locations, on average, require higher minimum balances to open accounts, an issue frequently cited as a reason behind individuals maintaining unbanked status (Chen & Friedline, 2022). With many fintech-based mobile banking firms offering accounts with no minimum balances, this barrier ceases to exist (Collins et al., 2023). Within the last five years, more of these companies have emerged, resulting in a positive outlook for consumers that struggle to meet these requirements.

Despite the rapid expansion of mobile banking-based fintech, its effectiveness in addressing financial inclusion and literacy among U.S. minority communities remains contested. Digital services access is far from uniform throughout the U.S.; the opportunity to reach the internet is not afforded to all. Mobile applications also require a degree of digital literacy to be used properly, something that may pose a problem for those who already struggle to connect to the technological world. Furthermore, mobile banking fails to entice individuals who are already mistrustful of traditional financial institutions.

While many have theorized that these applications can reduce discriminatory practices in financial services, concerns have been raised that current patterns of injustice persist within them. These include unfair lending practices and fees that remain high, even without being specific to a certain physical location (Bartlett et al., 2022; Hauptert, 2022; Liu & Liang, 2025). The causes behind overreliance on AFS, a long-standing systemic issue, are far from uniform, and may vary from household to household. Numerous complex factors intertwine to create a problem that mobile banking alone may struggle to solve.

Though prior studies have examined fintech in relation to financial services access, few studies have focused primarily on minority communities, and none entirely on mobile banking. Much of the literature focuses on emerging markets, whose populations have needs that do not align with those living in the U.S. (Chen et al., 2024; Ezzahid & Elouaourti, 2021). This review synthesizes recent literature to evaluate whether mobile banking meaningfully reduces exclusion, or whether longstanding structural barriers persist in digital form. A focus on the last five years ensures that the findings of this review are relevant for current policymakers and individuals. This work contributes to the existing literature by analyzing mobile banking as a vessel for financial inclusion and literacy for minority communities in the U.S. from 2019 to 2024.

This work is structured as a narrative literature review. The inclusion criteria for all references required their publication to be from 2020 to 2025; keywords used in the search process included financial inclusion, fintech, mobile banking, and race. The vast majority of works have a geographic focus on the U.S., except when noted in the review. Most discuss minority populations broadly, instead of focusing specifically on Black, Hispanic, or Asian individuals; findings that are narrowed to a particular group

have been outlined. Sources have been synthesized thematically, and then comparatively evaluated to analyze similarities and divergences across findings.

Fintech-based mobile banking is the primary focus of this review. This term refers to products offering deposit accounts, balance checking, and transfers; in addition to these common features, many fintech firms offer lending services, which have been analyzed alongside these conventional offerings. These services are compared to those provided by traditional financial institutions, including via their own online banking platforms. As fintech is an emerging industry, patterns of use involving broader fintech products, such as mobile payment systems, are discussed as well. Though they retain their differences, these services are collectively evaluated to assess the role of fintech in facilitating banking access.

MOBILE BANKING AND THE VOLUNTARY UNBANKED

There are a multitude of factors that can inhibit access to banking. Frequently discussed problems are individual struggles to reach their banks due to time constraints, or lack of proper transportation. Though these issues abound, unbanked status is not always involuntary. Many consumers are unbanked by choice, presenting a challenge for facilitating mobile banking adoption.

Hayashi et al. (2024) observed that members of minority groups were more likely to have always been unbanked, and be uninterested in opening a bank account in the future. Distrust of financial institutions and privacy concerns were among the most common reasons mentioned behind their choice. A study by Nguyen et al. (2022) demonstrated that trust in formal monetary institutions positively influences consumer adoption of mobile banking. These two facts remain incongruent, as if individuals already struggle to trust their providers, they are unlikely to be moved by their mobile counterparts.

Even when users are amenable to working with fintech products, risks surrounding the technology still hinder their adoption. One study regarding mobile payment services, another common fintech product, discovered that consumers perceive online transactions as being less secure than those conducted in-person (Laksamana et al., 2023). The privacy concerns currently involved with traditional banking could be compounded in the mobile space, as the possibility of data breaches and hacking cannot be eliminated. Moreover, many unbanked minority individuals have issues regarding bank transparency, a fact that could continue to be unchanged with digital platforms.

After conducting interviews regarding banking with low-income parents, the majority of which were members of minority groups, Collins et al. (2023) noted that lack of fee transparency was a significant reason behind their distrust of banks. Overdraft fees were perceived to be unexpected and cruel, often serving to punish them after their situation had devolved. Many of these encounters led participants to close their accounts. Pending transactions were a particularly sore issue; if fintech companies are to reach these individuals, they must overcome these problems involved in traditional banking.

Some mobile banking services have begun to offer solutions to these concerns. The fintech bank Chime, which does not charge overdraft or account opening fees, was spoken highly of by many of the parents in the study (Collins et al., 2023). This study was limited by its sample size, including only 80 parents. In spite of this, it is valuable for sharing perspectives directly from affected individuals.

Policymakers should ensure that, when addressing barriers to financial services access, they determine the issues that are at the center of voluntarily being unbanked. Using Federal Deposit Insurance Corporation

(FDIC) survey data, Hayashi et al. (2024) discovered that difficulty accessing bank locations was among the least cited reasons for being unbanked. These findings suggest that policies focused solely on service availability fail to address the deeper relational and trust-based barriers that shape financial behavior.

Fintech-based mobile banking should present new opportunities for users, instead of simply providing an online option for traditional institutions. Continuing with old patterns not only fails to differentiate fintech companies from other banks, but also may inhibit consumer adoption. Those who have had negative experiences with the industry are unlikely to embrace applications that cause them more of the same issues.

The privacy and transparency concerns that have materialized in the literature denote distrust as a mechanism that continues the nonadoption of mobile banking-based fintech. While these feelings range from being related to institutions to new technologies, these factors converge to create a large barrier to the adoption of these services. Institutional distrust is a nuanced issue that stems from a wide range of past experiences; it cannot be overcome in a simple manner. In contrast, technological fears can be easier to mitigate, especially when consumers are familiar with digital products.

ACCESS AND DIGITAL LITERACY

Unsurprisingly, digital literacy has been observed to be a mediating variable between fintech use and financial services access (Amnas et al., 2024). For technology-based monetary products to be used effectively, consumers must have an understanding of how to use digital platforms. While fintech use can assist with developing this skill, it cannot be honed if individuals do not have the necessary components.

Low-income minority communities have significantly lower rates of internet services access than other neighborhoods (Friedline & Chen, 2021). To facilitate activities such as mobile banking, they may need to incur extra charges for faster connection and unlimited cellular data. While fintech applications remove the transportation costs associated with physical bank branches, it is important to note that they require initial investment in digital services to use.

Consistent with prior literature, Anwarul Islam and Saifuddin Khan (2024) determined that greater levels of digital literacy were associated with higher rates of fintech adoption. Notably, self-efficacy was an important part in this process. This presents a problem for older populations, as they may have little objective digital literacy and could lack the self-confidence to attempt to use fintech services. When encouraging mobile banking, policymakers should consider the digital literacy skills required to facilitate its adoption.

RISK, FRAUD, AND VULNERABILITY

These skills are also necessary to navigate the potential dangers of mobile banking. Interviewees with Collins et al. (2023) mentioned past experiences with scams having moved them away from conducting their monetary transactions digitally. If individuals adopt mobile banking without any information on its pitfalls, they could be at risk of losing savings and sensitive information to bad actors. When recommending these services to participants, individuals should consider disseminating warnings and precautions.

This is especially critical in the fiscal realm, as credit and debit card fraud are the most common type of online scam reported by Americans (Gottfried et al., 2025). Minority adults appear to experience further negative effects when this occurs; they are more likely to report that they have been victims of multiple types of online fraud, and that they lost money from the encounter. There is the possibility that Whites do not frequently disclose when this happens to them, and that minorities are not sought out specifically. Regardless, this information is concerning.

The elderly, regardless of ethnicity, are frequently the target of online scams. As they are often less familiar with digital services, it is easy for them to become victims of fraud. Unbanked older adults are also more likely to be mistrustful of banks (Grable et al., 2023). These two factors combine to create significant impediments to mobile banking adoption to these individuals.

These factors pose more complex problems for these community members, as those who are affected would benefit the most from such services. Older adults of color live in the same neighborhoods where physical bank branches are sparse, but face added challenges related to mobility and access to transportation. Fintech-based mobile banking may be enough to clear these issues, but it is not helpful if the affected populations cannot use it. Digital literacy initiatives should be implemented, accounting for the needs of different demographics.

Components such as these can worsen other fiscal behaviors. A lack of digital knowledge, combined with a distrust of traditional financial institutions, can lead to continued reliance on AFS. This may persist even when mobile banking, fintech-based or otherwise, is presented as an option, due to the many individuals who are voluntarily unbanked. Mobile banking can also create a perceived threat to financial stability.

For individuals living paycheck-to-paycheck, the location of their cash at any time is critical. Being without funds could mean missed bills and suspended services, with many low-income families engaging in careful, complex balancing acts to ensure their payments are settled (Collins et al., 2023). Any loss of internet access means that they cannot view their money, which, due to budgeting complexity, could create a costly situation. The lack of physical bank branches in communities of color intensifies this effect. Due to this, mobile banking-based fintech could be viewed as riskier than AFS.

MOBILE BANKING AND ALTERNATIVE FINANCIAL SERVICES (AFS)

Consumers may be less likely to use an unfamiliar new service, especially when AFS has been factored into their financial behavior. Many users are aware of the drawbacks, but believe that the benefits outweigh any negative consequences. Depending on their priorities, mobile banking may not be sufficient to replace AFS. A major one is perceived autonomy compared to traditional financial institutions.

Individuals may feel a greater sense of control with AFS. Low-income populations may have employers that do not give them an option for direct deposit of paychecks; this could result in waiting periods before they can access their funds (Collins et al., 2023). Check-cashing services have arisen as a solution, but mobile banking cannot act as a substitute for these products. While it does allow them to view the status of their funds whenever they have an internet connection, it does not necessarily provide them faster.

Existing studies are limited in that they have not explored the effect of local bank access on AFS use in minority communities (Barcellos & Zamarro, 2021). It is possible that the lack of physical branches is a

significant factor regarding the elevated use in these neighborhoods. If this is the case, mobile banking-based fintech would be incredibly beneficial. However, this does not align with many emerging reasons behind AFS use.

The persistence of individuals in using these products appears to be a strategic choice, caused by the constraints imposed on minority communities. The exclusionary aspect of AFS remains, but does not challenge the idea that consumers are choosing these services because they continue to be the best option, not the only one. Current mobile banking discussions fail to incorporate this nuance. Further research should be conducted to narrow the reasons behind AFS use, to ensure that the correct causes are being addressed.

Financial behavior stems from individuals' unique situations and experiences. These findings illustrate that, as increased AFS use appears to be perpetuated by systemic barriers, mobile banking does not suffice as a solution. Policymakers must work to improve these conditions, such as delayed wage receipt from employers. Though mobile banking cannot alleviate these issues, it may assist with other discriminatory aspects.

MOBILE BANKING AND DISCRIMINATION MITIGATION

Unfair lending practices based on racial discrimination have been well-documented by existing literature. Black and Hispanic borrowers have been observed to receive higher interest rates and be approved less often than White borrowers, even with equal financial histories and creditworthiness (Liu & Liang, 2025). Mobile banking-based fintech has been proposed as a way to mitigate this issue, as the lack of in-person communication could prevent unconscious bias from emerging. Additionally, these services can help minority borrowers overcome other common hurdles that prevent banking access.

Fintech lenders often have less strict credit requirements compared to traditional institutions (Liu & Liang, 2025). This allows users to begin building a credit history, an important aspect of financial wellbeing; many of them might be turned away by other institutions, causing the problem to fester. In this way, a significant barrier to loan access is lifted. Even so, another practice continues to impede the building of a credit history.

Informal borrowing, or receiving loans from family or other members of one's support network, is more common in communities of color, particularly with women (Long, 2020). This not only prevents them from creating relationships with monetary institutions, but also places further financial strain on the surrounding areas. Increased mobile banking use could decrease the frequency of this behavior, therefore assisting with wealth accumulation in these neighborhoods.

Minority populations have been observed to use mobile payments, another form of fintech, at greater rates than Whites (Nam et al., 2023). One proposed theory is that it is due to these applications not requiring users to disclose their credit history or legal status. Thus, fintech services appear, broadly, to be more accessible. While traditional financial institutions may still impose these restrictions on users, fintech-based mobile banking may be open to those who cannot use these services, such as undocumented individuals.

As this form of banking is conducted digitally, it could assist with eliminating aspects of in-person discrimination. Employees of financial institutions may have biases regarding applicants' past situations.

Bryan and Collins (2024) found that formerly incarcerated individuals had higher rates of unbanked status following their release. Black and Hispanic individuals are more likely than Whites to be members of this group, further compounding their financial exclusion.

MOBILE BANKING: FAR FROM A PANACEA

While mobile banking-based fintech can help individuals overcome these obstacles, it retains its own set of drawbacks. Due to the lower credit requirements, these firms, on average, impose higher fees and rates, making them more expensive than traditional banks (Liu & Liang, 2025). These costs accumulate over time, reducing the affordability of their services. Even if individuals can handle this strain, fintech lending is not a perfect solution; many of the biases present in traditional institutions appear to persist in this area.

Though fintech is an emerging field, numerous studies have investigated the fair lending practices of these firms. In a study of GSE and FHA mortgage loans, Bartlett et al. (2022) observed that fintech lenders continued to perpetuate these issues, with minority borrowers receiving higher rates than Whites. They noted that algorithmic bias appeared to be present, causing pricing discrimination based on the available data. Even when there is no physical aspect of the loan receipt process, systemic biases persist.

In Black and Hispanic metropolitan areas, fintech firms have been found to engage in subprime lending practices, mirroring the patterns of discrimination observed in traditional financial institutions (Hauptert, 2022). While researchers noted that they did so less than these conventional establishments, borrowers were still affected. Given that algorithms have access to demographic data in their decision-making process, biases may continue to be prevalent.

Despite this, fintech firms have made strides toward equitable lending. Liu and Liang (2025) noted loan approval odds increased for minority borrowers who used fintech services compared to traditional banks. However, they have not been able to eliminate old patterns of discrimination entirely. Even if these issues are less prevalent, they persist within these institutions; the biases that have afflicted the banking industry for decades appear to follow mobile banking as well.

ALGORITHMIC INEQUALITY

It has been noted that algorithms may perpetuate inequality in ways that are not easily discovered. In their analysis of the accuracy of race-prediction methods, Greenwald et al. (2024) found that Bayesian Improved Surname Geocoding (BISG), a prominent algorithm, frequently produced incorrect results; in many cases, false positives occurred, with White applicants being identified as minorities. This led to financial institutions appearing to be more in compliance with regulations than they were in reality.

Artificial intelligence, another proposed way to mitigate discrimination, retains similar problems. Fuster et al. (2022) noted that, even when applicant race was a restricted characteristic in mortgage lending, machine learning algorithms presented more favorable outcomes to Whites. Bias appears to remain entrenched in these systems, even if it does not initially seem to be. This indicates that reliance on flawed processes might mask, rather than correct, discriminatory outcomes.

Regulators and financial institutions alike should work to address this issue. The prominence of algorithms such as BISG could lead to a significant number of minority borrowers being left behind, without any awareness from lenders. This demonstrates a wider problem with technological solutions to

discrimination: algorithms are not perfect. A lack of a human component does not mean that unfair practices cannot occur.

These drawbacks are unlikely to be mitigated by other factors, such as users' financial literacy. Nevertheless, this prior knowledge has emerged as a relevant aspect of the mobile banking-based fintech discussion. The level of proficiency individuals require to successfully adopt mobile banking remains uncertain. The existing literature has explored this intersection of past fiscal experience and mobile banking use.

INITIAL FINANCIAL LITERACY AND MOBILE BANKING

Contrary to expectations, in the U.S., stronger financial literacy has been associated with less mobile banking use (Nam et al., 2023; Sinha et al., 2025; Zhang & Fan, 2024). This indicates that those with higher levels of financial education may be mistrustful of these services, and prefer to do their banking with traditional institutions. Notably, in global studies, the opposite has been observed (AlSuwaidi & Mertzanis, 2024; Anwarul Islam & Saifuddin Khan, 2024). Minority communities, which may include immigrant individuals, could have different responses than the wider population of the U.S.

The existing literature has not yet investigated how these neighborhoods specifically may be affected. The lack of trust that unbanked and underbanked individuals have with conventional institutions could prevent them from seeking their services, even if they do have great familiarity with financial concepts. This could indicate that stronger fiscal knowledge may not have the same effect as with other groups.

Similarly, the attitudes of those who have recently arrived in the U.S. may align more closely with global findings. Future studies should delve into these nuances and their potential impact on the relationship between initial financial literacy and mobile banking adoption. Though additional research is necessary in this area, past experiences with monetary endeavors are useful in ensuring effective mobile banking adoption.

Greater understanding also assists individuals with choosing the best mobile banking products. Policymakers have raised concerns about the availability of FDIC insurance for many fintech applications, as they are not offered the same protections as traditional banks (Mason, 2024). Following the 2024 collapse of Synapse Financial Technologies, consumers were left with frozen funds after the company's recordkeeping was not sufficient for FDIC involvement. This situation underscores the risks that come with choosing a mobile banking provider. Not all services are created equal; proper vetting of firms is necessary, just as with traditional banking.

In order to effectively evaluate potential fintech companies, consumers must have some background with financial services. As a result, mobile banking may not be ideal for individuals with a limited monetary understanding. Researchers should consider searching for entry-level pathways of financial inclusion, to assist individuals with both building and improving financial literacy.

MOBILE BANKING ADOPTION AND CONTINUED USE

Many individuals continue to face barriers that prevent them from being the ideal candidates for mobile banking adoption. Despite this, for most members of minority communities, it is a viable option. To ensure that these services can be easily accessed, aspects of successful adoption must be analyzed. Social

influence has materialized as a significant factor, with Barcellos and Zamarro (2021) proposing that prominence of banked status within minority communities is a significant factor in determining whether an individual themselves is banked.

Arruda Filho et al. (2022) analyzed social influence in mobile banking, observing its impact on individuals' adoption of these services, particularly in areas where physical bank branches are scarce. They discovered that social networks helped to indirectly support mobile banking adoption. Individuals were hesitant to use these services, unsure of the amount of utility they would receive; community encouragement was instrumental in overcoming this hurdle. When users are unfamiliar with a product or service, observing adoption by members of their social networks is invaluable in gaining their support.

It must be noted that this study is limited by the geographic location in which it was conducted. The researchers focused on the Brazilian Amazon region, which restricts its applicability to the U.S. (Arruda Filho et al., 2022). Despite this, similarities exist between these two areas. Related to financial behavior, the role of support networks is significant in minority communities (Long, 2020).

In these neighborhoods, where households often assist each other with financial needs, the effects of social influence could be more pronounced (Long, 2020). Individuals tend to follow the fiscal behavior of others, especially concerning trust in institutions (Barcellos & Zamarro, 2021). An uptick in mobile banking use by valued community members could lead to widespread adoption of these services. To increase mobile banking use, policymakers should consider a community-wide focus, instead of prioritizing individual encouragement.

To receive the benefits of mobile banking, users must continue to employ the product past the initial adoption phase. Consumers are more likely to do so when applications are simple to navigate, keep their information private, and have a strong organizational reputation (Che et al., 2023). Previous experiences with the service are also important in maintaining trust. This underscores the need for quality in mobile banking platforms.

Ease-of-use has been a highlight of fintech-based mobile banking products (Collins et al., 2023). As these firms are relatively new, they must compete based on the functional aspects of their applications, compared to traditional lenders who can rely on organizational reputation. Established financial institutions remain aware of this; to compete, many have invested in their own online banking systems (Nguyen et al., 2022). Mobile banking can be a vessel for financial inclusion and literacy, but not if consumers are unable to navigate the platforms on the market; to encourage the adoption of mobile banking products, firms should ensure that their applications are usable to the average consumer.

CONCLUSION

Mobile banking is able to assist with numerous exclusionary financial aspects affecting minority communities. It transcends the need for physical bank branches and eliminates discrimination that occurs face-to-face. It allows users to access their bank account data at all times, giving them more familiarity with monetary transactions and increasing fiscal acumen. Yet, no new service is without its faults, and mobile banking is no exception.

Many of the primary reasons behind users' unbanked status remain unaddressed by these products. A lack of a bank account signals underlying issues, ranging from negative past experiences to unfamiliarity with

financial services. Until these problems are mitigated or solved entirely, a number of consumers will continue to avoid financial services. These issues are too complex to be overcome by fintech alone.

In a similar vein, mobile banking services are commonly geared toward individuals who already have trust and interest in traditional financial institutions; this excludes a crucial portion of the unbanked. In this way, mobile banking-based fintech is only ideal for the most willing participants. It is necessary for further research to be conducted to discover ways to instill confidence in these services. To better reach these individuals, researchers should analyze the reasons behind banking distrust and how mobile banking can be adapted to mitigate them.

Financial inclusion involves granting all people access to financial services, not only those who have prior knowledge. Along with determining avenues to overcome banking distrust, future research should determine the role of initial familiarity with financial systems in utilizing mobile banking, perhaps in combination with digital literacy. The digital landscape adds new challenges to the use of these services. Additional studies should focus on these factors together.

While the impact of digital literacy on mobile banking has been studied in previous literature, little research has been conducted on its necessity in avoiding online scams. Mobile banking can be an incredibly valuable tool in improving access to financial services, but for populations that lack digital literacy, it could leave them vulnerable to dangers. These applications should be promoted in tandem with digital literacy initiatives. However, they should not be lauded as platforms that are entirely free from discrimination.

Policymakers should consider addressing the systemic inequalities that continue to persist in fintech-based mobile banking. While discriminatory practices in banking have been widely studied, little attention has been granted to the inequalities that exist in these newer products. To ensure that all individuals are treated fairly when conducting financial transactions, regulators should begin to analyze the discriminatory practices that are currently being observed. The firms behind these services should take this criticism seriously and ensure that their products are appropriate for all users.

The financial inclusion of minority communities in the U.S. is a topic that must be continuously researched and studied. Mobile banking-based fintech is only one proposed solution. The drawbacks of this practice could be addressed by other fintech products, such as mobile payments or robo-advisors. New technologies may offer more avenues for financial services access.

Nonetheless, this topic cannot be solved by only one method. Input from minority communities would benefit researchers in determining the best paths forward. Mobile banking-based fintech holds promise as one component of financial inclusion, but without parallel efforts to address trust, literacy, and systemic bias, its impact will remain uneven. To advance financial inclusion and literacy via mobile banking-based fintech, a broad, varied approach is necessary.

POLICY IMPLICATIONS

The findings of this review have important implications for policymakers. The literature has outlined transparency in banking as a key concern for individuals. Despite fintech firms demonstrating improvement in this area, traditional financial institutions fail to meet consumer expectations. Regulations should be implemented to improve fee transparency, and disclosure of such costs should be required.

Regulators also must take notice of fintech firms and work to offer them the protections afforded to conventional banks. These companies continue to exist in a gray area regarding FDIC insurance (Mason, 2024). While the burden is on fintech platforms to communicate their status to consumers, this gap needs to be addressed by policymakers, particularly as this software becomes adopted by more individuals. Likewise, their attention should be directed to the technology that powers these systems.

Policymakers should implement fair lending auditing standards for algorithmic systems. Evidence suggests that the flaws of current methods may go unnoticed (Greenwald et al., 2024; Fuster et al., 2022). Compliance audits should be conducted to ensure that these standards are effective in their efforts to reduce discrimination.

LIMITATIONS AND OPPORTUNITIES FOR FUTURE RESEARCH

As an emerging industry, mobile banking-based fintech has complex issues that require further research to fully understand. While it has clear benefits for financial inclusion and literacy in minority communities, there are nuances surrounding its potential implementation. This topic is intricate, and this paper offers only one perspective. This review provides opportunities for future studies to be conducted, adding to the existing literature.

Initial financial literacy was a notable variable that emerged in this analysis. While studies have analyzed mobile banking as a mechanism to increase familiarity with financial services, few have documented the level of beginning knowledge required to facilitate its adoption. Future studies are necessary to determine the amount of fiscal capability required to utilize mobile banking effectively, along with ways to augment the applications so that financially illiterate persons can be reached. A study focusing primarily on these individuals would be beneficial to the existing literature.

The relationship between digital literacy and fintech adoption has been studied in prior works. Still, the role of technological understanding in preventing fintech-based fraud has not been investigated. Minority groups have a higher likelihood of being victims of online fraud; though this fact has been studied, there is little research discussing why this may be the case (Gottfried et al., 2025). Further studies should be conducted to determine why this gap exists, and how it can be mitigated.

This review is limited in scope. Minority communities have been broadly analyzed, not accounting for differences between Black, Hispanic, or Asian individuals. These groups may have different needs, prior knowledge, and experiences that could affect how they approach mobile banking; the research that follows should delve into the unique factors that affect them in alternate ways. Moreover, an expansion in geographical regions would be highly beneficial to the existing literature.

This analysis focuses on individuals in the U.S. While mobile banking-based fintech has been examined in developing countries, particularly in Asia and Africa, other Western countries have not been included in these studies. Future researchers could analyze minority communities in places such as Canada or the United Kingdom. The focus of this research could also be broadened to focus on the implementation of mobile banking-based fintech in these areas in general.

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THE CURRENT STATE OF TAXATION OF COLLEGE ATHLETES

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Abstract

The entire landscape of college athletics has been evolving rapidly. From amateurs to, in some cases, multi-millionaire college players. First came the ability to receive compensation for their name, image and likeness (NIL). For years, colleges made money off the use of its athletes name, image and likeness. Now these belong to the athlete. The result is that they are not compensated for their being members of a College/University team, but for their own personal name, image and likeness. Thus, while making even multi-millions of dollars, they were not “professionals” paid for playing the sport. Recently, the Court authorized athletes to be paid under revenue sharing arrangements with the institution. These changes have created a myriad of potential tax issues, state, federal, local and even international. Secondly, yet just as important, are they employees for tax and or labor law purposes? This paper provides an analysis of the current state of the tax and labor law as they relate to college athletes. It addresses the uncertainty and offers what may be the result of future changes.

**THE BATTLE TO PROTECT CONSTITUTIONAL RIGHTS AND
BUSINESS TECHNOLOGY AT THE BORDERS: AN ANALYSIS OF THE
CURRENT LAW**

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Abstract

There has been a significant amount of tension among Congress, Homeland Security and the Courts concerning the rapidly developing law regarding technology and national security. As the world has been a global marketplace and technology has consistently evolved into smaller and more powerful devices and applications, the government has heightened concerns for what may be contained on such things as laptops, cell phones, PDA and storage devices. Previously, the Department of Homeland Security (DHS) released a Privacy Impact Assessment regarding new directives issued by the U.S. Customs and Border Protection (CBP) and U.S. Immigration and Customs Enforcement (ICE) about conducting border searches of electronic devices “to determine whether a violation of U.S law has occurred”. Essentially the DHS in this report explicitly states that they can take your device for whatever reason, search the contents and then determine if you have committed a crime or not. The Directives are in direct opposition to the 4th Amendment rights against unreasonable searches and seizures. However, the Supreme Court has not acted, and several lower courts have upheld this authority at the border. Several attempts have been made to introduce legislation to limit the power of Homeland Security, but each of these initiatives has failed to make it the floor of either house of Congress. The Riley case added more uncertainty to this volatile issue. Now, President Trump recently announced that the administration is considering a rule that anyone entering the United States from certain countries can be required to give all social media passwords/logins. This paper provides an analysis of the current state of the law as it relates to technology and the power of the government to search and seize technology at the border. The paper includes suggestions to preserve and protect technology and private/protected information.

THE DARK SIDE OF “ZOMBIE MALLS”

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ABSTRACT

“Zombie malls”, or commercial retail properties that continue to operate despite experiencing consistent financial distress, have proliferated in recent years. Extant literature describes the macroeconomic and technological factors resulting in the contraction of the retail sector, but there is little discussion of why the managers of these malls continue to cut costs related to maintenance and infrastructure investment while underlying assets continue to deteriorate. This issue presents an opportunity to examine how managerial incentive structures and monitoring mechanisms interact to influence managers’ real investment decisions and cost cutting behavior. We develop a theoretical framework that explains how short-term incentive structures and weak monitoring produce systematic underinvestment, resulting in the destruction of long-term value. We propose that compensation contracts emphasizing short-term measures of financial health, such as short-term cash flows and net operating income, reinforce managerial focus on cost-cutting at the expense of the long-term preservation of asset values. The effect of managerial incentives is exacerbated in settings where weak external monitoring further reduces accountability. This effect allows the manager to more easily justify these actions, both to themselves and to others, resulting in managers tolerating higher amounts of physical and financial decay before being forced to take corrective actions. Thus, we formalize two theoretical propositions explaining the mechanisms through which managerial incentives and weak external monitoring interact to affect management cost-cutting behavior and tolerance for asset deterioration.

This study advances behavioral accounting and organizational behavior theory by contributing to the literatures concerning managerial incentives, monitoring, and cost-cutting behavior. More generally, the findings extend theories of management decision-making beyond the incentivization of growth and expansion, shining a light on how motivating short-term thinking and lack of oversight result in the long-term neglect and eventual destruction of organizational value.

POSTMORTEM EXAMINATION (AUTOPSY): BENEFIT-COST ANALYSIS

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Abstract

This presentation deals with the rate of missed clinical diagnosis and advocates for the use of autopsy as a means to protect society and ensure administration of justice, besides improvement of the standard of care in hospitals. In the 1960's autopsy rates in university hospitals in United States approached 50%. The rate of postmortem examinations now is less than 10%. The need to perform postmortem examination (autopsy) is essential to investigate and understand the cause and manner of death, particularly when the death is sudden and unexpected or it occurs under confusing, or ambiguous circumstances.

Our investigation showed 30% missed diagnosis of the total cases studied. Major missed diagnosis was found in more than 55% of those cases. Examples of additional cases that have been also found during autopsies performed by the investigator will also be presented. The financial and legal issues associated with the decline in number of autopsy cases performed and its effect on the community and court will be also discussed. In conclusion: (1) Autopsy will remain the foremost quality control tool in present medicine; (2) Autopsy is the best determinant of diagnostic accuracy & treatment efficacy; (3) Autopsy will remain essential for improving medical education and research; (4) Autopsy is essential to protect society and ensure administration of justice

Keywords: Hospital Autopsy, Medico-legal Autopsy, Missed Diagnosis, Protecting Society

THE UNITED STATES' ADHERENCE TO AI ETHICAL DIMENSIONS

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Abstract

The United States seeks to develop a competitive artificial intelligence (AI) sector that can rival those of any country. To do so, the country's federal government will remove restrictions imposed at the state level. Recent research indicates that doing so could have adverse consequences. International organizations such as UNESCO have published tools to help countries assess their implementation of AI. The goal of tools such as the Readiness Assessment Methodology (RAM) and Ethical Impact Assessments (EIAs) is to help countries use AI in the most ethical manner possible. While reviewing the ethical domains promoted by these tools, this study aimed to answer the question, "What are we doing in the United States to further the ethical dimensions of AI?" A literature review found that the United States is most invested in the technological/infrastructural and economic domains of AI ethics. However, the White House's focus on revising existing legislation indicates that the country recognizes the importance of its legal system. This paper proposes a means of implementing a broad ethical framework at the national level without fully deregulating the private sector.

Keywords: Artificial intelligence, AI ethics, federal government, state-level policy, ethical frameworks