

Innovations in Strategic Finance and Accounting: Insights from Research Centers in a VUCA Environment

Raden Muhammad Syah Arief Atmaja Wijaya, Indrawati Yuhertiana, Diarany Sucahyati, Wilma Cordelia Izaak, Endah Susilowati, Diah Hari Suryaningrum, Ignatia Martha Hendrati, Helmy Wahyu Sukiswo, Condro Widodo*, Seftin Fitri Ana Wati, Anindo Saka Fitri

Accounting Department, Faculty of Economics and Business, Universitas Pembangunan Nasional Veteran Jawa Timur, Jl. Raya Rungkut Madya St., No.1, Gunung Anyar, Surabaya, East Java 60294, Indonesia

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Abstract

This paper examines the function of research centers in promoting strategic innovations in finance and accounting under the VUCA (Volatility, Uncertainty, Complexity, and Ambiguity) paradigm. This work employs a qualitative approach, incorporating benchmarking of research centers and literature evaluation, to identify approaches that improve financial resilience and adaptation. There are three research that develop financial resilience fields from Indonesia, Canada, and the United States that were analyzed. The data was obtained from field benchmarking and website observation. Comparative analysis is used to get a deep understanding of how research centers facilitate the advancement of innovative financial and accounting strategies to tackle challenges in VUCA environments. The results underscore the importance of collaboration, technological integration, and actionable frameworks, providing recommendations for academia, governments, and communities to connect research-driven innovation with practical application. This research highlights the unique role of research centers in addressing VUCA challenges by integrating technology-driven frameworks, data-centric tools, and community-based approaches, offering a comprehensive perspective on bridging theory and practice to enhance financial resilience and adaptability.

Keywords: Research Centers, Accounting, Strategic Finance, VUCA.

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*Correspondence: Condro Widodo, *condro.widodo.ak@upnjatim.ac.id.



INTRODUCTION

The contemporary organization (profit, non-profit and third sector) landscape is increasingly defined by Volatility, Uncertainty, Complexity, and Ambiguity (VUCA), necessitating novel strategies in finance and accounting (Yuhertiana, 2023) Organizations encounter unparalleled problems in maintaining financial stability and accountability (Cheng & Foo, 2016). These VUCA scenarios challenge conventional financial planning (Pandin et al., 2021; Wulan & Yuhertiana, 2021), risk assessment (Cheng & Foo, 2016), and accounting techniques, necessitating more flexible and proactive solutions. Organizations must negotiate the intricacies of volatile markets and global economic changes while also anticipating and addressing unforeseen disruptions, including technological developments, geopolitical tensions, and environmental disasters. In this regard, research centers play a crucial role as incubators for the development of advanced financial strategies and accounting advances. Research centers are at the forefront of creating solutions that enable organizations to navigate the challenges of VUCA environments. By fostering innovation, collaborating with stakeholders, and driving methodological advancements, they contribute significantly to the evolution of strategic finance and accounting. Their role is critical not only for organizational success but also for broader societal resilience and sustainability.

Despite of the growing acknowledgment of strategic finance and accounting innovationssuch as digital accounting systems (Hunton, 2002; Mulya & Yuhertiana, 2023), real-time reporting, and sustainability frameworks-as essential answers, a substantial disparity persists between theory and reality. Global research centers have generated significant insights and novel instruments to tackle these difficulties (Abbas, 2023; Abdulla & Banik, 2020; Lucero et al., 2024; Mäkinen et al., 2020; Steinmo, 2021); yet, their implementation in practical contexts, particularly in emerging economies (Isaeva et al., 2022) or grassroots groups, has been sluggish and inconsistent. Numerous organization encounter difficulties in assimilating innovative technologies (Abdulla & Banik, 2020) and frameworks owing to inadequate financial literacy (Goyal, 2021), restricted access to new tools, and opposition to transformation. Furthermore, whereas research underscores the significance of resilience (Aldianto et al., 2021; Yuhertiana et al., 2022), transparency (Hartanti & Yuhertiana, 2018), and sustainability (Camilleri, 2017), effective implementation is obstructed by institutional inertia and unclear policy backing. This gap highlights the necessity for implementable strategies that connect research-based breakthroughs with practical applications in finance and accounting, enabling firms to adapt and prosper in VUCA environments.

In light of the phenomenon gap, the research issue is: How do research centers facilitate the advancement of innovative financial and accounting strategies to tackle challenges in VUCA environments? This study seeks to address this gap by investigating the role of research centers in promoting strategic finance and accounting innovations within the VUCA framework. The results offer practical recommendations for stakeholders, highlighting the significance of teamwork, technological integration, and adaptation in navigating the intricacies of contemporary finance and accounting. This research enhances comprehension of the role of research institutes as catalysts for innovation in a dynamic environment.

The literature review explores the pivotal role of research centers (Abbas, 2023; Abdulla & Banik, 2020; Steinmo, 2021) in advancing financial and accounting strategies (Platen, 2020) to address challenges in VUCA environments. It highlights how these centers serve as incubators of innovation by bridging theoretical insights and practical applications (Fernandes et al., 2021; Franco & Pinho, 2019; Mäkinen et al., 2020), leveraging interdisciplinary approaches (Mäkinen

et al., 2020) to develop tools and frameworks that enhance organizational resilience. Connecting academic theory with industrial application (Isaeva et al., 2022; Steinmo, 2021). Within the VUCA framework, these institutions are distinctly equipped to lead advances in strategic finance and accounting by utilizing interdisciplinary skills and promoting collaboration among stakeholders. Research centers have developed tools and frameworks that allow firms to respond to dynamic challenges by incorporating insights from data science (Platen, 2020; Steinmo, 2021), behavioral economics (Mäkinen et al., 2020), and sustainability (Steinmo, 2021). These advances not only improve decision-making processes but also foster financial resilience during uncertain periods.

The necessity for innovation is especially apparent in strategic finance (Puspita & Wardani, 2022), where agile financial modelling (Basdekidou, 2021), risk mitigation strategies, and realtime analytics are essential. Accounting methods are experiencing a paradigm shift, with a growing focus on Environmental, Social, and Governance (ESG) factors (Chung et al., 2023; Diwan & Sreeraman, 2023; Niu et al., 2022; Tilba, 2022), as well as transparency and accountability. Research centers are pivotal in this shift by providing empirical facts, conceptual frameworks, and technical solutions that mitigate the shortcomings of conventional procedures. Their contributions assist organizations in aligning financial objectives with overarching societal aims, generating value in both tangible and intangible manners.

RESEARCH METHOD

This study employs a qualitative research approach to explore the role of research centers in fostering strategic finance and accounting innovations in Volatility, Uncertainty, Complexity, and Ambiguity (VUCA) contexts. By leveraging benchmarking and website observation as primary data collection methods, the study aims to provide a comprehensive understanding of the strategies and innovations developed by research centers. The qualitative nature of the research allows for an in-depth examination of practices and trends, focusing on context-specific insights and rich narratives that quantitative methods might overlook (Sekaran & Bougie, 2016).

Name of Research Center	Website	Affiliation	Gathering data
Center for Fintech and	https://fintechcenter.uns.ac.id/en	UNS	Online and
Banking	<u>/home-en/</u>		offline
Universitas Sebelas			
Maret			
Financial Resilience	https://www.finresilienceinstitut	Canada	Online
Institute (Canada)	e.org/		
Institute for Emerging	https://iei.ncsu.edu/roadmap-to-	NC State	Online
Issues	financial-resilience/	University	
		Raleigh, NC 27695	

Table 1. List of research centers that have been visited

Source: Data Collected by Researcher (2024).

Table 1 describe data collection was conducted in three phases, Benchmarking, Website Observation, and interview. This involved identifying and analyzing research centers recognized for their excellence in strategic finance and accounting innovations. Key selection criteria included global reputation, publication output, partnerships with industry and academia, and contributions

to addressing VUCA challenges. Benchmarking allowed for the comparison of institutional strategies, resources, and impacts, highlighting commonalities and unique approaches. Websites of selected research centers were systematically observed to gather data on their ongoing projects, research outputs, events, and collaborations. The observation process focused on identifying themes related to innovation, technology integration, and adaptability. Websites were chosen for their accessibility and the richness of publicly available information, ensuring transparency and replicability in data collection.

The data gathering occurred in three phases: literature review, benchmarking, and website observation. The UNS Fintech Center benchmarking was done by a visit on August 2024, while the two research centers were observed by their public data on their website. A comparative approach was employed to evaluate chosen research centers according to their priority areas, results, and intended beneficiaries. The data was confirmed with literature reviews to guarantee thorough insights. Limitations encompass dependence on publicly accessible data and the omission of direct interviews. This methodology establishes a solid basis for examining the influence of research centers on advancing strategic finance and accounting advances. The report provides actionable insights and practical recommendations for improving the contributions of research centers in VUCA environments through the integration of benchmarking, website monitoring, and secondary data analysis.

RESULTS AND DISCUSSION

Results

The Research Center Profile

The results demonstrate how three observed research centers facilitate the development of innovative strategies related to VUCA challenges. The UNS Fintech Center (UFC) integrates technological advancements with financial practices to drive resilience and sustainable growth (Ahbabi & Nobanee, 2019; Muhairi & Nobanee, 2019) in Indonesia, while the Financial Resilience Index (FRI) provides globally relevant tools and benchmarks for enhancing financial well-being. The Institute of Emerging Issue (IEI) focuses on community-based frameworks to address policy and economic challenges, showcasing diverse yet complementary approaches to tackling financial complexities. The table 2 delineates the three different research centers underscoring their distinctive organizational frameworks, objectives, and principles. The UFC operates within a public university structure, emphasizing academic and applied research in financial and banking innovation. It leads in fintech and banking excellence in Indonesia through scholarly publication, education, certification, and functioning as a digital company incubator. The organization's fundamental values—Educate, Innovate, Collaborate, Disseminate-embody its purpose to promote knowledge and innovation while fostering collaborative networks throughout Indonesia's financial sector.

The FRI, a Canadian non-profit organization, is dedicated to enhancing the financial health, well-being, and resilience of Canadians and individuals worldwide. It accomplishes this by aiding purpose-driven organizations in comprehending and enhancing the financial welfare of their communities. The core values—Integrity, Accountability, Collaboration, Agility—underscore its dedication to ethical conduct, meaningful alliances, and flexibility. The IEI at North Carolina State University emphasizes engagement, inclusivity, impact, partnership, and leadership to address North Carolina's evolving economic and policy concerns. Every research center embodies a unique

methodology adapted to its environment, demonstrating varied yet synergistic ways for enhancing financial resilience and creativity.

Aspect	UFC	FRI	IEI
Country base	Indonesia	Canada	United State
Organization	Public university	Non-profit organization	University
Purpose	"As a public university that excels in financial and banking research at the national level and is well recognized at the international level, UNS becomes the pioneer by establishing a center for excellence (PUI) in Fintech and Banking"	"Our purpose is to improve the financial health, financial well- being and financial resilience of all Canadians and global citizens. We do this by helping purpose-driven organizations understand, measure, and then improve the financial well-being of their customers and communities"	"EI connects North Carolinians across sectors, regions and perspective for collaborative work on key emerging issues affecting our state's future economic competitiveness"
Value	EducateInnovateCollaborateDisseminate	 Integrity Accountability Collaboration Agility 	 Engagement Inclusion Impact Partnership Leadership

Table 2. The Research Centers Profile

Source: Data processing by the researcher, 2024

The Research Centers Strategies

Strategy is a long-term framework designed to attain particular goals and objectives (Saputra & Rahmatia, 2021). The strategy formulation process occurs in multiple stages and often entails performing external and internal assessments to identify the strengths, weaknesses, opportunities, and obstacle of each organization (Karlapudi & Reddy, 2022). Table 3 presents many variables pertinent to the formulation of plans for each research institution. UFC concentrates on digital financial innovation and fintech advancement, especially aimed at academics, researchers, and innovators in Indonesia. Its strengths are rooted in its focus on technology-driven solutions and partnerships. Nonetheless, its dependence on technology may marginalize rural areas with restricted access, and it lacks a robust grassroots implementation emphasis, which is crucial for comprehensive resilience building.

The FRI employs a data-driven methodology to assess financial resilience and advocate for financial well-being. It employs instruments such as the Seymour Financial Resilience Index® to furnish actionable insights for governments, enterprises, and Non-Governmental Organizations (NGOs) worldwide. Its strengths encompass a focus on quantifiable, research-driven outcomes

and collaborations. Nonetheless, the index-heavy methodology may seem research-oriented and less flexible for grassroots application, so constraining its immediate influence on vulnerable or marginalized populations. The IEI Roadmap to Financial Resilience, by contrast, underscores a framework-oriented strategy that tackles cash flows, personal resources, benefits, and financial literacy for low-income and at-risk households. It provides pragmatic and action-oriented strategies for enhancing resilience, aimed at policymakers and communities. Although its extensive structure is an asset, it is predominantly tailored for U.S. systems, necessitating policy alignment for international applicability. The comparison reveals a disparity between technical progress, quantifiable instruments, and practical frameworks, emphasizing the necessity for a cohesive strategy to enhance financial resilience inclusively among diverse communities.

Aspect	UFC	FRI	IEI
Focus Area	Digital financial innovation and fintech development.	Financial resilience measurement, well-being, and inclusion.	Building financial resilience for low-income households.
Target Audience	Academics, researchers, and fintech innovators.	Governments, businesses, NGOs, and financial planners.	Policymakers, communities, and vulnerable populations.
Primary Approach	Technology-driven financial solutions (fintech).	Index-based measurement of financial resilience.	Framework-based approach: addressing cash flow, benefits, and education.
Outputs	 Collaboration in fintech innovation. Research publications. 	 Seymour Financial Resilience Index®. Research and tools for benchmarking. 	- 4 Core Elements framework to address financial resilience gaps.
Geographical Scope	Indonesia (local and regional).	Canada (global applicability).	United States (global relevance).
Strengths	 Focus on technology and digital transformation. Academic research and collaborations. 	 Data-driven, measurable, and actionable insights. Strong partnerships and tools. 	 Comprehensive yet practical framework. Action-oriented policies for resilience.
Weaknesses	 Limited focus on grassroots communities. Technology may exclude marginalized groups. 	- Index is more research-heavy and less grassroots- focused.	 Framework primarily geared for U.S. systems. Implementation may require policy alignment.

Table 3.	Measurement	Model	Analysis
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Source: Website of UNS Fintech Center website, Financial Resilience Institute, Institute of Emerging Issue (2024)

Similarities and Differences

The three platforms concentrate on financial resilience, aiming to improve financial outcomes for individuals and communities, particularly amid economic hardships. Each platform, whether at the local, national, or global level, underscores measures to assist stakeholders in effectively managing unpredictability, volatility, and financial difficulties. UFC stresses innovation in fintech to revolutionize financial institutions, the FRI concentrates on instruments that assess resilience and offer insights, and IEI prioritizes practical frameworks to address economic disparities among low-income populations. Innovation and collaboration are fundamental themes in all three efforts, emphasizing the significance of partnerships among academics (Abdulla & Banik, 2020), governments (Abbas, 2023), corporations, and community leaders. UFC promotes collaboration by integrating research and digital financial innovations, linking academic proficiency with technology stakeholders. The FRI utilizes cross-sector partnerships to implement its resilience index and benchmarks successfully, enabling governments, NGOs, and corporations to formulate data-driven policies. The IEI roadmap stresses grassroots participation, linking policymakers with vulnerable populations to enhance financial resilience through community-focused strategies.

Each platform offers a distinct toolset and structure designed to meet its own goals. UFC prioritizes technology-driven instruments, including fintech advancements and digital platforms, to enhance financial inclusion and modernize systems. The FRI is distinguished by its Seymour Financial Resilience Index (Financial Resilience Institute, n.d.), which offers quantifiable, data-driven insights for evaluating financial well-being. Conversely, IEI adopts a pragmatic methodology through its 4-Core Elements framework, emphasizing fundamental components such as cash flow, personal resources, access to benefits, and financial literacy. These systems exhibit complimentary methodologies—technology, measurement, and actionable frameworks—that effectively and comprehensively tackle financial concerns across varied populations.

Criteria	UFC	FRI	IEI
Approach	Technology-focused (fintech).	Data-driven (research and index measurement).	Community and policy- focused frameworks.
Scope of Work	Fintech innovation for public/private sectors.	Measuring and benchmarking financial health.	Building resilience through action-oriented steps.
Target Beneficiaries	Fintech users, researchers, innovators.	Policymakers, researchers, financial planners.	Low-income and vulnerable communities.
Level of Focus	Academic and industry- level innovation.	National (Canada) and organizational.	Local/community implementation.

Tabel 4. The Differences

Source: Website of UNS Fintech Center website, Financial Resilience Institute, Institute of Emerging Issue (2024)

Table 4 presents a comparative comparison of three initiatives Roadmap to Financial Resilience according to their methodologies, scope of work, target beneficiaries, and degrees of focus. UFC has a technology-centric strategy, primarily highlighting fintech advancements for the public and private sectors. Their efforts concentrate on developing digital financial solutions by utilizing

academic research and industry partnerships to facilitate financial transformation. The primary beneficiaries of this effort are fintech consumers, researchers, and innovators, emphasizing innovation within both academic and industrial spheres. Nonetheless, although it significantly enhances financial technology, its impact may not comprehensively encompass grassroots or marginalized communities.

Conversely, the FRI utilizes a data-driven methodology, emphasizing the assessment and benchmarking of financial health via instruments like as the Seymour Financial Resilience Index. This program aims at politicians, researchers, and financial planners who utilize its data to guide decisions at both national and organizational levels, especially in Canada. Its focus on quantifiable findings offers useful frameworks for comprehending financial well-being, however it may seem less applicable at the community level because of its research-intensive approach. Simultaneously, the IEI Roadmap to Financial Resilience is distinguished by its community and policy-oriented frameworks. The initiative focuses on enhancing financial resilience through actionable measures such as managing cash flow, accessing benefits, and providing financial education. This effort specifically addresses low-income and at-risk areas with pragmatic, customized approaches. Its emphasis on local and community execution guarantees significant influence at the grassroots level, rendering it more attainable and practical for actual financial issues. In conclusion, UFC excels in technology innovation, the FRI offers data-driven insights for policymakers, and IEI presents practical, community-oriented frameworks. Collectively, they provide synergistic approaches for tackling financial difficulties across many sectors and demographics.

Discussion

The discussion synthesizes the findings, linking the strategies employed by research centers to the core components required to address VUCA challenges. It highlights how UFC focuses on technological innovation, the FRI leverages data-driven tools, and IEI prioritizes community and policy engagement. The research center not only need to develop the knowledge but also the community contribution (Cordner et al., 2019). Together, these approaches underscore the importance of combining technology, data, and grassroots frameworks to create adaptable and inclusive financial strategies. The discussion also identifies gaps in implementation, particularly in extending these innovations to grassroots levels and aligning them with local and global policy needs.

According to the results, Figure 1 illustrates the proposed strategy of the PUI organization in addressing VUCA difficulties and obstacles. The PUI methods are based on their internal and external factors that may affect them. This figure.1 illustrates a strategic framework for a Center of Excellence (PUI) to tackle challenges in a VUCA environment, while surmounting significant obstacles including technological deficiencies, literacy challenges, and communication impediments. In Indonesia, the higher education enhanced the research center become the center of excellent. Every year, the government support grant to enhance the management of research center, and now there are 60 PUI that have been developed in Indonesia.

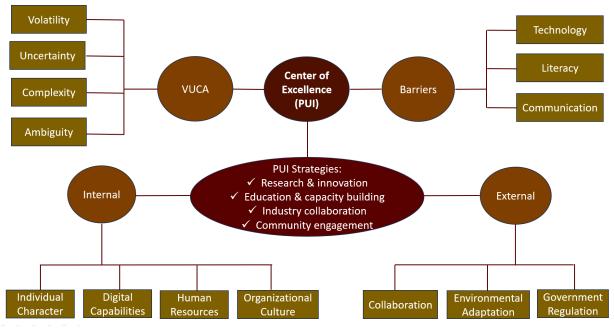


Figure 1. PUI Solutions for Addressing VUCA Issues and Obstacles. Source: Literature reviews and comparative analysis

Previous literature of the PUIs, they have a four-pronged strategy: research and innovation (Steinmo, 2021), education and capacity building, industry partnership, and community engagement, which are fundamental methods to address these difficulties. The framework categorizes factors as internal and external. Internal elements emphasize the enhancement of individual character, digital competencies, human resources, and corporate culture, all of which are vital for internal resilience. Simultaneously, external considerations such as collaboration, environmental adaption, and governmental regulation underscore the necessity for partnerships and responsiveness to external changes. By addressing these factors comprehensively, the Center of Excellence seeks to establish resilient systems that can prosper in unpredictable and dynamic environments, promote innovation, and encourage sustainable growth.

Challenges of VUCA

The current condition in finance illustrates the dynamic and unpredictable characteristics of global financial systems (Koesmarni & Yuhertiana, 2024). In volatility situation examples, financial markets undergo swift and erratic fluctuations (Rusdiyanto & Narsa, 2019) influenced by elements such as geopolitical conflicts, technological upheavals, and economic regulations. Inflation surges, variable interest rates, and currency depreciation exacerbate market volatility (Murjani, 2019). In uncertainty situation examples, economic forecasting is becoming progressively challenging due to unpredictable occurrences such as pandemics (COVID-19) (Buheji et al., 2020; Zhang et al., 2022), climatic emergencies, and technical advancements (AI, fintech). Investors and governments encounter considerable difficulties in forecasting outcomes, heightening risk aversion.

The interrelation of global economies, financial instruments, and systems engenders intricate linkages. Challenges like as supply chain disruptions, ESG requirements, and developments in digital finance introduce complexities that necessitate multidisciplinary solutions.

In ambiguity situation examples, conflicting financial indicators, such as increasing employment coupled with inflation, and vague legal structures for fintech and cryptocurrencies (Susilowati et al., 2022), impede decision-making. This ambiguity complicates the formulation of strategic policies for both governments and enterprises. The contemporary financial landscape is characterized by volatility, unpredictability, complexity, and ambiguity. Successfully navigating this necessitates robust systems, flexible tactics, and inventive methodologies to guarantee financial stability and resilience in a dynamic environment.

VUCA Obstacles

In an environment, technology, literacy, and communication encounter substantial obstacles, especially in finance and overarching systems. This is an analysis of these obstacles. Technological constraints stem from unequal access, inadequate digital infrastructure, and sluggish acceptance of emerging ideas, especially in rural or neglected regions. Although technology provides solutions for efficiency and resilience, like fintech tools and digital accounting systems, deficiencies in digital infrastructure and preparedness hinder their complete application. The digital divide engenders discrepancies between individuals with access to modern systems and those who are excluded, obstructing progress and exacerbating economic inequities. In Indonesia's grassroots communities, inadequate internet infrastructure may obstruct financial digitization initiatives. Literacy obstacles intensify the VUCA environment, especially in financial and technology domains (Cheng & Foo, 2016). Numerous individuals lack the required expertise to traverse contemporary financial institutions, comprehend digital instruments, or successfully utilize innovative platforms. Financial literacy is vital for managing cash flows, budgeting, and saving, whereas digital literacy is crucial for accessing and utilizing new technology.

Ultimately, communication constraints hinder attempts to mitigate volatility and ambiguity in intricate contexts. Ineffective communication—stemming from language barriers, technical jargon, or insufficient clarity—fosters misunderstanding and distrust among stakeholders. This is particularly pertinent in communicating policies, novel technology, or financial breakthroughs to groups that may be deprived of transparent information. Effective strategy implementation necessitates reliable communication channels and community involvement to enhance awareness, elevate literacy, and close technological disparities. Addressing these obstacles necessitates a comprehensive strategy that integrates education, collaboration, and capacity-building to promote inclusive adaptation and resilience in the VUCA environment. Misinterpretation of fintech terminology or policy modifications may lead to less engagement (Hamid, 2019) in governmental financial resilience initiatives.

PUI Strategies

The PUI plans for both internal and external organizations will be based on primary strategies encompassing research and innovation, education and capacity building, industry collaboration, and community engagement (refer to Figure 1).

Internal Strategies

The internal PUI methods concentrate on fortifying the organization's fundamental components to improve its resilience, adaptability, and innovation in addressing difficulties presented by a VUCA environment. These tactics commence with cultivating individual character (Koesmarni & Yuhertiana, 2024), which entails the development of robust personal values, leadership skills, and a creative attitude among members of the organization. By highlighting characteristics such as

integrity (Kusumawardhani et al., 2020; Mattar, 2021), adaptability, and foresight, individuals are equipped to respond adeptly to volatility and uncertainty. Moreover, digital competencies are essential for the company to remain aligned with technology progress. This entails the adoption and integration of advanced digital tools and systems to enhance efficiency, optimize operations, and foster creativity. By augmenting the technological expertise of its personnel, the organization guarantees preparedness to capitalize on fintech innovations and adjust to digital transformations.

The emphasis on human resources underscores the significance of ongoing education and skill development (Yuhertiana, 2023). Investing in the workforce via education, training, and skill enhancement provides individuals with the requisite knowledge and competencies to address intricate difficulties. By cultivating a proficient and competent staff, the business can enhance performance and decision-making in unpredictable contexts. Finally, the approach pertains to organizational culture, which constitutes the foundation of internal resilience. Promoting a culture that emphasizes cooperation, innovation, and ongoing enhancement facilitates teamwork, adaptability, and alignment with the organization's strategic objectives. By fostering an atmosphere that encourages creativity and adaptation, the organization enhances its ability to prosper in the face of unpredictability and complexity.

The internal PUI tactics emphasize individual empowerment, technological enhancement, skilled workforce development, and the cultivation of a flexible organizational culture. These initiatives establish a robust framework that allows the business to maintain resilience, foster innovation, and respond effectively to problems in a swiftly evolving environment. The PUI has devised a strategy to enhance its internal structure, comprising four principal pillars: Individual Character, Digital Capabilities, Human Resources (HR), and Organizational Culture. The PUI strategy seeks to cultivate individuals of robust character, honesty, a strong work ethic, accountability, and adaptability to change. This is achieved through the organization of personality development programs, the instillation of work ethic values (including integrity, discipline, and professionalism), the recognition of individuals who exhibit exceptional performance and commendable character, and the encouragement of self-reflection and regular enhancement of soft skills. intermittently. Thus, we can cultivate a workforce that is autonomous, principled, and prepared to navigate the complexities of a demanding work environment.

PUI's strategy emphasizes enhancing staff digital proficiency to enable optimal technology use for productivity and innovation support. This digital capability can be achieved through doing digital literacy training, creating an internal digital platform that enhances communication, collaboration, and work management, and providing access to technology and devices that enable digital performance. You can assess and enhance your digital skills through regular competency evaluations. A strategy emphasizing digital skills can establish a technology-driven company adept at embracing digital transformation to fulfill PUI's strategic objectives. PUI's approach emphasizes the cultivation of high-quality people resources with both technical and non-technical competencies to facilitate organizational advancement. Competency-based recruitment is essential for acquiring human resources that align with the organization's requirements. Moreover, it is essential to offer ongoing growth initiatives, including training, certification, and formal education. Additionally, it establishes a clear, quantifiable, and results-oriented performance management approach. In addition to enhancing employee welfare through perks, acknowledgment of accomplishments, and fostering a healthy work environment. The PUI Strategy emphasizes the cultivation of quality human resources, enabling the formation of a competent, loyal, and highly competitive workforce to fulfill PUI's objective.

The PUI strategy aims to cultivate an organizational culture that is collaborative, inventive, and adaptable to change, hence fostering a supportive work environment. This can be achieved by defining the organization's vision, mission, and values, which act as directives for all members of the company. Subsequently, promote open communication and transparency across various management tiers and personnel. Additionally, fostering an inclusive workplace that values many perspectives and promotes collaboration. A leader serving as a role model must effectively cultivate a favorable culture through tangible acts. Additionally, it is essential to conduct internal activities, such workshops, team-building exercises, and work culture initiatives, to enhance cohesion. To establish a company with a robust, cohesive, and adaptable culture capable of addressing external and internal issues. Consequently, the PUI strategy for internal organizations can construct a robust foundation by enhancing individual character, augmenting digital competencies, cultivating high-quality people resources, and fostering a positive corporate culture. The four pillars work together to enhance organizational effectiveness, boost productivity, and guarantee the sustainability of PUI's performance in addressing global and local concerns.

External Strategies

The external PUI strategies emphasize the establishment of robust alliances, adaptation to external changes, and alignment with regulatory frameworks to guarantee the organization's sustainability and resilience in a VUCA environment. Central to these methods is collaboration, which prioritizes the cultivation of partnerships between governmental entities, companies, academic institutions, and local communities. By utilizing knowledge, resources, and skills from diverse stakeholders, the organization may formulate innovative solutions and more successfully tackle financial, technological, and operational difficulties. Collaboration allows the organization to broaden its influence, ensuring that its activities are effective and connected with societal and economic demands. Besides collaboration, the approach of environmental adaptation emphasizes the necessity of being responsive to external shifts in economic, social, and opportunities in its environment to modify its strategies accordingly. This adaptability to technology disruption, climate issues, and changes in public expectations ensures the company stays relevant, proactive, and equipped to navigate uncertainties and complexities in its operational landscape.

Ultimately, government regulation is essential in influencing the external environment, and adherence to these frameworks is crucial for sustained success. The organization must adhere to current regulations while proactively engaging lawmakers to promote favorable policies that encourage innovation and growth. Establishing constructive ties with regulatory agencies enables the organization to foster an atmosphere conducive to the support, scalability, and sustainability of its projects. In summary, external PUI strategies emphasize the establishment of synergistic alliances, the cultivation of adaptation to evolving external conditions, and the alignment with governmental rules to enhance innovation and resilience. These tactics allow the organization to confront external obstacles, like technology deficiencies and regulatory ambiguity, while preserving its ability to effectuate significant and sustained change in a dynamic and intricate environment.

Lessons Learned and Recommendations for Indonesia

To cultivate financial resilience and national worth, several essential lessons can be extracted and applied effectively. Initially, the integration of technology with grassroots execution is essential. Utilizing fintech technologies, such as those created by UFC, can propel advancement while

safeguarding the inclusion of underprivileged and rural people. Secondly, the establishment of quantifiable indicators is crucial for monitoring advancement. Implementing frameworks such as the Financial Resilience Index offers a uniform method to assess financial resilience at community and national scales. An Indonesian Financial Resilience Index could be established to assess resilience across various regions.

Third, implementing community-focused solutions is essential for grassroots influence. IEI's 4-Core Framework, which prioritizes cash flow management, personal resources, access to benefits, and financial education. Subsequently, enhancing collaborations across government, academia, and the corporate sector will yield more comprehensive answers. Engagement with community leaders, is crucial for establishing confidence and ensuring program alignment with local need. An emphasis on patriotism and national values enhances financial resilience by incorporating patriotism ideas into financial education (Budiwitjaksono et al., 2018; Iqbal & Wulanditya, 2023). This strategy cultivates accountability, advocates for a savings ethos, and enhances economic autonomy, harmonizing financial well-being with national objectives such as Golden Indonesia on 2045. By focusing on these critical areas, Indonesia can establish financial resilience that is inclusive, quantifiable, and fundamentally anchored in technological innovation and national values.

CONCLUSION

The conclusion reaffirms that research centers play a crucial role in advancing innovative financial and accounting strategies to address VUCA challenges. By integrating technology, fostering collaboration, and adopting data-driven and community-focused approaches, these institutions bridge the gap between theoretical advancements and real-world applications. The study emphasizes the need for a holistic approach that combines technology, measurable tools, and grassroots frameworks to build financial resilience, offering valuable lessons for global and local stakeholders alike. This study emphasizes the necessity of integrating technology, data-driven instruments, and grassroots frameworks to cultivate financial resilience in Indonesia. By utilizing the capabilities of research centers, stakeholders can tackle VUCA challenges and enhance national economic resilience, in accordance with Indonesia's objectives for sustainable development.

Integrating the technology advancements of UFC, the quantifiable instruments of the FRI, and the community-oriented frameworks from the IEI Roadmap would enable the formulation of a holistic program for financial resilience and national value in Indonesia. This strategy can integrate technology, grassroots empowerment, and national patriotism to attain sustained financial well-being for all communities. Research centers lead in developing solutions that assist organizations in managing the complexities of VUCA situations. Through the promotion of innovation, collaboration with stakeholders, and the advancement of methodologies, they play a crucial role in the development of strategic finance and accounting. Their function is essential for research center goals accomplishment and broader social resilience and sustainability. The results underscore the importance of collaboration, technological integration, and actionable frameworks, providing recommendations for academia, governments, and communities to connect research driven innovation with practical application.

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List of Abbreviations

- PUI : Pusat Unggulan Institusi
- VUCA : Volatility, Uncertainty, Complexity, Ambiguity
- ESG : Environmental, Social, and Governance
- UFC : UNS Fintech Center
- FRI : Financial Resilience Index
- IEI : Institute of Emerging Issue
- NGO : Non-Governmental Organization

Authors' Contribution

- 1. MAA: Methodology and discussion PUI Strategies External
- 2. IY: Conceptualization, introduction, methodology and funding
- 3. DS: Analyzed and interpreted website: Financial Resilience Institute (Canada) https://www.finresilienceinstitute.org/
- 4. WCI: Analyzed and interpreted website: Institute for Emerging Issues, https://iei.ncsu.edu/roadmap-to-financial-resilience/
- 5. ES: Discussion PUI Strategis Internal
- 6. DHS: Modelling
- 7. IMH: Discussion (VUCA Challenges)
- 8. HWS: Discussion Barriers of VUCA
- 9. CW: conclusion, corresponding author (create the final manuscript)
- 10. SFAW: analyzed and interpreted website: Financial Resilience Institute (Canada) https://www.finresilienceinstitute.org/
- 11. ASF: analyzed and interpreted website: Institute for Emerging Issues, https://iei.ncsu.edu/roadmap-to-financial-resilience/

Authors' Information

Mohammad Arief Atmaja (<u>raden.ak@upnjatim.ac.id</u>). He is a lecture in departement accounting. Expertise in finance and accounting, auditing and Public transaparancy. <u>https://scholar.google.com/citations?hl=en &user=YI6Uah4AAAAJ</u>

Indrawati Yuhertiana (<u>yuhertiana@upnjatim.ac.id</u>). She is a Professor in Accounting, expertise in public sector accounting, behavioural accounting, financial resilience, state defense accounting. <u>https://scholar.google.com/citations?user=mhyScOYAAAAJ&hl=en&oi=ao</u>

Diarany Sucahyati (diarany.s.ak@upnjatim.ac.id). She is a lecture in departement accounting.Expertiseinpoliticalconnection,familiyfirms.https://scholar.google.com/citations?hl=en&user=Okc-4WIAAAAJ

Wilma Cordelia Izaak (<u>wilma.izaak.mnj@upnjatim.ac.id</u>). She is a lecture in departement management. Expertise in service marketing, good governance marketing, class management, business, economic digital. <u>https://scholar.google.com/citations?hl=en&user=obC_8X0AAAJ</u>

Endah Susilowati (<u>endahs.ak@upnjatim.ac.id</u>). She is a lecture in Accounting Departement. Expertise in management accounting, behavioral accounting, forensic accounting, ethics. <u>https://scholar.google.com/citations?hl=en&user=xlEOa9IAAAAJ</u>

Diah Hari Suryaningrum (<u>diah.suryaningrum.ak@upnjatim.ac.id</u>). She is a lecture in Accounting Departement, expertise in public sector, ethics, accounting, accounting information systems. <u>https://scholar.google.com/citations?hl=en&user=Pb3y664AAAAJ</u>

Ignatia Martha Hendrati (<u>ignatia.hendrati.ep@upnjatim.ac.id</u>). She is a Professor in Economic Develpoment, Expertise in international economics, development planning, regional economics, international business, supply chain management. <u>https://scholar.google.com/citations?</u> <u>hl=en&user=LLovbVsAAAAJ</u>

Helmy Wahyu Sukiswo (<u>wahyu.helmy.ak@upnjatim.ac.id</u>). She is a lecture in departement accounting. Expertise in managerial accounting and auditing. <u>https://scholar.google.com/citations?hl=en&user=ElPeen4AAAJ</u>

Condro Widodo (<u>condro.widodo.ak@upnjatim.ac.id</u>). He is a lecture in departement accounting. Expertise in accounting and finance, taxation and capital market study. <u>https://scholar.google.com/citations?user=1J7jmqkAAA AJ&hl=en</u>

Seftin Fitri Ana Wati (Seftin.fitri.si@upnjatim.ac.id). She is a lecture in departement informationsystems.Expertiseininformationhttps://scholar.google.com/citations?user=R5lrQnEAA AAJ&hl=en

Anindo Saka Fitri (anindo.saka.si@upnjatim.ac.id). She is a lecture in Information Systems,Expertiseinmanagementinformationhttps://scholar.google.com/citations?hl=en&user=gstw95UAAAAJ

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Conflicts of Interest

The authors declare no conflicts of interest related to this research.

Availability of Data and Materials

Research data and materials refer to the results of observations or experimentation that validate research findings. They should be easily accessible to facilitate reproducibility and data reuse.

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