

2023

Technology Manufacturing Leaders' Innovation Strategies to Improve Users' Choice Capabilities in a Fast-Changing Markets

Magnus Ekwunife
Walden University

Follow this and additional works at: <https://scholarworks.waldenu.edu/dissertations>



Part of the [Computer Sciences Commons](#), and the [Entrepreneurial and Small Business Operations Commons](#)

This Dissertation is brought to you for free and open access by the Walden Dissertations and Doctoral Studies Collection at ScholarWorks. It has been accepted for inclusion in Walden Dissertations and Doctoral Studies by an authorized administrator of ScholarWorks. For more information, please contact ScholarWorks@waldenu.edu.

Walden University

College of Management and Human Potential

This is to certify that the doctoral study by

Magnus Ekwunife

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

Review Committee

Dr. Denise Land, Committee Chairperson, Doctor of Business Administration Faculty

Dr. Peter Anthony, Committee Member, Doctor of Business Administration Faculty

Chief Academic Officer and Provost
Sue Subocz, Ph.D.

Walden University
2023

Abstract

Technology Manufacturing Leaders' Innovation Strategies to Improve Users' Choice
Capabilities in a Fast-Changing Markets

by

Magnus Ekwunife

MBA, Pan Atlantic University, Lagos, 2004

BSc, University of Nigeria, Nsukka, 1992

Consulting Capstone Study Submitted in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Business Administration

Walden University

August 2023

Abstract

Some leaders of technology manufacturing organizations lack strategies to educate their users on how to make the optimal cloud technology selection decisions for their organizations during rapidly evolving innovation, resulting in significant risk of wrong choices and loss of customer loyalty. Grounded in resource-based view theory, the purpose of this qualitative single case study was to explore strategies technology manufacturing leaders use to educate users on how to make optimal cloud technology selection decisions for their organizations. The participants were six executive-level leaders of the strategic sales division of a multinational technology organization based in the western United States who focus on educating their customers, partners, and users of cloud technology products. Study data were collected through semistructured interviews, a review of company websites, and organizational documents. Using an adapted version of Yin's approach for thematic analysis, three themes emerged: (a) strategic customer intelligence, (b) credible agnostic cloud education, and (c) socially responsible involvement in the cloud industry ecosystem. The key recommendation to the leadership is to expand agnostic cloud education to include adaptive training tailored to evolving user needs and reposition the cloud education unit as a strategic business unit with significant autonomy to compete effectively in the new cloud curricula product line. The implication for positive social change is the potential to enrich employee careers, boost organizations' sustainable innovation performance and capabilities to contribute more value to the business ecosystem and improve the quality of life in the community.

Technology Manufacturing Leaders' Innovation Strategies to Improve Users' Choice

Capabilities in a Fast-Changing Markets

by

Magnus Ekwunife

MBA, Pan Atlantic University, Lagos, 2004

BSc, University of Nigeria, Nsukka, 1992

Consulting Capstone Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Business Administration

Walden University

August 2023

Dedication

This work is dedicated to my mum and late dad, whose unequalled passion for education made it possible for me to be one of the first graduates in my village as the community struggled to rise from the ashes of the gruesome 3-year civil war that devastated the region's economic power. And, of course, my wife, who always stands shoulder to shoulder with me in our efforts to build a strong family while developing the capacity to serve the larger humanity. Since our undergraduate days, we have been building each other and making increasing contributions to our communities. And to my God, that has been manifesting Himself through me and strengthening me to reflect his mercy, love, and creativity.

Acknowledgments

I am grateful to my friend, Professor Michael Ige, for inspiring me to take this doctoral journey. My committee chair, Dr. Denise Land, kept me motivated throughout this journey with unique words of encouragement, painstaking knack for quality that made it easy to complete the process in record time, and faith in our team of three working with her. I am immensely grateful to Selma and Samantha, my doctoral candidate colleagues, for the mutual support we gave each other. Thank you, Dr. Janice Garfield, my second committee member, for your support. Dr. Peter Anthony, thanks for being my University Research Reviewer and, later, my second committee member. I want to specially thank Dr. Christopher Maylor, that volunteered to do a quality review of parts of this work. I love you, my children, for working hard on your individual goals of academic and personal excellence. Your passion for responsible personal independence and focus on the right priorities kept me focused on my studies with little worries about your making the right choices. Thank you, Tobenna, Ifenna, Chibundu, and Kamsi! I am so proud of your development during my study period. I am amazed at the encouragement from my manager, Vijay Chander, and my two scrum pods that made my work fun and engaging all through my study period. The daily work with the team gave me the opportunity to practice the learnings from this course. To all the people that call me 'Prof,' including my manager, Bosco family, classmates, and colleagues, I say thank you for seeing a possibility that inspired me to keep going. Finally, I want to thank my mentor and boss, Prof Pat Utomi, whose great scholarly and entrepreneurial works and

passion for positive social change have been my major source of inspiration and aspiration.

Table of Contents

List of Tables	vi
List of Figures	vii
Section 1: Foundation of the Study.....	1
Background of the Problem	1
Problem and Purpose	2
Population and Sampling	3
Nature of the Study	3
Research Question	5
Interview Questions	5
Conceptual Framework.....	6
Operational Definitions.....	7
Assumptions, Limitations, and Delimitations.....	8
Assumptions.....	8
Limitations	9
Delimitations.....	9
Significance of the Study	10
Contribution to Business Practice.....	10
Implications for Social Change.....	10
A Review of the Professional and Academic Literature.....	11
Organization of the Literature Review	12
Literature Search Strategy.....	13

Research Conceptual Framework	15
Resource-Based View Theory	17
Applications of RBV Theory in Technology Innovation	19
RBV Theory and Technology Disruption.....	21
Competing Theories.....	22
Innovation Management in Fast-Changing Market	26
Cloud Computing and Innovation.....	29
Cloud Disruption and Fast-Changing Market.....	31
Technology Leadership Competencies and Innovation Capabilities.....	33
Baldrige Excellence Program	35
Knowledge Transfer.....	36
Change Management	37
Curriculum Development for Technology Learning	39
Emerging Themes from Literature Review	40
Transition	41
Section 2: The Project.....	44
Purpose Statement.....	44
Role of the Researcher	44
Ethical Considerations	46
Mitigating Bias.....	47
Interview Protocol.....	47
Participants.....	48

Gaining Access to Participants	48
Building Relationships With the Participants	49
Research Method and Design	49
Research Method	49
Research Design.....	51
Population and Sampling	53
Data Saturation.....	54
Interview Setting.....	54
Ethical Research.....	55
Data Collection Instruments	57
Key Instruments	57
Data Collection Process	58
Member Checking and Transcript Validation.....	59
Data Collection Technique	61
Data Organization Techniques.....	63
Data Analysis	64
Reliability and Validity.....	66
Reliability.....	67
Validity	68
Transition and Summary.....	71
Section 3: Organizational Profile.....	73
Key Factors Worksheet.....	74

Organizational Description	74
Organizational Situation	82
Leadership Triad: Leadership, Strategy, and Customers	89
Leadership.....	89
Strategy	102
Customers	108
Results Triad: Workforce, Operations, and Results.....	114
Workforce	115
Operations.....	126
Measurement, Analysis, and Knowledge Management.....	133
Collection, Analysis, and Preparation of Results.....	137
Thematic Findings	137
Product and Process Results	148
Customer Results	149
Workforce Results	150
Leadership and Governance Results.....	152
Financial and Market Results.....	154
Key Themes	155
Project Summary.....	158
Contributions and Recommendations	161
Application to Professional Practice.....	163
Implications for Social Change.....	167

Recommendations for Action	168
Recommendations for Further Research.....	171
Reflections	171
Conclusion	173
References.....	174
Appendix A: Interview Protocol.....	214
Appendix B: Interview Questions.....	217

List of Tables

Table 1. Summary of Literature Review Source Data.....	15
Table 2. IrokoSTU Suppliers and Partners	82
Table 3 Key Strategic Challenges and Advantages	87
Table 4. IrokoSTU Leadership Team	90
Table 5. 20xx Training Infrastructure and Training Roll Out.	92
Table 6. Preassessment of Curriculum Product	111
Table 7. Product Offerings to Customer Segments	112
Table 8. IrokoSTU Customer Intelligence Gathering Methods.....	141
Table 9. Cloud Customers Education Options.....	144

List of Figures

Figure 1. Literature Review Structure and Scope	13
Figure 2. Iroko and IrokoSTU Key Products and Services	76
Figure 3. High-level Organizational Structure for IrokoSTU.....	78
Figure 4. Iroko Customer Segments	79
Figure 5. Iroko Customer Segments by Regions	80
Figure 6. IrokoSTU Primary and Secondary Customer Groups	81
Figure 7. Stimulating Action Focus Activities.	97
Figure 8. Iroko Strategic Management Cycle.....	103
Figure 9. Strategic Planning Process.	105
Figure 10. IrokoSTU structured Flow of Work.	124
Figure 11. Iterative and Incremental Agile Delivery Cycle at IrokoSTU.....	124
Figure 12. High Level Product Delivery Work Process	128
Figure 13. High Level Proficiency Exams Work Process	130
Figure 14. Common Delivery Methods by Cloud Computing Certification Vendors....	130
Figure 15. Staff Turnover	152

Section 1: Foundation of the Study

I served as the consulting researcher for this study following the research agreement between Iroko and Walden University. “Iroko” is the adopted pseudonym to preserve the confidentiality of the study organization. I used the 2021–2022 Baldrige Performance Excellence Program (BPEP, 2021) framework to gain in depth understanding of the innovation strategies technology manufacturing leaders use to improve the users’ choice capabilities in a fast-changing market. Section 1 includes the background and literature review for the study, and Section 2 comprises details of the study structure.

Background of the Problem

Technology manufacturing leaders are encountering increasing challenges meeting their customers’ technology needs for their evolving business model. Some global technology brands lost about 50% of their customer loyalty because of new capabilities and alternatives available in the emerging cloud computing model (Kocaman et al., 2020; Terneborg et al., 2021). The technology user organizations opted for alternative brands providing similar services in the cloud. Cloud computing disrupted the traditional hardware delivery model. In the cloud computing model, technology manufacturers no longer deliver hardware directly to the user organizations because the cloud service providers (CSPs) aggregate the hardware capabilities and provide abstracted interfaces to the users in the form of instances, services, resources, and tools to build their solutions (Gan et al., 2020). Because the customers do not have direct access to the hardware, as they choose from catalog of offerings, they may not understand

details of capabilities included in each offering. Hence, they could choose cloud instances that misalign with their workload. The hardware manufacturers also face the risk of providing innovative solutions that users are not able to use or recognize.

Technology users can leverage their knowledge and competency to make technology choices. Despite the new capabilities available in cloud computing, how much of the capabilities the organizations can utilize to build optimal solutions depends on the technical competencies of the end users and appropriate choice of the correct cloud resources (Cukier, 2019; Gkika et al., 2020). Technology providers have used various methods to support their user capabilities. Some global brands support their user organization with capital, knowledge transfer, and collaboration to aid the adoption of new technologies (Du et al., 2022). Iroko adopted publicly available curricula education model to enhance users' cloud skills and acumen.

Iroko is a global technology manufacturer and service provider based in the United States that provides traditional physical and cloud computing hardware components. Iroko adopted a strategic user education model to build the capabilities of the cloud users to enhance their choice capabilities and to communicate their brand advantage to the users. This study involved an in-depth analysis of the strategies Iroko leaders use to enhance user choice capabilities. Based on the provided background to the problem, the focus will now transition to the problem statement.

Problem and Purpose

The specific business problem is some technology manufacturing leaders lack strategies to educate users on how to make optimal technology selection decisions for

their organizations during periods of rapidly evolving innovation. Therefore, the purpose of this qualitative single case study was to explore strategies technology manufacturing leaders use to educate users on how to make optimal technology selection decisions for their organizations during periods of rapidly evolving innovation.

Population and Sampling

The study data were from six purposively sampled senior leaders of technology manufacturing organization in the western United States driving the strategic initiatives of the organization. The leaders' knowledge, position, and experience in the company and in the industry, as well as their active participation in the company's innovation strategies, were the prerequisites for their selection to participate in the study. All the senior leaders used strategies to educate users on how to make optimal technology selection decisions for their organizations during periods of rapidly evolving innovation. I used the 2021–2022 BPEP (2021) framework to gain in depth understanding of the innovation strategies technology manufacturing leaders use to improve the users' choice capabilities in a fast-changing market. Primary data sources were semistructured interviews and the client organizational documents.

Nature of the Study

Researchers can use any of the three study methods—quantitative, qualitative, or mixed method—for their research studies (Bougie & Sekaran, 2019). I used the qualitative method in this study to explore strategies adopted by technology business leaders to thrive in a fast-changing market. A qualitative researcher uses an in-depth and extensive understanding of a situation, event, or phenomenon (Ezer & Aksüt, 2021; Yin,

2018), through the experience and interpretations of people involved in their natural habitat (Delgado-Hito & Romero-García, 2021; Yin, 2018). Using qualitative research methodology for this research facilitated understanding of the organizational context and existing business problems to explore proven strategies for resolving them. By using a quantitative study, the researcher examines the characteristics or correlation in the sample data to establish relationships and trends to infer the population behavior (Doss et al., 2021). Researchers can leverage a quantitative review to evaluate the relative importance or predictive influence of factors identified in a qualitative study using a larger sample size (Trepáčová et al., 2020). I did not intend to examine the study constructs to understand their relationships to establish generalizable inference; hence, quantitative methodology would not have been appropriate for this study. The mixed method is used to gain a holistic view of complex research, using both quantitative and qualitative methods, to learn about lived experience and perception of the population as well as ratings of the study variable (Hou, 2021). The mixed method was beyond the scope as this study is limited to exploring the strategic behaviors of the technology leaders and not examining the study variables for relationships and their characteristics. A qualitative research methodology was ideal for addressing my research objectives.

Some common design methods in qualitative studies include ethnography, phenomenology, grounded theory, and case study. The choice depends on the research goal and desired perspective (Delgado-Hito & Romero-García, 2021; Yin, 2018). The case study method was preferred in this study to gain in-depth knowledge of the experience and perspective of the business leaders in their business context. Case studies

involve exploring the how, the what, and the why of an entity in a bounded system to gain rich context; ethnographic design relates to understanding the cultural interpretation of the target population, while grounded theory design is helpful for generating or discovering a theory (Whiffin et al., 2021; Yin, 2018). Furthermore, a phenomenological study is applicable for revealing how an individual experiences and perceives a phenomenon based on personal interaction or lived experience (Ezer & Aksüt, 2021), to clarify, understand, and articulate diverse perspective on the shared experience (Dibley et al., 2022). Hence, ethnographic, phenomenological, and grounded theory designs would not have applied as well as the case study design to this study's objective of exploring a holistic context of the case on the research question. Using the case method for this study provided an opportunity to understand how the target population implement strategies to thrive in a fast-changing market situation.

Research Question

What strategies do technology manufacturing leaders use to educate users on how to make the optimal cloud technology selection decisions for their organizations during periods rapidly evolving innovation?

Interview Questions

1. What innovation strategies have you used to sustain the users' choice for your organization's technology products during rapid technology changes?
2. What methods did you find that worked well for educating user organizations about choosing your technology products?
3. How do you assess the effectiveness of your organization's strategies?

4. What were the key barriers to implementing strategies to educate users on how to make optimal technology choice during rapid technology changes?
5. How did you address the identified barriers to implementing strategies to educate users to make optimal technology choices?
6. What else can you share with me on your strategies for educating user organizations on making optimal technology selection decisions during rapid technology changes?

Conceptual Framework

My research was grounded in the resource-based view (RBV) of competitive advantage. In the original concept of RBV, the theory author Penrose (1959) argued that the productive resources available to the business are the best measure of business competitiveness; firm leaders can leverage deep knowledge of unutilized resources for growth and expansion. Firm-specific resources that drive growth comprise tangible and intangible assets, managerial capabilities, and experiential learning (Tan et al., 2020). These resources differentiate business performance. Business leaders can sustain competitive advantage to the extent that these resources are valuable, rare, imperfectly imitable, and nonsubstitutable (Barney, 1991). The resilience of resources enables firms to deploy superior value in both turbulent and stable conditions to the customers (Adams et al., 2019).

Researchers found that organization leaders can leverage RBV theory in their innovation management strategies to thrive in a competitive environment (Donnellan & Rutledge, 2019). Furthermore, researchers used RBV theory to find solutions to the

limitations that undiversified top management composition has on the firm's growth (Chen et al., 2019). Hence, business leaders can use the perspective of RBV theory to articulate their innovation management strategies to sustain their growth and competitive advantage. RBV is an appropriate framework for this study because of the focus on the internal resources of the organization for superior performance. By applying RBV theory, business leaders can create long-term value that competitors cannot easily imitate (Barney, 1991). The business leaders can extend their knowledge of how technology leaders drive innovation strategies in a fast-changing market through the RBV lens.

Operational Definitions

Baldrige Excellence Framework: An adaptable systemic framework for understanding and enhancing the overall quality management and performance of the organization (BPEP, 2021). Organization leaders have used the framework to understand their current situation, assess gaps on the value delivery to customers, and develop strategies for sustainable improvement on performance (Abasiattai & Ahmed, 2020).

Baldrige Performance Excellence Program: The objective of this program, managed by the U.S. National Institute of Standards and Technology (NIST), is to use the Baldrige Excellence Framework to engage organizations for performance excellence and to operate the Malcolm Baldrige National Quality Award (BPEP, 2021).

Cloud computing: Cloud providers offer computing power as a utility to users on-demand through a shared pool of large capacity, scalable, high-speed, and rapidly evolving computer networks (Hassan et al., 2022). The cloud computing provider

manages the services offered in the cloud, unlike in traditional hosting (Azadi et al., 2019).

Hardware abstraction: This term involves shielding software solutions from managing complexities of the underlying hardware by using a standard interface between computer hardware and software so that software can run on any hardware that implements the standard interface (Shi et al., 2020).

Serverless computing: This type of computing is also known as Function as a Service (FaaS), a feature of cloud computing that enables software developers to build stateless functions, functions that do not manage any state of the underlying services; hence developers would not need to worry about the underlying physical server (Cassel et al., 2022).

Assumptions, Limitations, and Delimitations

Assumptions

Assumptions are claims or beliefs that have not been confirmed (Marshall & Rossman, 2016). Researchers begin studies with some assumptions they hold as true while investigating the research topic (AbuRaya & Gomaa, 2020). I had four assumptions for this study. The first assumption was that participants provided an honest and accurate response to the research questions and the criteria questions on the BPEP. My second assumption was that the conceptual framework based on adapted RBV theory is an appropriate framework to review how business leaders manage innovation to thrive in a fast-changing market. Third, I assumed I was objective and unbiased while collecting and analyzing the research data. And finally, I assumed that the data collection techniques

that included semistructured interviews, data triangulation, and responses to the BPEP criteria questions provided rich context and data saturation for valid and reliable findings.

Limitations

Limitations are potential weaknesses beyond the researcher's control (Marshall & Rossman, 2016) and could influence the reliability and validity of the research (Saunders et al., 2019). The first limitation of this study was exploring the perspective of business leaders in only one organization in the United States, because I did not gather information from business leaders of other technology companies and other regions. Another limitation of this study is the time constraints to complete the study within the standard Walden University doctoral study timeline. Hence, I restricted the research to an in-depth single case study of the research topic. The third limitation was that participants responded accurately to the study questions based only on their specific context. The study findings may not apply to other organizations in different contexts or environments.

Delimitations

Study delimitations refer to the scope or boundaries that determine what researchers include or exclude from the research (Marshall & Rossman, 2016; Yin, 2018). The delimitation can be set along the study assumptions, propositions, and conceptual framework (Gossel, 2022; Yin, 2018). The scope of this study was a single case study of the innovation management strategy of a U.S. company, using the Baldrige Performance Excellence Framework, the conceptual study framework, and the defined research questions. The study involved obtaining an in-depth perspective of the company

leaders because of their involvement in the strategic management decision processes, data triangulation with company internal and public records, and literature review findings.

Significance of the Study

Leaders of technology businesses need innovative ideas to remain competitive. Companies can no longer survive based on traditional sources of competitive advantage because of the fast-changing business landscape (Dagnino et al., 2021) and swift strategic innovations in the use of computer technology (Andrevski & Ferrier, 2019). Hence, technology business leaders need a continuous rethinking of their innovation strategies and how to augment users' capabilities to make optimal technology choices in the midst of numerous options.

Contribution to Business Practice

The findings from this study could contribute to the literature on innovation management and stimulate a resilient long-term successful performance of technology companies. Business leaders continue to evolve appropriate strategies to compete as new business models evolve across industries because of the rapid evolution of digital technologies (Agostini et al., 2020). Using the effective strategies from this study could lead to introducing innovative products and services that will bring value to business organizations, benefit the users, and promote a sustainable business ecosystem.

Implications for Social Change

Implementing innovation management strategies could help organizations develop the optimal internal and external capabilities to remain competitive. Hence, the employees could have a more fulfilling career and better capacity to deliver quality

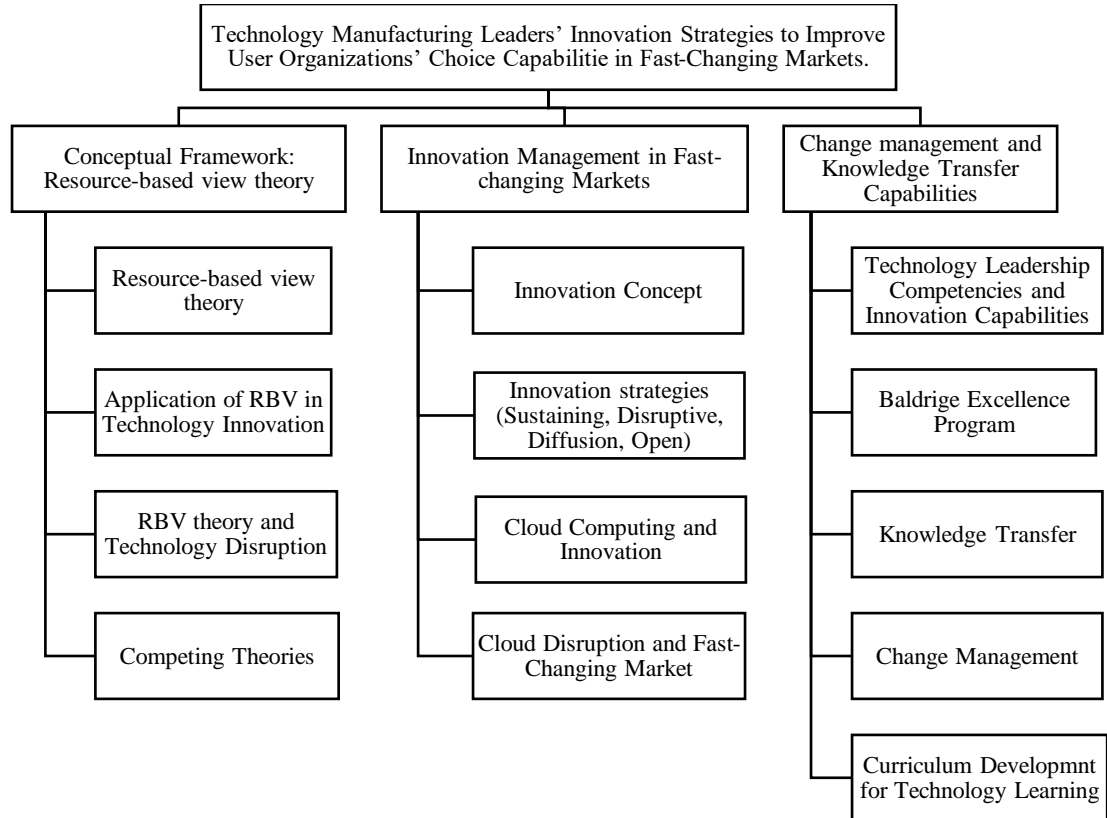
services and products to society. The new capabilities could stimulate organizations to contribute more innovative values to the business ecosystem allowing the organizations to contribute to the community determines their negotiation power to get reciprocal value (Gueler & Schneider, 2021). Improving technology manufacturing organization leaders' strategies to educate users on how to make the optimal technology innovation environment decisions for their organization could enhance the quality of life within the community.

A Review of the Professional and Academic Literature

The motivation for completing this literature review was to gain and demonstrate an in-depth understanding of the existing scholarship regarding the innovation strategies technology manufacturing leaders use to improve user organizations' choice capabilities in a fast-changing market. Researchers review professional and academic literature to broaden their knowledge of the research topic (Leite et al., 2019; Marshall & Rossman, 2016). A good researcher literature review demonstrates the depth of inquiry on the topic, highlights the literature gaps the study can address, and provides coherent support for the study design and foundational information to answer the research question (Leite et al., 2019). I used the literature review process to obtain essential information to attain the goal of this qualitative, single case study to explore the innovation strategies that technology manufacturing leaders use to improve the user organizations' choice capabilities in a fast-changing market.

Organization of the Literature Review

The literature review followed a structured approach for searching and identifying the relevant resources for addressing the research questions. As highlighted in Figure 1, the review strategy included adequate coverage of the review scope. The first research area was determining the conceptual framework for the study. Then, leveraging the literature review structure and the theories in the conceptual framework, I critically analyzed the business topic of the research question's relevant literature. The conceptual framework for this study is the RBV theory originally developed by Penrose in 1959, who argued that the best measure of a firm's competitiveness is the available resources in the firm. The RBV proposition implies that business leaders can leverage their assets and capabilities for growth and competitive advantage (Tan et al., 2020). Following the RBV lens, I researched literature on technology providers' innovation management strategies to ensure that user organizations make appropriate technology choices in fast-changing markets. I analyzed opportunities relating to technology provider capabilities for driving change management and knowledge transfer with their user organizations to enhance their users' technology choice capabilities. The RBV framework provides the appropriate view for resolving limiting challenges of undiversified top management (Chen et al., 2019). Organization leaders can proactively plan to overcome these growth-limiting challenges, especially relating to their technology choices, identified through the RBV lens. Further analysis of the contrasting literature showed the suitability of the RBV choice for the study.

Figure 1*Literature Review Structure and Scope***Literature Search Strategy**

I accessed the journal articles in Walden University Library databases using the Thoreau Multi-Database Search tool as the primary source, augmented with the use of Google Scholar. I concentrated on literature sources relating to technology manufacturing leaders' innovation strategies for supporting user organizations' choice capabilities in the United States and similar markets. I reviewed academic literature on cloud innovation strategies, technology knowledge transfer, fast-changing markets, technology adoption, curriculum development, and organizational change management using the following databases: ProQuest, ABI/INFORM, EBSCOhost, Science Direct, Open Access Pub,

Google Scholar, and Sage Publication. The search keywords and phrases comprise: *strategies for survival in fast-changing industries, technology business strategies, cloud computing, ecosystems, adopt cloud computing, competitive strategy, innovation strategies, technology innovation, innovation delivery model, resilient strategies, fast-changing market, organizational agility, organizational resilience, resource-based view, resource-based view of competitive advantage, RBV, RBV theory, Porters five forces, generic strategies, B2B marketing, sustainable competitive advantage, and technology evolution.*

I tracked the peer-review status of the literature sources included in my review in an Excel spreadsheet. This tracking system for literature details made it easy to monitor compliance with the Walden University Doctor of Business Administration (DBA) program recommendation that 85% of the literature sources be from peer-reviewed sources (Walden University, 2021). Ulrich's Periodicals Directory was helpful for confirming the peer-review status of my sources. I also used Thoreau's Multi-Database Search tool to filter for only peer-reviewed sources when searching for relevant literature. There were some relevant literature items without Digital Object Identifiers (DOIs) yet assigned; I checked www.crossref.org subsequently during the study to see if DOI was later assigned.

In addition to the recommendation for peer-reviewed sources, Walden University DBA program leaders suggest that 85% of the literature sources be recent publications within 5 years of completing the doctoral program (Walden University, 2021). As shown in Table 1 of the summary of literature review source data, I reviewed a total of 102

literature sources, comprising 97 (95.1%) peer-reviewed and 89 (87.3%) within 5 years of the study completion date.

Table 1

Summary of Literature Review Source Data

Literature review sources	Total no.	No. within 5 years	% within 5 years	% Peer-reviewed
Peer- reviewed sources	97	89	87.3	95.1
Non-peer-reviewed sources	5	1		

Research Conceptual Framework

The conceptual framework for this study is based on the RBV theory, which relates to how organization leaders optimize the allocation of resources at their disposal (see Penrose, 1959). Researchers use a conceptual framework to clarify their chosen direction for understanding the target phenomenon and making sense of the study findings (Straughair, 2019). A researcher can incorporate single or multiple theories in the conceptual framework depending on the researcher's goal, scope, and study rationale (Dovbischuk, 2022). Using theories in a study makes it possible for researchers to understand, predict, and describe patterns within social systems (Murray, 2019). RBV theory is apt to understand technology providers' strategies for managing innovation resources that influence users' choices.

Researchers use the RBV lens to understand how organizations can apply available resource to attain superior performance. In the original concept of RBV, the theory author, Penrose (1959), argued that the productive resources available to the business are the best measure of business competitiveness; firm leaders can leverage deep knowledge of unutilized resources for growth and expansion. Firm-specific resources that

drive growth comprise tangible and intangible assets, managerial capabilities, and experiential learning (Tan et al., 2020). These resources can be used to differentiate business performance. Businesses can sustain a competitive advantage to the extent that their resources are valuable, rare, imperfectly imitable, and nonsubstitutable (Barney, 1991). Furthermore, business leaders leverage resource resilience to deploy superior value in both turbulent and stable conditions to the customers (Adams et al., 2019). Resource resilience can be a significant differentiating factor in a highly innovative and rapidly changing technology industry.

The RBV theory is the ideal conceptual framework for this study because technology providers leverage their resource capabilities continuously to innovate and deploy new products and services. The available productive resources to businesses determine their level of success (Penrose, 1959). Beyond just resource availability, how firms create, allocate, and use their available resources determines how they evolve and compete (Maiti et al., 2020). The resources are valuable to the extent that firms can effectively deploy them. Wernerfelt (1984) explained the RBV theory by linking firms' strategic resources, besides just capital, labor, and land to the firms' product offerings. Wernerfelt's study proposed the management of strategic resources as the driver of firms' competitiveness. Organization leaders deploy some of their resources to compete and attain competitive advantage while using the rest of the resources to sustain the organization's operation (Assensoh-Kodua, 2019; Barney, 1991). The concept of RBV theory pertains to the optimal use of these internal resources to compete in the marketplace. Organizations can learn and harness these available resources maximally to

attain their strategic goals. Hence, using the RBV-based framework provides a veritable perspective to explore how technology providers leverage their resources to improve user organization's choice capabilities to remain competitive in stable and fast-changing markets. The underlying propositions of the theory are that: (a) organizations' growth relates to how well they harness their ever-changing resources, (b) organization leaders leverage productive resources to build competitive advantage, and (c) organization leaders craft strategies to extend their competitive advantage (Penrose, 2009). I used the RBV theory to understand how the client organization and other similar organizations deployed their resources to enhance users' choices and optimize benefits to the organizations.

Resource-Based View Theory

The RBV theory accentuates the importance of understanding and leveraging internal resources and capabilities in the organization for enhanced performance. In articulating RBV theory, Penrose (1959) postulated that firms should focus on the strengths of their internal resources and capabilities to survive and gain competitive advantage in both stable and turbulent external business environments. Wernerfelt (1984) extended the theory by proposing that as firms optimize the use of existing internal resources, they should balance it with the acquisition of new strategic resources to remain competitive. Barney (1991) added that the resource that garners competitive advantage should be valuable, rare, imperfectly imitable, and nonsubstitutable. Barney argued that firms can attain competitive advantage by managing their resources with strategic focus on the four noted characteristics because it is not possible to purchase competitive

advantage in the open market. Hence, firm leaders who build more robust internal resource capabilities would leverage these resources to innovate and generate values to outperform their competitors in the market.

The internal resources in the organizations do not all contribute equally to attaining superior performance. Business leaders can leverage the RBV perspective to understand and classify the resources based on their value as either maintaining current operations, extending marketing frontiers, or driving competitive advantage (Assensoh-Kodua, 2019). Organization members can use strategic resources that are too expensive for competitors to imitate to quickly drive competitive advantage, while operating assets like commonly available plants, machinery, and unskilled resources do not constitute strategic resources. A strategic resource that is rare and scarce provides a short-term advantage that could take competitors ample time to develop (Terpstra-Tong et al., 2020). The short-term gains by the company with strong internal resource capabilities could aggregate to a significant long-term advantage.

Companies can rely on their strategic resources to survive in a fast-changing market. Through the RBV paradigm, the company leaders can develop and utilize strategic financial, human, and physical resources to achieve sustainable competitive advantage (Murimi et al., 2021). Technology leaders facing significant market and technology turmoil can also use RBV theory to assess and enhance their innovation and value-creation capabilities for the customers. Information technology (IT) providers and user organizations can create sustainable value by aligning the investment in strategic technology resources like cloud computing, big data, mobile and social networking to the

business strategy and following effective project management practices (Pashutan et al., 2022). The RBV theory is the most appropriate conceptual framework for this research to explore strategies technology manufacturing leaders use to improve users' choice capabilities. Technology leaders can apply RBV theory to identify unused or under-use strategic resources and optimally develop them to improve their users' choice capabilities. The leaders could be able to drive long-term business success by using the RBV theory lens to enhance capabilities to develop and support their users.

Applications of RBV Theory in Technology Innovation

Researchers use the RBV theory to understand how technology providers deploy their resources and capabilities for innovation and competitive advantage. The competence of IT resources in the organization is a determinant of innovation capabilities in the organization and the ability to identify and integrate new knowledge to improve profit (Al-Shami et al., 2022). Technologically competent internal resources can make the correct choice of new technologies and effectively integrate them to innovate their value chain. Organization leaders can innovate their business model through technology innovation to improve their profit (Smajlović et al., 2019). Innovation in the business models can lead to process efficiency or the development of new approaches for serving customers to sustain competitive advantage for the organizations. Leaders who develop their teams' capabilities could enhance their teams' capacity to rightly read the trends in the market and make appropriate technology decisions.

RBV theory can be used to understand technological innovation behavior in startups and matured high-tech organizations. Ahn et al. (2022) found that the

technological capabilities of startup technology leaders affect the extent of technological innovation they can undertake. Startup leaders could leverage new learning to augment their skills. Startup entrepreneurs' innovative mindset, proactiveness, and risk-taking habits stimulate their proclivity for new learning and strategy formulation (Meekaewkunchorn et al., 2021). The entrepreneurial founders can leverage their lean resources and innovative capabilities to serve bottom rung of the markets and quickly grow to capture market opportunities (Si & Chen, 2020). Similarly, researchers have also used RBV to understand the relationship between technological innovation and business performance in matured high-tech manufacturing organizations in the electronics, computing, electrical, aerospace, and pharmaceutical sectors (Al-Shami et al., 2022). Hence, RBV is a good lens for this study to understand innovation and performance outcomes of startups and small businesses.

RBV theory have also been used in fast-changing technology sectors, such as the cloud computing technologies providers and consumers market, to understand competitiveness of the key players. For instance, Khayer et al. (2020) used RBV as one of the conceptual framework components and found that organizational leaders enhance firms' performance through successful implementation of cloud computing and its alignment to their business model. Furthermore, Smajlović et al. (2019) used RBV to confirm the impact of technology innovation on business model innovation and a firm's performance. RBV is a good lens for this study for understanding the rationale behind the innovation choices of both startup and matured technology organizations and how these choices could affect their performance.

RBV Theory and Technology Disruption

RBV can also be used to understand how organizations leverage their knowledge and other physical resources to develop technology capabilities to disrupt markets and legacy business models. Organizations leaders leverage their internal knowledge and physical resources to create patent applications to drive a sustainable competitive advantage (Papazoglou & Spanos, 2021). In the transportation industry, for instance, small organizations leverage technology applications to deploy mobile ridesharing and mobility-as-a-service to disrupt public transportation systems (Wilson & Mason, 2020). Large and small organizations need to pay good attention to their internal technology capabilities to survive the disruptions arising from technology innovations.

Technology-driven disruptions pose significant business risk considering the breadth and influence it weighs across industries. Technology driven innovations are rapidly disrupting businesses across multiple industries (Krotov, 2019). The emergence of 5G technology, for instance, enables emergence of smart cities, evolution of internet of things (IoT), efficient health system, rapid machine learning and related business model innovations and disruptions (Loghin et al., 2020). The business leaders would need to sustain proactive focus on the internal resource capabilities to stem the tide of disruption. RBV is a good basis for understanding how organizations can use their internal resources to develop capabilities to withstand the market disruptions arising from technology innovations or develop capabilities to develop disruptive technology. Researchers have used RBV to study how organizations develop their internal resource capabilities for a successful migration to the new artificial intelligence-based business customer

relationship management (AI-CRM) in their B2B relationship to remain competitive (Chatterjee et al., 2021). Hence, the RBV framework can be used to understand the technology providers internal capabilities for deploying appropriate technologies for their users to remain competitive in a technology-driven and disruptive market conditions.

Competing Theories

Considerations of alternate research theories reinforce the suitability of the chosen theory in the conceptual framework for a qualitative study. Qualitative researchers explore phenomena from the perspective of a theory to articulate what is to be learned, relevant data to collect and how to analyze study data (Yin, 2018). There are alternative theories researchers can use for the single case study to explore what strategies technology manufacturing leaders use to educate users on how to make optimal technology selection decisions for their organizations during periods of rapidly evolving innovation. For instance, researchers used knowledge-based view (KBV) and Porter's five forces for qualitative single case studies of technology providers (Khurana, 2021; Novianti, 2019). RBV, however, is most suitable as it includes elements of these competing theories and provides a more holistic lens for assessing the research problem. The following are alternate theories for the study.

Knowledge-Based View

KBV is a focus on the significance of knowledge capabilities as the strategic driver of firms' performance. Firms can only enhance their capabilities through their knowledge resources (Grant, 1996; Ma et al., 2021) and can use their capabilities to pursue their goals. Grant (1996) conceptualized organizations as establishments that

aggregate relevant knowledge for attaining shared objectives and desired performance. Hence, knowledge is the most vital resource in the organization and can be leveraged to assimilate external knowledge to develop additional dynamic capabilities (Ma et al., 2021; Sen, 2019). Unlike other resources that decrease with use, the knowledge resource increases as firms actively use it internally and externally (Novianti, 2019). Hence, organizations that perfect the art of maximizing the utility of their internal knowledge resource sustain superior performance. Technology companies thrive on intangible resources that drive their innovation. Innovation knowledge is a unique knowledge resource that facilitates the development of innovative products and services for sustainable competitive advantage (Maravilhas & Martins, 2019). Knowledge resources are also scarce and difficult to imitate, hence a source of long-term advantage (Novianti, 2019). Technology companies could leverage significant investment on innovation knowledge that drive new products and services development for their competitive advantage.

Besides intangible knowledge resources, leaders also deploy other resource types for superior performance. In the technology industry, for instance, the quality of collaboration between the relevant resources of the technology suppliers and service providers, their internal structure, and their market approach determines the success or failure of their service innovation and performance (Homayounfard & Zaefarian, 2022). Knowledge resource alone is not sufficient for successful innovation delivery. Service firms for instance can create innovative products through distinctive knowledge but can only sustain competitive advantage through reliance on physical resources to drive their

dynamic capabilities for sustainable competitive advantage (Cuthbertson & Furseth, 2022). Hence, KBV is not fully adequate to explore the study research question.

Porter's Five Forces

Porter's five forces model is widely used in management strategy to understand an industry's attractiveness. An organization can enhance its competitive advantage by clearly understanding its external business environment (Clauss et al., 2019). Leveraging the model's perspective for understanding the external business environment, organization leaders can align strategies to enhance their competitive positioning in their existing or target new industry. Michael E. Porter published the five forces theory for identifying what drives competition in an industry in the 1979 seminal work. These forces affect the abilities of the companies in the industry to serve their customers and how much profit they retain. These forces as identified by Porter (1979) include threat of new entrants based on the nature of entry barriers in the industry, the extent of bargaining power of buyers and suppliers, the threat of substitute products or services, and level of rivalry among competitors in the industry. Porter (2008) posited that these forces apply in every industry irrespective of size and technology innovation. Companies can align their core competences to mitigate threats and exploit opportunities present in their industry using the outcome of five forces analysis.

Researchers and business leaders can craft their long-term competitive strategy in an industry using the five forces model. Khurana (2021) adapted the model to assess the competitive environment of the technology industry to position local players to compete effectively with multinationals. The model application is, however, limited because the

five forces are no longer adequate to measure the factors in the external business environment. The increasing globalization and digital transformation eroded the relevance of the five forces; hence, managers need to look beyond the five forces in their strategy formulation (Isabelle et al., 2020). Rapidly evolving new technologies keep altering entry barriers making it easier for small players to assess the global market.

Another limitation of the five forces for this study is the singular focus on the external environment. All five forces in the model are measures of external factors (Jaya & Yuliarmi, 2019); the objective is to understand the competitors' strengths and weaknesses and opportunities and threats in the industry to situate the organization for a sustainable competitive advantage. Companies are increasingly leveraging their internal capabilities for competitive advantage. Business leaders can leverage existing IT infrastructure to enhance internal capabilities to assimilate external knowledge, ramp up innovation for superior performance, and compete globally across industry boundaries (Ma et al., 2021). Hence, external facing model alone would not be adequate for assessing and optimizing internal capabilities.

Using the outward facing five forces model for research implies the industry would be the unit of analysis in contrast to the inward-facing RBV theory focusing on the specific organizational case as the primary unit of analysis. Sustainable competitive advantage is attained through organizational resources and capabilities that are durable and difficult to imitate in the RBV model (Lee et al., 2021a). In comparison, long-term profit indicates sustainability in the five forces model. Each of the two models has its inherent benefits; however, for this study, understanding and fully leveraging the internal

resources and capabilities would enhance technology manufacturers' capabilities for influencing the choice capabilities of their user organizations. Hence, Porter's five forces model was not the ideal framework for generating optimal values for the user organizations and creating a sustainable competitive advantage.

The following section includes the description and synthesis of literary works on innovation concepts and strategies for managing innovation. It also includes details of trends in cloud innovation, which is the industry that Iroko is actively playing in and seeking to sustain competitive advantage in.

Innovation Management in Fast-Changing Market

There are different definitions and explanations of what constitutes innovation. However, they all relate to introducing new goods and services or improving the value offering of existing goods or services. A classic innovation paradigm is to explain innovation from the perspective of technology, market, and customer (Wang et al., 2022). Some researchers define innovation as the outcome of the processes leading to introducing a new thing to the market or to a firm with varying degrees of newness, degree of success of its introduction, or usefulness of the new thing (Granstrand & Holgersson, 2020). When organization leaders fail to respond quickly and continuously to globalization trends and widespread digital transformations, they lose market share and competitive advantage (Tshabalala & Marnewick, 2021) because innovation has become a primary source of competitive advantage (Porter, 1996; Teece, 2018). Hence, the success and survival of an organization could depend on their understanding of the technology trends and how well they manage their innovation process. Researchers noted

three trends driving the rapid changes in the innovation landscape to include the shift toward open innovation models, servitization or increasing provision of industrial product-service rather than just physical products, and a shift towards digitalization (Frishammar et al., 2019). Corporate leaders could use sustaining innovation, disruptive innovation, diffusion innovation, or open innovation strategies to attain their desired performance goals.

Sustaining Innovation Strategies

Organizational leaders can use innovative ideas and new skills to enhance the customer appeal of existing products or services. Through sustaining innovations, business leaders complement the existing business model and value chain to strengthen their competitive advantage (Jucevičius et al., 2021). Business leaders could provide more value to the customer at the same or lower cost to improve business performance and attain better customer loyalty. The sustaining innovation approach enhances a positive social impact and organizational stability as businesses improve their product and services value chain and customer satisfaction (Sun et al., 2021). Building an innovation strategy around sustaining innovation is an excellent practice to broaden and exploit more values from the existing innovations.

Disruptive Innovation Strategies

Another innovation concept is a disruptive innovation involving using new technologies or new business models to create new markets that could replace or alter existing industry business models (Jucevičius et al., 2021b). The prevalence of technologies and skills makes it easier for companies to build new service models to

leverage new technology architecture to reach different market segments. Small businesses could start serving the bottom rung of the market and quickly take market share from larger organizations using a very lean resource (Si & Chen, 2020). The small players could also over-serve existing markets and customers through value innovation to disrupt the market (Montoya & Kita, 2018). Small companies can adopt a disruptive innovation model using a lean startup approach to attain similar performance as the industry leaders. Similarly, large companies can adopt a lean startup approach to disrupt their established market or competition products, deliver more value to customers, and improve business performance.

Diffusion Innovation Strategies

The common goal of either disruptive or sustaining innovation is to get users to adopt the new services, products, or behavior. Rogers (1995) articulated the users' adoption model. The model comprises the innovators, early adopters, early majority, late majority, and laggards. The adoption rate of the new products or services by the five categories of users comprise just 2.5% for the innovators, 13.5% for early adopters, 34% for the early majority, 34% for the late majority, and 16% for the laggards' markets. The innovation leaders need good knowledge of the adoption stage of their innovative idea to target the right market segment. Companies could use a diffusion of innovation strategy to implement their new ideas within the organization and gradually extend them to the customers (Kao et al., 2021). This gradual introduction process or diffusion of innovation facilitates good awareness within the organization and then among the customers (Lee et

al., 2021a). Diffusion of innovation is an excellent strategic management approach to gain customer early feedback and buy-in.

Open Innovation

The use of internet capabilities and big data technologies by organization leaders make collaborating across company and industry boundaries easier in the innovation process. The open innovation strategy involves using ideas and capabilities within and outside the organization in open exchange to attain desired innovation goals and performance (Flor et al., 2021). Companies that perfect the art of two-way open collaboration can enhance internal innovation (Gupta et al., 2021) and ramp up capacities to attain superior performance. Some organizations have used the approach to attain significant performance success (Greco et al., 2022). Hence, it is important that organizations develop mastery of open innovation dynamics and include them as appropriate in their innovation strategies to grapple with the disruptive changes in the industry. Some organizations follow strategic agility to make it easy for their organization to quickly learn new trends and adopt an optimal innovation approach to remain competitive (Zhao et al., 2022). Cloud computing is one area organizations need strategic agility to survive and collaborate to exploit the rapid changes emerging in the industry.

Cloud Computing and Innovation

Cloud computing is a fast-evolving service in the B2B market. Cloud providers offer computing power as a utility to users on-demand through a shared pool of large capacity, scalable, high-speed, and rapidly evolving computer networks (Hassan et al.,

2022). The forgoing implies that the cloud providers could invest significant financial and human resources to setup a sizable cloud infrastructure that they can sublet to diverse corporate organizations and consumers. The cloud providers offer four key services comprising infrastructure as a service (IaaS), platform as a service (PaaS), software as a service (SaaS), and expert as a service (EaaS) to their customers (Azadi et al., 2019; Khayer et al., 2020). According to Azadi et al. (2019), IaaS is an on-demand access to back-end IT infrastructures hosted on the cloud. Users can access specific components of physical and virtual servers, storage, and networking infrastructure on demand through IaaS offerings. The next level of cloud computing services is the PaaS offerings, where users can access a complete and ready-to-use cloud platform, to run, maintain, and manage their applications. Under PaaS, the users access the platform built on top of the abstracted hardware for their applications. SaaS is the third-level abstraction of computing services where the users access cloud-hosted ready-to-use applications without the need to install or configure them. Organizations are increasingly leaning towards cloud computing options in the form of IaaS, Paas, or SaaS, or a mix of them to enhance performance and serve customers better (Azadi et al., 2020). Organizational leaders providing cloud solutions can leverage good knowledge of the cloud computing options, their capabilities, and relevance to users to develop strategies to help user organizations to make optimal choice on the best fit cloud solution to enhance their performance and competitiveness.

Organizations rely on their skilled resources to make the buying decision for their cloud computing needs. The corporate buying process typically involves formal and

informal interactions and using a very structured process for assessing options and deciding on the options (Rodríguez et al., 2020). Hence organizations would depend on their appropriately skilled purchasing team to navigate the structured buying process and for effective communications with the selling organizations. Cloud computing is uniquely complex and expanding rapidly (Zhao & Zhang, 2019). Unlike traditional hosting, Azadi et al. (2019) noted that cloud computing is available on demand, and the provider manages the services offered; a wrong choice of service could affect the buyer's performance and could be mistaken for supplier service deficiencies. Researchers have used RBV (Khayer et al., 2020) lens to assess trends, relationships, and strategic choices the buyer and sellers make in cloud computing services. The quality of the technology resources and the leadership culture in the organization could affect the kind nature of cloud buying decisions the purchasing team make to support the innovation in the organization.

Cloud Disruption and Fast-Changing Market

Researchers have also done some studies on how cloud computing is rapidly disrupting the traditional business models that technology providers use to service their customers. Researchers found that the disruption of the IT services' supply chain by cloud computing is requiring business leaders to rethink and restructure their value chains (Cusack & Adedokun, 2022). Furthermore, companies are rapidly migrating to the cloud to take advantage of the exceptional agility to manage, maintain and introduce new solutions at reduced computing and storage costs (Mazilescu, 2020; Muhamed et al., 2019). Researchers also found that migrating to cloud provides the computing power,

bandwidth, and storage capabilities for technology users to run Big Data analytics, artificial intelligence (AI), and IoT to provide superior customer experience (Mazilescu, 2020). Rapid migration to cloud is a strategic option business leaders are following to remain competitive in the fast-changing market.

Migrating to cloud computing model exposes the technology users and providers to significant opportunities and threats. To remain competitive, innovative organizations critically depend on big data facilitated by cloud computing to sustain their innovation to remain competitive (Akter & Haque, 2022). These innovative user organizations may not get the right services from technology providers that rely on legacy model and slow to address their cloud computing needs. Slow responding technology providers could lose significant customer loyalty in the cloud computing era. Even very strong brands like SAP experienced significant loss of customer loyalty when customers needed to migrate to cloud to sustain their business performance (Kocaman et al., 2020). The probability of retaining on-premises brand during period of migration to cloud is only 54.47% compared to 95.61% before migration to cloud and the probability of retaining the cloud brand stays strong at 91.85% after the migration (Kocaman et al., 2020). This implies that cloud providers need to pay significant attention to supporting the migration of their on-premises customers to cloud to retain their services at the critical stages of migration to the cloud.

Technology providers may need to adopt new strategic management structure to actively monitor and support the changing customer needs in a fast changing market. Agile management approach using matrix structure to align tasks according to

competencies and skills rather than departments enhances superior performance in rapid digital transformation periods (Wiechmann et al., 2022). Using agile product development process that involve active incorporation of customer feedback in product design, development and testing can help technology providers get customer friendly products to market faster (Sarangee et al., 2022). The agile management approach can be a basis for technology providers to adapt their leadership structures and build successful strategies around collaborating with customers in a fast-changing market. The active collaboration could aid gaining full understanding of customers' needs and hence facilitate aligning resources to support innovation needs of the customers to retain loyalty of their brand in the cloud disruption era to remain competitive post cloud disruption period. Because the pace of technological changes will continue to increase (Marquardson, 2020), organizational leaders need to continuously work on enhancing their technology leadership and innovation competencies to remain competitive.

Technology Leadership Competencies and Innovation Capabilities

The leadership culture of an organization could affect staff members' innovation behavior and the innovation behavior of the organization. The chief executive officer that follows a transformational leadership style enables a collaborative human resources management approach, which facilitates innovative behavior in the organization and among the staff members (Awan & Jehanzeb, 2022). Hence, the leadership development of the executives is an important strategic element for sustaining innovation in the organization.

The leadership teams, however, need to know how their direct involvement in the innovation development process affects the innovation outcome in the organization. For instance, direct management sponsorship diminishes the organization's customer-focus behavior and technology development capabilities (Husain et al., 2022). Management sponsorship, envisioned as providing resources to facilitate acquiring technologies (Jiang et al., 2020), can lead to significant pressure on acquiring technology development capabilities through sustained innovation competencies (Ye et al., 2019). The management pressure is heightened when the technology teams' source innovative ideas from customer feedback (Jin & Choi, 2019). The leadership team could limit their involvement to stimulating a collaborative human resources management environment where staff members who are closest to the customers initiate innovative ideas that drive optimal customer value.

Also, leadership competencies in cloud computing could stimulate innovation outcomes. The organizations that pursued cloud-first IT strategies and collaborated with others to develop cloud capabilities were able to migrate to an online presence during the COVID-19 pandemic (Holowka, 2020). Leaders that understand cloud infrastructure capabilities could leverage the knowledge for optimal IT infrastructure decision in their organizations. In addition to cloud infrastructure decisions, organizational leaders can use a systemic framework, like the Baldrige Excellence framework to articulate a holistic strategy to enhance organizational performance (Abasiattai & Ahmed, 2020). Using the Baldrige Excellence framework could be a good opportunity for reviewing and

improving the cloud investment decision outcomes and improving leadership capabilities for innovation in the organizations.

Baldrige Excellence Program

I used Baldrige Excellence Framework for this case study. The Baldrige Excellence Framework involves using a systemic measure to assess and compare organizational performance with respect to its processes, people, and decisions for improving performance and competitiveness (BPEP, 2021). The Baldrige Excellence Framework is an adaptable systemic tool for understanding and enhancing the overall quality management and performance of the organization (Peng et al., 2020).

Organization leaders have used the framework to understand their current situation, assess gaps on the value delivery to customers, and develop strategies for sustainable improvement on performance (Abasiattai & Ahmed, 2020; Strahan et al., 2022). I followed the criteria questions in the seven categories of the Baldrige framework to understand Iroko situation and to broaden the answers and enhance the rich context of the research question.

The six leaders of Iroko provided answers to the seven areas of the organizational management and performance comprising: (a) leadership; (b) strategy; (c) customers; (d) measurement, analysis, and knowledge management; (e) workforce; (f) operations; and (g) results (BPEP, 2021). The purpose of using the Baldrige framework is to enable organization leaders reflect on their business performance with following overarching underlying question: is your organization doing well as it should? How do you know? What should the organization change and how should the change be done? (BPEP, 2021).

The aim of using the Baldrige Excellence Framework aligns with my study purpose, which is to study the technology manufacturing leader's innovation strategies to improve user organizations choice capabilities in fast-changing markets. Section 3 of my study includes the details of using the Excellence Framework to assess systemic management process and the strategic outcomes in the organization.

Knowledge Transfer

The technology manufacturing leaders also need to have strategies to respond to the knowledge transfer gaps in the user organizations. There is significant recruitment, training lag to address shortages of technical resources in many organizations (Zackarias et al., 2022). Knowledge transfer involving a process of sharing and passing on the skills, knowledge, and expertise of skilled staffs to other people around can be achieved through a structured process of creating awareness, knowledge capture, training, evaluation, and adaptation to new technologies (Zackarias et al., 2022). A poorly trained technical user staff may not appreciate the superior value propositions of Iroko parent products. Besides just providing equipment and capital, global brands collaborate actively with their strategic partners to enhance their absorption knowledge absorption capacity and performance (Du et al., 2022). Strategies developed around collaborating with user organizations could enhance their capacity to make appropriate technology choices.

The style of leadership in the technology manufacturing organization is also a very important dynamics in developing competencies for knowledge transfer. The leadership style that is empowering and supportive, promoting open communication and innovation enhances development of technology knowledge transfer capabilities (Bolatan

et al., 2022). This enabling leadership culture is necessary to overcome the myriad challenges and hurdles around knowledge transfer to the receiving organization.

Generally, it is difficult to implement a technology transfer initiative (Vansovits et al., 2022) because the personnel receiving the information feel uncomfortable disrupting their status quo (Nair et al., 2021). A strong backing of the leadership team is important to conceptualize and sustain knowledge transfer to user organizations to enhance their optimal strategic choices and implementation capabilities.

Change Management

Making technology choices by user organization could involve significant change management effort and large resource outlay to implement. Some technology changes follow structured repetitive processes, some involve extensive application of new resources and new learnings, and some other changes could be entirely new to the organization (Van de Ven, 2021). Hence, organization leaders need to align adequate change management capabilities to address the complexities involved in change process. Successful organizations embrace change, actively develop successful change management practices like effective communication, creating shared vision of change and ensuring active participation of all stakeholders and top management, and avoiding pitfalls like short-term mindset, resistance to change and over standardization of the process (Dempsey et al., 2022). Technology providers need to understand the quality of change management culture in their user or potential user organization to help frame the nature of strategic support needed to enhance their technology choices among several competing options to drive their change needs.

Organizational changes relating to software implementation come with added complexities of managing the fast-changing user preferences and the fast-evolving software platforms. The process for managing the changing requirements is one of the most challenging aspects of managing a software change project and requires active attention for a project success (Akbar et al., 2019). Mega organizations like Amazon, Google and Facebook have adopted the agile change management approach for prompt delivery, ease of accommodating changes, enhanced interaction with users and efficient change management (Zelege & McCollum, 2021). Using agile software management ensures a coordinated approach to change and the stability of the organization software applications (Baouya et al., 2021). Agile methodology has become a good strategic option for managing the complexities relating to software changes to address evolving user needs. Both the technology providers and user organizations could leverage agile approach to enhance responsiveness to their respective customer needs as Akbar et al. (2019) noted that both large and small organizations share similar success factors with respect to managing the changing requirements in software projects.

Technology change management process can also be viewed from the classic three phase change management process developed by Lewin (1946) comprising unfreezing or getting ready for the change, making the change and refreezing phase. Using Lewin model, change leaders can coordinate relevant new technologies like cloud computing and big data analytics in getting ready for the change while identifying key customer requirements and other key factors for a successful software change management and deployment (Zelege & McCollum, 2021). Having a holistic and

balanced view of software changes on the organization and customers could help change leaders in making appropriate technology choices for their projects.

Curriculum Development for Technology Learning

Education and professional training providers have used the cloud technologies to manage the curriculum development for teaching and learning on the emerging technologies. Training providers use the innovative cloud ecosystem to aggregate the learning resources, teaching activities, training participants and real-time management of the learning process, and have made learning very interactive and adaptive (Zhao & Liu, 2020). Furthermore, Ellahi et al. (2019) identified the need for universities to keep enhancing their curriculum competencies by leveraging new technologies and giving adequate focus to emerging technologies like cloud computing, AI, data analytics, augmented realities to get students ready for the convergence of physical and digital world in industry 4.0 era. The use of cloud technologies for curriculum development and learning management underscores the critical importance of cloud proficiency for technology users, developers, and education technology providers to acquire superior cloud proficiency to support their value chain.

The tertiary institutions are also under pressure to enhance their curriculum and learning management systems (LMSs) to adapt to the rapid technology innovations. Higher institutions have had to unbundle curriculum activities to include professionals outside of the academia due to the external technology pressure to sustain educational quality (White et al., 2020). High institutions could partner with credible technology providers to bridge their technology gap and fast track their adoption of current

technologies to meet evolving learners' and students' needs. Students have increasing need for proficiency in cloud and emerging technologies to fit into the job market (Changchit et al., 2022) to overcome some employers' belief that graduates lack the appropriate work skills (Cronin et al., 2021). Learning institutions that are slow at adopting cloud computing technologies to broaden and enhance their learning curriculum could be at a major disadvantage in meeting the learners and the employers' needs. Students can gain critical employment skills through a reformed curriculum that removes limitations on number of courses that can be offered in the learning institutions (Bone & Ross, 2021; Larson et al., 2021). This curriculum reform could enhance development of graduates with requisite skills to meet companies' critical technology resource needs to survive. Companies leverage technological capabilities like cloud computing to gain competitive advantage (Lee, 2019). The learning institutions could partner with cloud computing providers like Iroko to leverage the cloud computing and related technologies to develop appropriate curriculum for technology learning to meet the users, students, and employers' needs.

Emerging Themes from Literature Review

The focus of this literature review was to understand extant knowledge of the strategies used to improve technology users' choice capabilities in a fast-changing market. The conceptual framework was RBV. Researchers used the RBV paradigm to explore comprehensive strategies that business leaders use to optimally leverage available resources (Murimi et al., 2021), integrate new capabilities (Al-Shami et al., 2022), in both periods of stable and rapid market changes (Adams et al., 2019) to deliver customer value

and sustain competitiveness. The detailed review of professional works and scholarly literature supports the propositions of this research. The research highlighted different innovation strategies technology leaders use to align their products to user needs, and sustain optimal adoption, such as the agile management approach (Wiechmann et al., 2022), collaboration with user organizations (Du et al., 2022), and promoting open communication for knowledge transfer (Bolatan et al., 2022). Exploring the influence of cloud computing technology on manufacturers' business models as it relates to the research question and implications for improving user choice capabilities, the strategic-user-education theme to enhance their choice capabilities emerged. However, there is no clearly documented strategy on using strategic user education to enhance users' choice capabilities in periods of rapidly changing technology innovations to sustain organizations' performance.

Transition

Section 1 comprised the foundation of the study where I described the technology innovation disrupting technology manufacturers business model leading to the purpose of this single case study to explore strategies technology manufacturing leaders use to educate users on how to make optimal technology selection decisions for their organizations during periods of rapidly evolving innovation. Through the analysis of extant literatures, I adopted RBV as the appropriate conceptual framework for this study after eliminating KBV that focus primarily on the intangible knowledge resource and Porter's five that focuses on the external environment for competitive advantage. Although other researchers have used these alternative theories to understand

performance of organizations in periods of innovation changes, they do not adequately address the resource capabilities relevant for the research question of this study.

A further review of literature relating to technology innovation and user adoption strategies shows significant adverse performance impact on providers using ineffective strategies to sustain customers loyalties during rapid technology changes. A review of findings on strategies relating to stimulating agile innovation culture of listening to customers and collaborating with them led to identification of strategic user education to enhance user technology choice and adoption. There is, however, no clearly documented strategy on using strategic user education to enhance users' choice capabilities in periods of rapidly changing technology innovations to sustain companies' performance. Finally, I identified the research findings that illustrate how technology leadership strategies stimulating successful innovation and strategic education is relevant to my business problem.

Section 2 includes the details of the research design and process plan for this qualitative single case study. I identify the study participants and include explanations of the measures I took to protect the research participants and storage of the study data. I articulate the role of the researcher as the primary data collection instrument, acknowledge the risk of bias and provide risk-response plan using self-reflexive, member checking and data saturation techniques to mitigate the risk of bias. I also provide justification for the research method and design, address ethical considerations, covered data collection and analysis techniques, and how to ensure the reliability and validity of the of the study.

Section 3 includes the remainder of the study covering the research findings and their relevance to professional practice. I present the findings from using 2021–2022 BPEP to evaluate the senior leadership team on the leadership triad, the critical factors worksheet, and the results triad and documented the organization profile, the performance outcomes and leadership dynamics. The section also includes the research data, summary of key themes, contributions of the research to professional practice, and recommendations.

Section 2: The Project

Section 2 starts with the purpose of the study and explanation of my role as the researcher and the primary research instrument. It includes participant details, the research method and design for the study, and the population sampling method. Furthermore, I cover the ethical considerations for the research, data collection techniques and organization, and the approach for data analysis. I conclude the section with justification for the validity and reliability of the research constructs.

Purpose Statement

The purpose of this qualitative single case study was to explore strategies technology manufacturing leaders use to educate users on how to make optimal technology selection decisions for their organizations during periods of rapidly evolving innovation. The target population was the leadership team comprising six senior leaders of a technology manufacturing organization in the western United States, driving the organization's strategic initiatives. The implications for positive social change are that the findings from this study may help technology manufacturing leaders acquire new knowledge and implement strategies that could enhance optimal technology utilization for a more fulfilling employee career experience, boost organizational capacity for better service delivery to customers, and improve contribution to the quality of life in the community.

Role of the Researcher

The researcher plays a delicate role in qualitative research. A qualitative study involves an exploratory review of the phenomenon through in-depth interviews and

document reviews (Cumyn et al., 2019). In a qualitative case study, the researcher's role includes interacting directly with the objective phenomenon and collecting relevant data for the studies (Yin, 2018). The researcher's role also involves interpreting the information received and gleaning the impression of the lived experience of the participants from the research data (Stake, 1995). The researcher is responsible for the design, collection, and analysis of research data. Because of this level of engagement with the phenomenon in a qualitative study, the researcher needs to acknowledge exposure to significant bias and ethical risk and actively mitigate them throughout the study phases.

I was the researcher and the primary research instrument for this case study and acted as the scholar-consultant for Iroko. I collected organizational data through semistructured interviews, in addition to review of organizational documents, organization's websites, publicly available information, and interactions with the company's leadership. Prior to doing this research study, I have been involved in consulting and technology project management for over 25 years. This previous experience facilitated the research design approach, collection, and analysis of the research data. Recognizing one's competence and expertise is an essential skill for the researcher to contribute maximally to research outcomes (Meurer & Costa, 2020). I am aware of the strength my previous experience brings to this study, which exposes me to the risk of bias. I mitigated bias risk actively through regular reflections and ethics considerations, member checking, using the interview protocol, transcript review, and attaining data saturation in the study.

Ethical Considerations

The researcher's mindset of knowing that the research affects a broader audience beyond the research participants poses higher moral responsibility. Hence, the need for ethical reflections in the design, analysis, and assessment of assumptions to promote trustworthiness and public trust and demonstrate competence (Tubig & McCusker, 2021). I applied the ethical research principles outlined in *The Belmont Report*, which includes respecting individuals, ensuring their wellbeing, and being fair with participants (National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research [NCPHSBBR], 1979). Participants provided voluntary consent after clearly understanding the purpose, potential risks, and benefits of taking part in the study. As the researcher, I informed all the participants that participation was voluntary, and they could withdraw their consent anytime by either not providing answers to interview questions or withdrawing from the research. I optimized benefits to participants and ensured no harm to the research participants. Before collecting any data from the participants, I obtained Walden University Institutional Review Board (IRB) approval. University IRB is primarily responsible for safeguarding participants' rights and wellbeing and preserving the research process's validity (Weissman et al., 2018). Another important ethical consideration in a qualitative study is mitigating bias (Yin, 2018). The existence of bias belittles the rich benefit of eliciting the lived experience of the participants in qualitative research.

Mitigating Bias

Following my extensive experience in management consulting and practice in the technology industry, I have some idea of the industry's trends and challenges. Prior industry knowledge increases a researcher's risk of framing research design to obtain the information they think they need. The researcher can guide the interview process to collect preferred data (Buetow, 2019), making it difficult to learn about unique participants' experiences. Researchers must welcome contrary evidence and consistently enhance our neutrality to mitigate bias (Yin, 2018). The import of acknowledging likely sources of bias is ensuring research design includes rigorous processes to obtain and analyze accurate and reliable research information without personal interference. Triangulation and progressive interpretation of data until data saturation is a strategy to mitigate bias (Stake, 1995). I used methodical and data triangulation, member checking, transcript validation, and an interview protocol (see Appendix A) to overcome bias in this research.

Interview Protocol

Participant interviews are a data collection and analysis technique in qualitative research. It is an excellent practice to have a clear interview protocol before engaging with participants (Youn et al., 2021). Using an appropriate interview protocol for qualitative case studies enhances study validity and aids in mitigating bias (Marshall & Rossman, 2016; Yin, 2018). An effective interview process also facilitates compliance with *The Belmont Report* requirement of respecting and sustaining the participant's informed consent throughout the interview process (Favaretto et al., 2020). The interview

protocol used in this study for each participant is in Appendix A. Appropriate interview protocol enhances research quality (Wohlfart, 2020; Yin, 2018) and mitigates bias. Following the protocol was part of the strategies to mitigate bias and sustain adherence to ethical standards in this study.

Participants

The participants in this study were senior leaders of Iroko, a technology service-providing company located in the western United States, who have implemented a successful innovation strategy to enhance user organizations' capabilities for optimal technology buying decisions in a fast-changing market. Iroko leaders and Walden consulting capstone administrators agreed to conduct this case study using the Baldrige Performance Excellence Framework as part of the in-depth discovery process of the organizational context. Based on the research goals, I identified six senior leaders of Iroko who have the depth of knowledge and experience to respond to the research questions. Researchers can engage convenient participant samples that shed light on the research propositions considering the voluntary nature of the consent process (Campbell et al., 2020; Yin, 2018). The six Iroko participants who took part in the research were senior leaders of the company. The eligible participants of this research had to be employees of Iroko that were actively involved in ideating, designing, planning, or implementing innovative strategies to educate their user organizations' buying behavior.

Gaining Access to Participants

The Walden University consulting capstone administrators identified Iroko as the proper organization for this study and introduced me to the company as a scholar-

consultant. I started biweekly meetings with the organization leader after IRB approval. The company leaders needed additional nondisclosure agreements before we could start company information with the participants. As soon as Iroko and Walden completed signing of the nondisclosure agreement, the client leader and I identified other resources in the organization that could provide detailed information on the organizational situation, strategies, and performance in the context of the research goal.

Building Relationships With the Participants

It is a good practice to build a good working relationship with the research participants to sustain their motivation through the data collection process. Researchers gain a deeper understanding of the research context and significance of the findings with active participants' engagement, and participants also find engagement valuable (Jasny et al., 2021). I provided a comprehensive road map of the study and the potential beneficial outcome of the study to the business, society, and the participants at the project's kick-off. I maintained quality communication at the scheduled meetings and ensured accurate reflection of data shared using the interview protocol in Appendix A.

Research Method and Design

Research Method

Researchers can use quantitative, qualitative, or mixed methods for their research studies (Bougie & Sekaran, 2019). The research purpose can influence the choice of method. I chose the qualitative method for this study to explore strategies technology manufacturing leaders use to educate users on how to make optimal technology selection decisions for their organizations during periods of rapidly evolving innovation. A

qualitative study involves an in-depth and extensive understanding of a situation, event, or phenomenon (Ezer & Aksüt, 2021; Yin, 2018), through the experience and interpretations of people involved in their natural habitat (Delgado-Hito & Romero-García, 2021; Yin, 2018). Using qualitative research methodology for this research facilitated understanding of the organizational context, the existing business problems, and strategies for resolving them. The qualitative research method is appropriate for exploring a complex phenomenon in a defined context (Rashid et al., 2019). This study includes clearly defined corporate contexts for exploring the leaders' practical experience.

Inappropriate Research Methods for This Study

The quantitative or mixed-method approaches are alternative methods researchers can use for their study. Quantitative researchers examine the correlation in the sample data to establish relationships and trends to predict the population behavior (Doss et al., 2021), whereas researchers use the mixed method involving the integration of quantitative and qualitative methods within the same study (Jones et al., 2020) to gain a holistic view of complex research, learn about lived experience, the perception of the population, as well as ratings of the study variable (Hou, 2021). Neither of these two methods would have been appropriate to address my research question. Researchers can examine the relationship among study variables and their characteristics in a quantitative and mixed-method approach (Chen et al., 2019). My exploratory study did not involve examining variables. Variable constructs are critical requirements for conducting quantitative and mixed-method studies (Ragmoun & Alwehabie, 2020). Qualitative study

was appropriate for my study. Researchers have more flexibility as they leverage various analysis tools in a qualitative research method to analyze study data and validate study propositions (Yin, 2018). I could use a qualitative research design to explore and gain deep understanding of the research topic.

Research Design

Following the choice of the research method, the researcher also needs to decide on the appropriate study design. Some common design methods in qualitative studies include ethnography, phenomenology, grounded theory, and case study. The design choice depends on the research goal and desired perspective (Delgado-Hito & Romero-García, 2021; Yin, 2018). The case study method was preferred in this study to gain in-depth knowledge of the experience and perspective of the business leaders in their business context. The case study design is the most popular qualitative design and involves exploring a rich and in-depth view of an entity in a determined system to gain rich context (Piekkari & Welch, 2018; Whiffin et al., 2021; Yin, 2018). My study goal was to explore the innovation strategies technology providers use to enhance buyers' choice capabilities; a case study design was ideal to answer the study research questions. Within the case study design, the researcher also needs to decide whether to use a single case study or multiple case studies.

Single Versus Multiple Case Study Design

A qualitative multiple case study involves studying more than one case study within the same research project. The multiple-case approach can be used to replicate the expected results across multiple single cases, to get a more compelling result. For

instance, researchers used multiple cases of how IBM and Cisco used storytelling to influence their B2B marketing outcomes to show similarities in their approaches (Bonnin & Alfonso, 2019). Multiple case study involves a significant resource cost and time and may not be suitable for intense exploratory studies of a specific case (Yin, 2018). This study had time and resource constraints and was not ideal for multiple-case design. Yin explained further that a single case design could be beneficial for a holistic study, a common case study, or a critical test of an existing theory. This study involved a critical use of the Baldrige framework for a holistic study of an organization that met the study criteria. Organizational leaders and researchers use the Baldrige framework to understand and drive optimal organizational performance in seven critical areas: leadership, strategy, customers, measurement, workforce, operations, and results (BPEP, 2021; Criado-García et al., 2020). A single case study is ideal for exploring the unique and holistic strategies the target enterprise used to attain superior performance in the industry. A multiple case study would not have been appropriate for the deep exploratory study of the target case using the Baldrige Framework.

Inappropriate Research Designs for This Study

The phenomenological research design would not have been appropriate for this study. Typically, a phenomenological approach is used when the research objective is to obtain a deep understanding of the lived experience of a population or how the target audience interprets a phenomenon based on a personal experience (Dibley et al., 2022; Ezer & Aksüt, 2021). This study is not designed to study the lived experience of the participants but to explore the strategies technology manufacturing leaders use to educate

users on how to make optimal technology selection decisions; hence, phenomenological design does not apply.

Another inappropriate design for this study is the ethnographic research design. Researchers use ethnographic design to understand the cultural interpretation of the target population (Whiffin et al., 2021; Yin, 2018). As I did not seek to understand the cultures of the technology business leaders, the ethnographic design would not have been appropriate for this study.

Population and Sampling

I agreed with the company's client leader on the population sample that could address the research question for this study. The participants comprise six senior leaders driving the strategic initiatives of the organization. The leaders' knowledge, position, and experience in the company and in the industry, and their active participation in the company's innovation strategies were the prerequisite requirements for their selection to participate in the study. This kind of sampling is also called a purposive sampling technique, and it is a nonprobabilistic approach that involves subjective judgment to identify a convenient sample that can address the research questions. Yin (2018) explained that researchers could use their experience in addition to their findings in the academic literature to make informed nonprobabilistic sample judgments in a qualitative case study. Bullard (2019) also noted that purposive sampling involves deliberately including individuals with particular characteristics in the study sample. Akman et al. (2022) used the criterion sampling method, one of the purposeful sampling methods, to select the study sample for their research. Similarly, I leveraged my experience of the

study topic and discoveries from theories in academic literature to identify and agree on the population sample for this study that would provide rich study data and ensure the attainment of data saturation in the study. Utilizing evidence from multiple sources is an indication of the accuracy of the case information (Yin, 2018). Nam et al. (2021) used multiple evidence from three broad category business leaders to attain reliable and valid research results. The evidence from the six Iroko leaders converged to strengthen the construct validity of the case study.

Data Saturation

I attained data saturation in this study through the continuous addition of interview data from the six leaders of the organization, member checking data received, and triangulating the data across other provided sources and publicly available company information on company websites. Data saturation can be achieved through triangulation and progressive interpretation of data (Stake, 1995). Researchers understand data saturation is attained when no new information is being added to the database and respondents provide the same answers as previous respondents (Alam, 2021). I achieved data saturation in this study when I began receiving redundant data from the respondents and from document reviews. The interview setting facilitated congenial discussions with the participants.

Interview Setting

The semistructured interview data gathering process was the predominant approach for gathering data in this research. Researchers use semistructured interviews to obtain rich data with appropriate depth and breadth to address the research question

(Bevens et al., 2022; Yin, 2018). I used digital technology options of either telephone interviews or online videoconferences through Zoom or Microsoft Teams to interview participants depending on the participant preferences. The direct interaction with the participants during the interview could make them vulnerable to personal risks during the interviews. The researcher should strive to make the participants feel comfortable and communicate freely during the interviews (Brown & Danaher, 2019). To make the meetings comfortable for the participants, I agreed on the convenient meeting time and choice of digital communication tools most convenient for them for the interviews. For each interview session, we followed the interview protocol in Appendix A and started each session with a reminder of the confidentiality of participants' data and their freedom not to answer any question and could withdraw their consent at any time. The participants understood they could ask questions anytime during the interview and got copies of the interview summary to validate the data they provided.

Ethical Research

Educating the research participants on how the data they provide could be used is essential. The participants are to decide their level of involvement in the research based on their appreciation of the research goal, the research process, and the related risk-benefit of participating in the research (Beardsley et al., 2020). The participants in this study understood the purpose and structure of this research and signed a consent form to signify their readiness to participate. Organization leadership also signed a research agreement between the university and the organization. The participants understood they

could withdraw their consent at any time by making this acknowledgement to me, including deciding not to answer some interview questions.

Engaging with participants could expose them to some risks and benefits from the research. The U.S. federal regulations on research involving humans stipulate that reasonable justification that is ethically justifiable should be made on the research risk and attendant benefits to the participants (NCPHSBBR, 1979). There should be a reasonable balance between the research risk and benefits. The ethics committee considers the direct and indirect benefits to the participants for participating in the research in justifying the social benefits of the research (Rennie et al., 2019). The researcher needs to ensure the research design includes adequate consideration of the risk-benefit profile of the research to the participant and the public. I received approval from Walden IRB to collect and analyze data for this research design under approval number 06-29-22-113549. There were no incentives provided to the participants in the research.

As part of mitigating participants' risk in this research, the participant details were masked, and they understood the data handling techniques in the research. Researchers should create adequate time for participants to understand what they consent to in the research and how their records will be used (O'Sullivan et al., 2021). I followed the interview protocol in Appendix A at each engagement with the participants to ensure their understanding of the data-gathering process and to preserve their confidentiality. I used the pseudonym of Iroko to represent the name of the organization in all the research documents and communication. I also ensured that participant details were undisclosed

by using a random identifier and not including any personally identifiable information in the research documents. I used Participant 1, Participant 2, Participant 3, Participant 4, Participant 5, and Participant 6 to identify each of the participants in the research.

The research data were organized, preserved, and archived for ease of secure access when needed. It is the duty of the researcher to protect the participants and ensure adherence to the research process (Cumyn et al., 2019). I followed the ethical principles outlined in the Belmont Report to ensure fair treatment of all research participants, respect for the persons involved, and mitigating attendant risks. I will store all research data in a protected folder storage location for 5 years to preserve participants' confidentiality and thereafter destroy them.

Data Collection Instruments

Key Instruments

I was the primary data collection instrument for this research, and my primary sources of data were the participants' semistructured interviews and the client organizational documents analysis. Qualitative case study research usually involves semistructured and guided discussions with the participants to obtain rich information on the research questions while maintaining a friendly interview atmosphere (Yin, 2018). The researcher can collect rich data from the participants through the effective use of open-ended questions in a semistructured interview (Yin, 2018). The research participants can share extensive and broad knowledge across multiple domains in response to open-ended questions (Chauhan, 2022). I prepared actively with carefully worded and practiced questions to get the best value from the participants at each

interaction. Semistructured interviews include the added opportunities to obtain a very close representation of the phenomenon while interacting with the participants; the researcher can also understand multiple realities from the interview process (Stake, 1995; Vindrola-Padros & Johnson, 2020). I obtained most of the research data from the interview with the participants.

In addition to the semistructured interviews, the company documents were useful for validating information from the interviews, gaining further research data, and for effective data triangulation to enhance the research data quality. I collected and reviewed the company's strategic plans, financial statements, and curriculum development plan. The study data for this research comprised (a) semistructured interviews with the organization leaders; (b) public data, from the company's website and other public websites; (c) internal data of the organization such as financial records, operational documents, management artifacts; and (d) literature, comprising peer-reviewed articles, books and other relevant research findings about practices and strategies that are relevant to the study topic.

Data Collection Process

The target population for this study was senior leaders of Iroko (pseudonym), located in the western United States, who have implemented a successful innovation strategy to educate and enhance users' capabilities in a fast-changing market. I collected data from the senior leaders using semistructured interviews. Before each interview, I shared copies of the interview protocol (see Appendix A) and the interview questions (see Appendix B) by email with the participants to aid their preparation and to provide

preliminary information by email ahead of the scheduled interview sessions. Using an effective interview protocol is good practice for engaging research participants and for enhancing the research quality (Wohlfart, 2020; Yin, 2018). I followed the steps detailed in the interview protocol using either Zoom or Microsoft Teams conferencing tools for the scheduled interview sessions. Archibald et al. (2019) noted that interview conferencing tools like Zoom facilitates building the proper connection and rapport with participants while providing suitable security options to safeguard participant information. Using Zoom and Microsoft Teams, I had very interactive and productive sessions with the participants. After each session, I followed up with the participants to have a member checking and transcripts validation session to validate the data received.

Member Checking and Transcript Validation

Member checking is an opportunity to discuss preliminary findings, meanings, and thematic content with the participants to validate researcher analysis of data participants provided and confirm the accurate interpretation of the data. The member checking process allows respondents to confirm, refute, or update the information they provided, validate the researcher's interpretation, or provide an alternative narrative (Lincoln & Guba, 1985; Motulsky, 2021; Stake, 1995). Hence, through this process, the research findings correctly reflect participants' views, experiences, and understanding. A typical member checking process includes (1) the researcher reviewing and interpreting the interview transcripts, (2) preparing a concise one-paragraph synthesis summary for each interview question, (3) providing participants with a readable and preferably printed copy of the synthesized response for each interview question, (4) confirming the accuracy

of synthesis with participants or gathering additional input and disclosure for most accurate understanding, and finally (5) continuing the member checking process until no new information is disclosed (Marshall & Rossman, 2016). Following the member checking process, the researcher should not present a biased, partial, or inaccurate representation of the phenomenon (Motulsky, 2021). When the researcher and the participant disagree and cannot reconcile their positions on conclusions and interpretations reached, Yin (2018) recommended that the reports remain inconclusive until the researcher obtains enough further saturated evidence to validate the findings. I followed Yin's, Marshall and Rossman's recommended process of articulating the interview summary and engaging with the participants until we mutually agreed on the final outcome by updating the findings where necessary or accessing further information to validate differences to attain a mutual agreement.

In addition to using the member checking process to sustain the validity of qualitative research findings, it is also a reflective opportunity for the participants (Candela, 2019). Hence, researchers can enhance participants' positive experience as they reflect on the interpretations of the research data that they provided during the interview. Through the reflective benefits of member checking process, participants can gain new insights to improve their performance (Motulsky, 2021). Research participants validated their data during the member checking process and gained further insight that could enhance their performance and advance their careers.

Data Collection Technique

The data sources for my research comprised (a) semistructured interviews with the organization leaders; and (b) organizational documents that included: management artifacts, public data from the company's website, and other public websites. I collected data primarily through remote semistructured interviews. Semistructured interviews offer opportunities for rich dialog and building rapport with the participants to understand and evaluate their decision process (Brown & Danaher, 2019). The semistructured interview is suitable for collecting rich study data in a single case study. I recorded each session with the participants in line with a predefined interview protocol (Appendix A) to ensure accurate understanding, transcription, and subsequent validation of data collected from the participants. Besides the semistructured interview, I reviewed the organization's relevant internal and publicly available documents.

Each of the data collection techniques includes some merits and demerits. Participant interviews provide the opportunity for a firsthand understanding of current and rich information about the phenomenon from the participants (Yin, 2018). The researcher can obtain a deep understanding of the phenomenon from the interview setting. The face-to-face or remote discussion makes it possible to build rapport and understanding through open dialogue and follow-up discussions for a deeper understanding of the study artifacts (Reñosa et al., 2021). Furthermore, though all participants answer the same question in a semistructured interview, the researcher has the opportunity to ask a follow-up question to gain deeper meaning from the participants' unique insights (Marshall & Rossman, 2016); hence, the preference for semistructured

interviews as the primary data collection technique for this study. A demerit of a semistructured interview is the required length of time for collecting, transcribing, and analyzing the interview data (Yin, 2018). Furthermore, the participants could provide partial, incomplete, or inaccurate information that could impact study findings (Kaliber, 2019), or they could fall into the challenges of providing a biased position (Yin, 2018). However, I mitigated these risks using effective data triangulation techniques, member checking, and appropriate technology support for efficient data collection and analysis.

The medium for collecting the remote data can pose challenges for the participants. Participants can be overwhelmed getting used to conferencing tools like Zoom (Reñosa et al., 2021). Researchers need to accommodate participants' understanding of the conferencing tools in the interview plan. I agreed with the participants on the choice of Microsoft Teams as the primary technology tool for the interviews based on their preferences and using Zoom as a backup technology tool. Although remote data collection is not a replacement for the in-person interview, it has significant cost reduction and accessible benefits and enhances the inclusiveness of diverse participants in the research (Reñosa et al., 2021; Thunberg & Arnell, 2022). I effectively used the technology tools for conducting the interviews, recording interview sessions, transcribing them, and member checking them with the participants for validation before and during the data analysis process.

Besides the semistructured interview, I also collected and reviewed the company documents after the IRB approval as part of the data collection technique for this study. Working with documents is less expensive than a semistructured interview, does not

involve scheduling, and a large volume of data can be accessed; however, they also include the disadvantage of record-keeping gaps and difficulties identifying pertinent documents (Cardno, 2019). I mitigated the risk of sourcing appropriate and adequate study data by collating the relevant financial records, strategic management policies and processes, and other relevant records relating to the study topic. I kept these records up to date and validated them with the information from the semistructured interviews.

Data Organization Techniques

The research data for this study, sourced from participants' interviews, company documents, and research journals, were securely organized for easy retrieval, analysis, and safeguarded. Researchers design and follow a data management plan to ensure data preservation and ease of access to the data throughout the research duration (Antonio et al., 2020). I recorded interview sessions with participants using Microsoft Teams, transcribed them within 24 hours after each interview, and member checked them subsequently with participants to re-confirm their comfort with their submissions. I also kept manual notes of the meetings and did reflective journaling as new understandings emerged from the data. Researchers need to keep an active reflective and interpretative mindset as the primary research instrument in qualitative research to accurately represent the emerging realities from the research data (Stake, 1995; Yin, 2018). The use of NVivo software and Microsoft Word to organize the emerging data from the research made it easier than manual approach to review, analyze, and reflect on the research data.

Organized data would be easier to analyze. Researchers can easily use and reuse properly organized and de-identified data and preserve them long-term (Palsdottir, 2021).

I stored the interview data, including the audio recordings and transcripts, and scanned meeting notes in a secure folder on my laptop computer and securely backed them up in the cloud. I maintained ordered subfolders within the primary research folder for easy access to the data.

It is also essential to ensure the confidentiality and security of the stored data. Researchers can minimize risk to participants through secure storage of electronic data (NCPHSBBR, 1979) and leveraging appropriate information management system tools (Senagi & Tonnang, 2022). I effectively separated my research data into a confidential database in a computer folder with secure access. I will secure all the hard copies of the research data in a secure cabinet at home. Following Walden University's (2021) requirements for maintaining the research data, I will delete all the electronic copies and destroy all the hard copies after 5 years.

Data Analysis

Researchers have a wide choice of tools and techniques for data analysis in a qualitative study. Using a practical data analysis approach, they build meaning from research data and articulate the understanding for the target audience (Cooksey & McDonald, 2019). One of the techniques for data analysis used in this study is data triangulation. Researchers can enhance study credibility using triangulation by involving different research methods and data sources to validate findings and gain a holistic perspective of the phenomenon (Liu et al., 2021). The researcher makes the final decision for the logical arrangement of data and interprets the final output of the data from various analysis tools (Yin, 2018). The researcher wields a significant influence on the study

outcome as the research instrument (Soh et al., 2020) and needs to sustain neutrality in interpreting research data. The objective of the analysis is to progressively make sense of the study data and relate them to the study outcome (Stake, 1995). A logical arrangement of the data enhances study credibility. This study involved synthesizing and doing data triangulation with interview data, company operational documents, company financial statements, and information from the company website to validate the research findings.

There are multiple qualitative data analysis processes that facilitate credible research. Yin (2018) provided a 5-step analysis process involving: (a) compiling, (b) disassembling, (c) reassembling, (d) interpreting, and (e) concluding. Also, Bergeron and Gaboury (2020) proposed a similar three-stage approach involving: (a) coding stage, (b) matrix query stage, and (c) validation stage. Similarly, Williams and Moser (2019) recommended coding to be done in three stages: (a) open coding, which involves identifying different emerging themes; (b) axial coding, which involves a continuous review of emerging themes from data to establish relationships and to categorize the themes; (c) selective coding that involves selecting and integrating the categorized theme to form a case story. For this study, I adapted Yin's approach and continuous review suggestion from William and Moser to a modified 5-step model involving: (a) compile, review, and code research data; (b) categorize data in themes; (c) iterate, interpret, and streamline the themes; (d) select themes that answer research questions; and (e) evaluating alternative themes.

The analysis started with a thorough review, organizing, and coding of research data for ease of analysis. Appropriate coding of the research data facilitates ease of

review to get a deeper understanding of the data (Williams & Moser, 2019). Software tools make data coding and analysis easier and more efficient. Dalkin et al. (2021) noted that computer-assisted qualitative data analysis software (CAQDAS) like NVivo facilitates managing data from multiple sources, capturing discussions leading to theory generation, and provides an adequate trail of all reflections on the data for ease of use in future refinements. I entered the thoroughly reviewed research data into NVivo and maintained them in a Microsoft Word document also.

The next steps were identifying, interpreting, and refining the emerging patterns and themes from the coded data. Developing themes involve an iterative process to get the subjective meaning and context of the research data (Vaismoradi & Snelgrove, 2019). I reviewed the compiled research data to identify themes and followed on to refine and streamline the themes using a deeper understanding of the compiled research data, literature review, and the conceptual framework for this study. The NVivo software also helps in identifying emerging patterns and themes from the research data (Bergeron & Gaboury, 2020). I related the themes to existing literature and the conceptual framework to develop strategies for organizations to thrive in a fast-changing market.

Reliability and Validity

Researchers enhance their study quality through adequate attention to reliability and validity in the study design and implementation. Yin (2018) identified construct validity, internal validity, external validity, and reliability as measures of research design and outcome quality. A valid and reliable study includes significant potential for

enhancing understanding and service delivery (Coleman, 2021). I took adequate measures to ensure that the outcome of this qualitative study is reliable and valid.

Reliability

A study is reliable when the research process and findings can be replicated. The reliability concept relates to the replication of the study results (Yin, 2018). In a case study, researchers can demonstrate the dependability and reliability of the research through the use of multiple sources of evidence, triangulation, and member checking (Quintão et al., 2020). Providing details of the data collection process that meet the reliability criteria enhances the study quality. Using audio recordings and complete interview transcriptions are dependable procedures that enhance study reliability (Coleman, 2021). I followed a rigorous process of audio recording, transcribing the details of the interview, providing summaries for the participants to validate, and storing the data in organized and secure electronic folders that are accessible. I also used NVivo software to code and analyze the study data consistently, which provided a trail from the study data to the findings. Peterson (2019) noted that reliability implies following a consistent approach to measuring, interpreting, and evaluating the study evidence. I followed a consistent process of progressively collating, analyzing, interpreting, and member checking the study data and findings with the participants to enhance the study's reliability. I had regular weekly interview sessions with the participants based on their availability. I summarized the outcome of each session and shared with the participants to review and validate ahead of our subsequent meeting sessions as part of the member checking process.

Validity

A research finding is valid when the research process and outcome are appropriate for the study claims. The validity concept refers to how correct or credible the research details, research findings, interpretations, and explanations are (Maxwell, 2010).

Furthermore, Yin (2018) expanded validity into (a) construct validity to determine how accurately the measures in the case study reflect the theory being studied, (b) external validity relating to how much of the study findings can be generalized analytically to other contexts outside the original study, and (c) internal validity to illustrate the veracity of the causal relationship within the study, which is enhanced by the absence of other spurious relationships that could invalidate the relationship. Researchers need to design and implement a valid research approach to enhance the trustworthiness of the research findings. Research designs that include triangulation, audit trail, and reflexive analysis enhance the research's transferability, dependability, and confirmability (Singh et al., 2021). An effective triangulation approach can enhance the trustworthiness of the research for ease of external generalization of the findings.

I followed methodical triangulation in this research and kept a transparent record of the study data for ease of transferability. Sourcing qualitative data from multiple sources using different methods enhances the study's rigor (Coleman, 2021). I also followed a diligent reflexive analysis by outlining the potential sources of bias in the study and actively reflected and mitigated them in the research process to enhance the confirmability of the study. Furthermore, I used an adequate audit trail and software tool to code and manage the data to enhance the study's dependability as explained in the

Reliability component. Trustworthy research can be assessed on the measures of credibility, transferability, dependability, and confirmability (Lincoln & Guba, 1985). I took adequate measures to address these four criteria in the design and implementation of this study to enhance its construct validity, besides the internal and external validity.

Credibility

I used methodical triangulation to compare responses received during member checking to validate additional themes that came up during the thematic analysis of the study data to sustain the credibility of the study findings. A qualitative researcher can achieve credibility when other researchers can reproduce same results following the study design, the results are believable, and accurate views of participants (Haven & Van Grootel, 2019). Research credibility is attained by following professionally articulated study methods and mitigating bias in data collection and analysis (Yin, 2018). As part of the member checking process, I recorded and transcribed all the interview with participants and thereafter provided summary of the discussions to the participants to confirm, correct or provide further information if needed.

Transferability

Business leaders or researchers who plan to adapt research findings to their context need to confirm that the research result applies to their situation. Research transferability involves users of the research determining if the study findings apply to a similar situation, also known as external validity (Ferrando et al., 2019). The researcher enhances the transferability of the research by providing adequate contextual information to help readers determine if the results apply to their context (Johnson et al., 2020;

Lincoln & Guba, 1985). Hence, research with rich contextual information could enhance readers' utility and value of the research finding. It is however not advisable for researchers to claim transferability of their research but should encourage readers to assess if the research is transferable (Lincoln & Guba, 1985; Marshall & Rossman, 2016). I expect the users of this study to decide on the transferability of the findings.

Confirmability

The research outcomes should accurately reflect the phenomenon studied. Confirmability relates to the verification that research data from participants and their analysis reflects what participants wanted to say or a confirmation that the study portrays the phenomenon studied sufficiently (Hayashi et al., 2019). Throughout the study process, I enhanced confirmability by probing participants during interviews to understand them accurately, performing member checking and methodological triangulation. Researchers attain confirmability by providing detailed description and citations showing a clear connection between the study data and the findings (Stenfors et al., 2020). I recorded, transcribed, and analyzed data received from participants in our various meetings to ensure adequate traceability of the data to the study findings.

Data Saturation

To support the quality of my doctoral study, I achieved data saturation prior to ending the data collection process. Researchers need to know the data saturation point in a qualitative study to ensure the credibility and validity of the research data and to avoid collecting further needless research data (Mwita, 2022). Data saturation can be achieved through triangulation, quality of the respondents, length of data collection sessions, and

progressive interpretation of data (Alam, 2021; Mwita, 2022; Stake, 1995). Data saturation is attained when no new information is being added to the database, respondents provide the same answers as previous respondents, and there are enough data future researchers can leverage to replicate the study (Benozzo & Gherardi, 2019). Researchers could save significant research effort and, at the same time, produce a high-quality study by planning the study to attain data saturation relative to the study questions.

Transition and Summary

Section 2 contains the details of the research design and process plan for this qualitative single case study. I identified the study participants and included explanations of the measures I took to protect the research participants and storage of the study data. I articulated the role of the researcher as the primary data collection instrument, acknowledged the risk of bias and provided risk-response plan using self-reflexive, member checking and data saturation techniques to mitigate the risk of bias. I also provided justification for the research method and design, addressed ethical considerations, covered data collection and analysis techniques, and how to ensure the reliability and validity of the of the study. The participants comprise the leadership team of the strategic training unit of Iroko. I continued data collection using semistructured interview and member checking until I attained data saturation.

Section 3 includes the presentation of my research findings, their relationship to my research topic, and their potential applicability to professional practices and for enhancing positive social change. I will include analysis of the key data provided by the

participants using the Baldrige Excellence Framework organizational profile. I conclude with recommendations for actions and further research, and conclusion for the study.

Section 3: Organizational Profile

Iroko was the technology manufacturer partner for this qualitative single case study. The purpose of the study was to explore strategies technology manufacturing leaders use to educate users on how to make optimal cloud technology selection decisions for their organizations during periods of rapidly evolving innovation. I used specific interview questions (see Appendix B) to explore Iroko strategies. In addition, I used the BPEP (2021) Baldrige Excellence Framework for a systemic study and analysis of the company. The BPEP is an adaptable systemic tool for understanding and enhancing the overall performance of the organization (BPEP, 2021). The use of BPEP involves investigating seven critical performance areas comprising: leadership; strategy; customers; measurement, analysis, and knowledge management; workforce; operations; and results (BPEP, 2021). Using the framework provided the rich context for understanding Iroko's strategic perspectives and performance outcomes and for articulating strategies to address gaps noted.

The information in this section includes the outcome of detailed study of Iroko's leadership strategies, review of their processes and procedural documents, and measurement of organizational performance using the Baldrige Excellence Framework. Critical information on an organization's current situation, performance gaps, and improvement strategies can emerge from the use of Baldrige Excellence Framework for systemic understanding and assessment of the company (Abasiattai & Ahmed, 2020). The themes that emerged during the data collection and analysis using the BPEP and RBV conceptual framework for the study, validated through member checking and

methodical triangulation, suggested that technology leaders can educate their users to make right technology choices through (a) strategic customer intelligence, (b) credible agnostic cloud education, and (c) socially responsible involvement in the cloud industry ecosystem.

Key Factors Worksheet

Organizational Description

Iroko company is a technology product manufacturer and service provider located in western United States. The company was established in 1968 and is one of the leading technology providers stretching the Moore's law of doubling computing power every 18 months while reducing the cost of computing (see Hu, 2022). Iroko became a top global brand by providing critical hardware ingredient every computer needs, and hence sustained superior margin other players could not match through scale and brand visibility. The company makes over \$80 billion in annual revenue providing critical hardware components for personal, corporate, and cloud computing needs.

The migration to cloud computing is disrupting the business model of computer hardware manufacturers as the computer hardware are aggregated in the cloud and no longer uniquely visible to users, developers, and decision makers. The manufacturers find it difficult communicating unique value proposition for their superior hardware products that are abstracted to the cloud to their customers. Organizations such as Iroko face significant risk of adverse impact to their brand visibility and customer loyalty like many other strong technology brands experienced when their customers migrated to the cloud (see Kocaman et al., 2020). In response to the risk, Iroko conceived a strategic training

unit (IrokoSTU). The goal of the unit is to champion educating and influencing strategic users and organization decision makers on how to make optimal decisions when choosing cloud solutions and environments. As these users get trained, they will become better informed of the superior value proposition of Iroko hardware products that are embedded in the cloud infrastructure. Iroko's strategy involves using strategic knowledge transfer, supporting client technology change management process, and fast response to changing market and customers' needs to remain competitive. The strategy aligns with the purpose of this research to explore strategies technology manufacturing leaders use to educate users on how to make optimal technology selection decisions for their organizations during periods of rapidly evolving innovation.

Organizational Environment

Product Offerings. IrokoSTU provides training and certification on cloud technology to employees, sales team, partners, students, developers, leaders, and decision makers of user organizations. The training is structured primarily as on-demand eLearning courseware delivered at the Iroko portal and facilities, through various partners' LMS platforms, and can be extended to regular undergraduate and technical schools curriculum contents. The courseware includes video training delivered by experienced Iroko professionals and practical training sessions structured at three proficiency levels, which is the common industry standard.

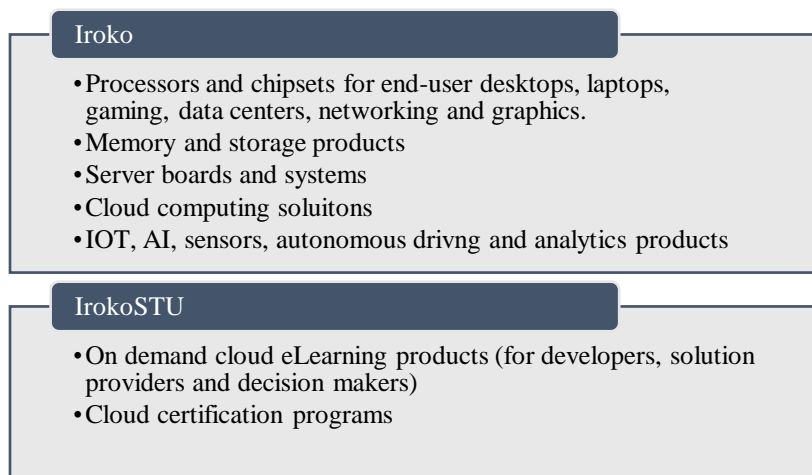
Following the completion of the courses, the trainees can sit for certification exams to earn industry-recognized cloud certifications. Trainees can take certification exams either through Iroko's learning center or online at various certification partner

centers operated by Pearson VUE. Iroko plans to conduct regular live programs and boot camps in future to provide accelerated trainings to users and partners, and to prepare them for certification exams.

The purpose of the training and certifications is to make the trainees knowledgeable about cloud technology and capable of making informed cloud decisions to get the best value irrespective of the cloud provider. The IrokoSTU trainings and certifications would help Iroko's brand remain visible to the strategic users and retain leadership and superior margin in the cloud computing era where hardware components are no longer visible to the users. Iroko leaders use the strategic cloud training to scale and broaden the reach of the company's sales team. The trained professionals and decision makers would have deeper understanding of the strategic advantage of Iroko products and services that drive the cloud technology. Figure 2 includes the list of key products and services of Iroko and the IrokoSTU.

Figure 2

Iroko and IrokoSTU Key Products and Services



Mission, Vision, and Values. The vision of IrokoSTU is to make training and education a competitive differentiator for Iroko in the cloud ecosystem. The mission is to have tens of thousands of industry professionals and students trained in IrokoParent technology in the cloud.

Workforce Profile. The IrokoSTU workforce comprise internal staff responsible for developing, managing, and delivering the curriculum. The internal workforce includes the curriculum strategist, program managers, instructional designers, video editors, script writers and exam writers. This internal workforce collaborates with the external authors, who are the subject matter experts, to prepare and deliver course content.

The course instructors are cloud technology experts who are familiar with the respective industry and business use cases at the solution level. The instructors are trusted by customers and are aligned close to customer locations. These course instructor resources are not owned by IrokoSTU but reside within Iroko's other subunits and departments. Having a very experienced pool of course instructors who understand users' needs is a significant advantage for IrokoSTU but also introduces the challenge of managing resources outside its control in the pursuit of its mission, as these resources are not under direct control of IrokoSTU.

Assets. IrokoSTU assets include completed curriculum, catalog of developed training contents and certification exams. The courseware is delivered through the company's facilities, training partners' LMS, and third-party certification centers.

Regulatory Requirements. Iroko is a publicly held company, and the stocks are traded at the stock exchange. The company is required to make its consolidated financial

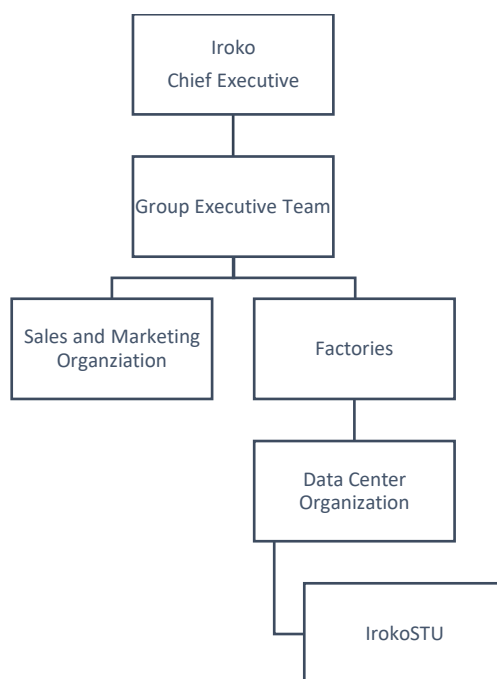
statements prepared in conformity to U.S. Generally Accepted Accounting Principles and other supplemental details publicly available as a publicly traded company. IrokoSTU is a unit of Iroko and does not have additional regulatory requirements.

Organizational Relationships

Organizational Structure. IrokoSTU is structured like a publishing organization that leverages Iroko subject matter experts for developing and delivering cloud training contents and for developing certification materials. The unit is structured to leverage internal and external resources to provide vendor agnostic training on cloud computing technologies covering details of available cloud architecture, resources, products, services, and solutions, and how they are implemented across diverse CSP platforms.

Figure 3

High-level Organizational Structure for IrokoSTU



Customers and Stakeholders. Iroko is a global company that designs, manufactures, and provides essential computing hardware components and solutions to computer and other manufacturers that need critical computing components for their devices. Iroko customers build the final products for their end users on top of the critical components provided by Iroko. The largest customer segments of the company operate from China and the United States. Figure 4 includes the broad categories of the segments Iroko customers operate in, and Figure 5 contains locations of the key customers. In the traditional computing model, the end users ascribe superior brand value to computer and other technology products built using Iroko components because the hardware components are visible to the users. IrokoSTU leaders are using strategic training to educate users on the value of abstracted hardware in the cloud environment.

Figure 4

Iroko Customer Segments

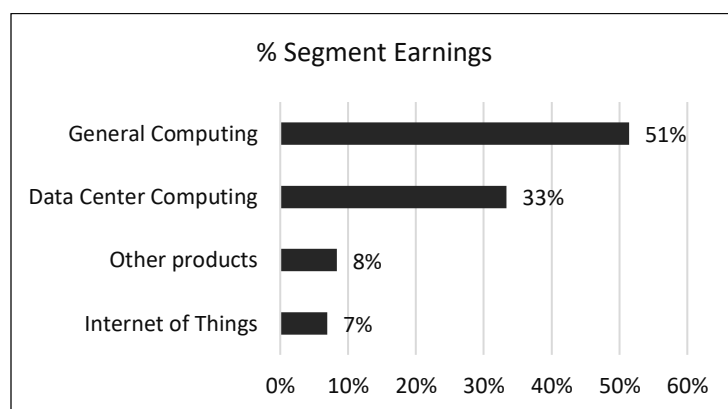
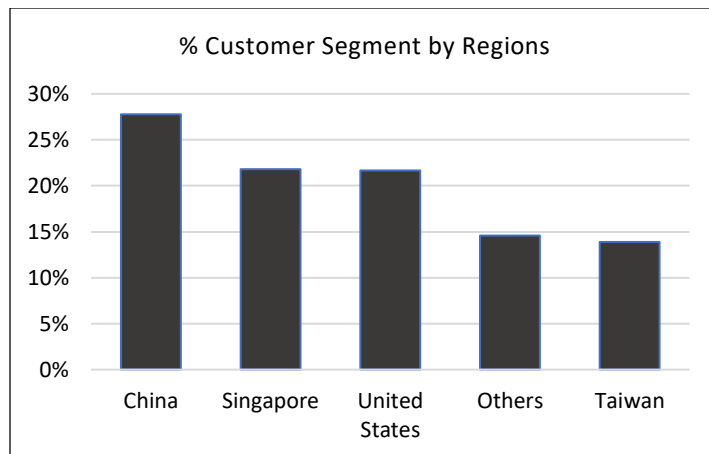
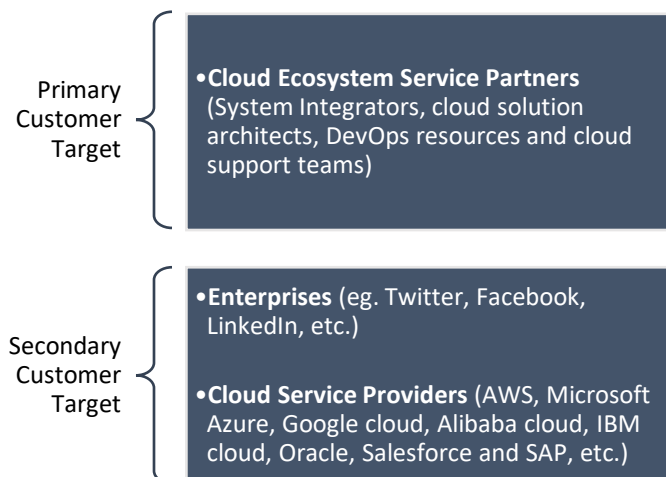


Figure 5*Iroko Customer Segments by Regions*

The primary customer target for IrokoSTU are the cloud ecosystem partners comprising the technical resources delivering the cloud solutions such as Accenture and Deloitte. While the secondary target are the enterprises that use cloud services and the CSPs like the Amazon Web Services (AWS), Alibaba cloud, IBM cloud, Oracle, Salesforce, and SAP. The groupings of the cloud ecosystem service providers are based on the nature of services the cloud technical professionals provide. The cloud ecosystem technical professionals comprise the cloud solution architects (CSAs), DevOps resources and cloud support teams. Figure 6 includes the summary of the target customer groupings of IrokoSTU. The key stakeholders working with IrokoSTU in delivering the training and certification to the target customers are the broad sales team and subject matter experts of Iroko organization and various partner organizations delivering different aspects of the technical and user experience management.

Figure 6*IrokoSTU Primary and Secondary Customer Groups*

Suppliers and Partners. IrokoSTU collaborates extensively with third party organizations that have proven capabilities on managing different components of learning platform development and managing the content delivery to the customers. The partner organizations and professionals support the development of the LMS, developing exams, and conducting tests for learners. The partners also help in developing and managing lab environment for the trainings. The strategic benefit IrokoSTU derives from collaborating with diverse partners is to leverage their knowledge and experience in instructional design to attain and sustain the best industry standard for learning experience. Table 2 comprises details of the key suppliers and partner organizations working with the unit in their user education and certification service delivery.

Table 2*IrokoSTU Suppliers and Partners*

Type of service	Key partners	Descriptions
Learning management system	Docebo	<ul style="list-style-type: none"> • Learning management system providers • Facilitates delivery and user experience management.
Exams, certifications, and quiz development	Pearson VUE SweetRush	<ul style="list-style-type: none"> • Develop module exams and quizzes. • Conducts testing for learners in their learning centers or online through their proctors
Virtual learning lab	Skillable	<ul style="list-style-type: none"> • Develops and hosts virtual lab
Other LMS services and content development	Contractors Prime8 DataProtocol	<ul style="list-style-type: none"> • Instructional designers • Video editors • Creative directors • Script writers

Organizational Situation

This study is focused on addressing the general business problem of misaligning the prioritization of technology manufacturers' innovation outcomes to users' capabilities during rapid technology changes. The movement of computing power to the cloud means the users and developers no longer have visibility of the innovative hardware components and architecture the CSPs deploy to make the computing services available to them. The cloud services providers offer significant flexibility to computer users through cloud computing service model, and the model involves abstraction of the underlying computing hardware (Terneborg et al., 2021). Developers and users may be significantly ignorant of the major changes and innovation on the underlying technology hardware in the cloud without education by the CSPs or the cloud hardware manufacturers. This could

lead to significant gap between the advances in the underlying cloud hardware technology innovation and capabilities users can actually use.

Iroko noticed this potential gap and started the strategic initiative to educate different categories of users including the decision makers on the fundamentals of cloud computing beyond the regular knowledge the solution providers make available for users of their platforms. Providing this platform-agnostic industry standard education helps users, developers, and decision makers have informed knowledge of capabilities available across different cloud platforms. The knowledge helps users make the right cloud buying decisions and helps the cloud hardware manufacturers align their innovation to changing customer needs and helping them learn new innovations in the cloud underlying technologies.

Competitive Environment

Competitive Position. Iroko operates in the industry that provides customers the silicon chips and accompanying software solutions to facilitate computing, storage, and networking for data center operations and other computing services. The industry comprises large global players, new entrants providing niche solutions and CSPs offering internally developed solutions to target customers. Iroko is a dominant player in this silicon chips manufacturing and software industry. However, IrokoSTU, the strategic education unit to sustain the Iroko brand in the cloud computing model is a new entrant to the cloud education industry.

The dominant players in the cloud education industry comprise AWS, MS Azure, and GCP. These dominant players define the industry standards and provide training and

certification exams that some hiring managers prefer over college degrees for cloud technical jobs. Other major players in the sector include Alibaba Cloud, VMWare, Oracle, IBM, Dell, Cisco and Nvidia. In addition to the major players, Massive Open Online Course (MOOC) providers like Coursera, Udacity, and CloudAcademy also provide significant cloud education and certification programs. Compared to the industry leaders and other major players in the cloud education industry, IrokoSTU is relatively a small upstart challenger in the industry with a limited track record in the sector.

IrokoSTU competitors such as AWS, MS Azure and GCP provide the actual cloud services they train and certify their users on. The competitors train the users on their unique cloud services and solutions. IrokoSTU does not provide cloud services directly to the target customers they train. The target customers do not traditionally expect cloud training from vendors other than their native CSP. In a bid to overcome the challenge of providing cloud user training as a non CSP, IrokoSTU broadened their cloud training education to cover services provided across different CSP platforms. Hence, an IrokoSTU trained and certified professional would not need further certification to be engaged or work with different CSP platforms. Strategic positioning as an agnostic cloud training provider for knowledge that can be applied across multiple cloud environment could benefit people that work across multiple environments and help leaders make optimal decision on cloud technology adoption.

Competitiveness Changes. IrokoSTU leaders noted sustained significant growth in the number of managed services provided in the cloud with largest potential growth expected in the SaaS solutions. Companies are switching to service model where they pay

monthly fee for cloud-based solutions from infrastructure model of building own solution. IrokoSTU is positioning to support this growth through strategic education services.

IrokoSTU engaged the services of experienced psychometricians, certification specialist organizations like Pearson VUE and other industry experts to facilitate positioning the company as industry leader in the sector. Furthermore, the company receives comparatively significant internal funding to position the unit for rapid growth.

Comparative Data. The industry scan conducted by IrokoSTU leaders using the services of a professional market research company shows a common pattern of training providers in the industry segmenting their certifications along the lines of tiers and roles. The predominant tiers comprise three tiers of foundation, associate, and professional levels, while the cloud architect and cloud developer are the common roles segments broadly covered in the training. The comparative market data also shows that other providers charge the candidates examination fees for certification based on these tiers and roles. The industry players charge either annual subscription or onetime payment model or both to the learners for the training and certification exams.

Some players in the industry also partner with education publishing companies such as Pearson for the learners to download training contents from the company's e-market place to prepare and pass the certification exams. Partnering with different types of companies is a common practice in the industry. Most training providers in the sector partner with online proctored testing providers, digital credential providers, IT career development platforms, and MOOC. The players in the industry also make significant

effort to sustain the quality of the training to the learners. Some providers like Microsoft and Google offer beta certification exams to select target audience at a discounted fee to gather feedback and statistics to enhance the product quality before releasing them to the larger market. The final products usually include adequate components to ensure excellent user experience like the sample of examination questions, personalized learning path in the form of a dashboard, virtual live sessions, onsite training, recorded contents, hands-on lab sessions, simulations, and sandbox for practices.

IrokoSTU uses the services of reputable market search organization to gain the market intelligence for right positioning and service quality to garner competitive advantage. The company is at the early stages of market entry and does not currently have internal historical comparative records for benchmark.

Strategic Context

The leaders of IrokoSTU plan to broaden the adoption of their unique cloud education program and make the program the preferred cloud education program for customers and partners through various elaborate market campaign and product launches in 2023. The leaders expect to significantly scale up the training and certification programs among their partners and other external users. While other cloud education providers have advantage of training users on the services they provide, IrokoSTU faces a precarious situation of providing training on services they do not provide directly, making it difficult to convince the users of other CSP platforms to attend the training. IrokoSTU leaders, however, perceive this positioning as an advantage because it would

save cloud users the headache of attending multiple CSPs' trainings as most user organizations receive cloud services from multiple CSPs.

Iroko is a trusted technology advisor to the CSPs and their customers.

Furthermore, they are also one of the major architects of cloud technology. IrokoSTU leaders believe the track records of Iroko in the industry is a strong context for influencing customers' adoption of IrokoSTU cloud education programs when properly packaged and presented. IrokoSTU is capitalizing on Iroko brand value to launch a bold disruption of the cloud education industry dominated by AWS, MS Azure and GCP.

Table 3

Key Strategic Challenges and Advantages

Domain	Challenges	Advantages
Business strategy	Does not have captive customers to train as company does not provide cloud services to end users like the other CSPs offering user education program.	Iroko provides the underlying hardware driving the cloud and has been trusted technology advisors to CSPs and technology end users.
	Customers are used to receiving cloud education from CSPs	Opportunity to extend premium customer trust to strategic user education product.
Operations	Operates a subunit within the Iroko group and does not have direct control over shared resources	Can leverage the sales team and customer base of the larger group
Workforce	Limited number of staff working directly for IrokoSTU	Higher leverage of experienced consultants and technical resources in the industry

Performance Improvement System

IrokoSTU leaders use the objectives and key result (OKR) framework to align their respective unit activities to the key business objectives. The Iroko team authored this OKR framework which is now in use by many organizations to facilitate planning and tracking objectives set from the perspective of the observable results and outcomes. Before the beginning of the year, IrokoSTU leaders prepare the annual broad goals for the year and break them down to quarterly goals. The leaders subsequently perform quarterly reviews to assess the goals attained each quarter to address and learn opportunities for improvements from noted variances and explore new opportunities towards attaining the defined year end goals. The goals include quantitative measures like the planned number of students to be trained, new infrastructures to be built, new contents to be launched, and qualitative measures include the assessment of customers perception and preferences for the services delivered.

IrokoSTU leaders work with various research organizations to survey and interview customers. Through these customer engagements, the leaders learn customer preferences, types of training they require and their desired quality level to enhance their satisfaction and loyalty. This customer knowledge forms the basis for gauging and measuring performance improvement. The leaders expect to commence a formal process of reviewing the instructional design, the curriculum development process and delivery as they progress in the program and have a better track record of training customers.

Leadership Triad: Leadership, Strategy, and Customers

The leadership category of the Baldrige Excellence Framework comprises leadership, strategy, and customers. This section includes an explanation of the key role that the leadership team plays through their focus on developing and managing the organizational strategy and delivering values that the customers desire and expect. The strategies that leaders define are the basis for the activities and decisions across an organization that enhance performance excellence and quality customer service delivery (BPEP, 2021). From the perspective of RBV, through effective strategic management, leaders can make effective use of the unutilized available capabilities in the organization to sustain their competitive advantage. Effective application of the available resources in the organization is a source of competitive advantage (Penrose, 1959). I studied how IrokoSTU, a strategic business unit of Iroko, emphasizes leadership focus on strategy and customer to achieve performance excellence and competitiveness.

Leadership

The leadership team at Iroko and IrokoSTU lead by example. The leadership team models the corporate strategy, the vision, and the values of the organization to align staff actions and decisions internally, and to enhance the brand image of the organization externally. The leadership team provides the context for driving agile organization culture of the organization through broadly defined objectives and priorities that respective groups and teams within the organization leverage for developing their detailed strategic management. The leadership team also mitigates bureaucracy and keeps the team accountable for their performance in alignment with the defined goals and objectives.

Senior Leadership

Iroko senior leaders comprise the CEO and the vice presidents presiding over respective business units, groups, regions, and corporate services. The executive team reports to the board of directors and is responsible for articulating and implementing corporate strategies in line with the mission, vision, values, and strategic goals of the company. The executives follow a 5-year plan to grow revenue and stockholder value through a culture of execution, innovation, and ambitious capacity expansion. Each business unit has a management team that localizes the broad strategy to their respective unit's mandate. IrokoSTU, as one of Iroko's business units, has a leadership team comprising six senior managers. Table 4 includes the position and role description of the leadership team of IrokoSTU.

Table 4

IrokoSTU Leadership Team

Position	Role description
Unit director	Overall responsibility for unit leadership
Curriculum strategist	Strategy, development, and production
Program manager	Program management
Infrastructure and operations lead	Operations and infrastructure management
Marketing lead	Marketing
Instructional designer	Content lead

Vision, Mission, and Values. Iroko leaders sustain and continue to build on the founders' vision of stretching computing power. Many other organizations in the technology manufacturing industry pursue a similar vision of providing higher computing power through enhanced processors' computing powers and related accelerators to

support the rising demand for AI systems. These AI systems can leverage the massive data available in the cloud and the higher computing power for faster decisions (Ali et al., 2022). Iroko CEO leads the deployment of the company vision across the workforce, starting with a high-level meeting to articulate a 5-year plan in line with the organization's four broad strategic business focus areas. The leadership team communicates the high-level strategy. Based on the high-level strategy, the respective group and unit leaders formulate the group charters, group-level goals, and specific department objectives. The specific objectives are usually revenue based for ease of measurement and benchmarking. The respective subunits create their own key results areas and how to measure outcomes based on the broad strategic goal.

The Iroko team sustains its commitment to the corporate vision of stretching the computer processing power and driving faster cloud computing operations by strategic investment in the IrokoSTU unit to educate users of the available capabilities in the cloud ecosystem. IrokoSTU's unit vision is to make training and education a competitive differentiator for Iroko in the cloud ecosystem. Informed users will be able to recognize the strategic advantage of Iroko hardware components embedded in the cloud. This appreciation of innovative cloud components will enable Iroko to keep producing innovative computing components that users value and can deploy.

The IrokoSTU leadership leverages the broad strategic direction set at the CEO level to articulate yearly and 5-year objectives and key result areas (OKR) to drive the unit operations. The defined unit OKRs include specific objectives, measurable result

areas, and the assigned resource to work on them. Table 5 is a sample template IrokoSTU leadership uses to track their OKRs.

Table 5

20xx Training Infrastructure and Training Roll Out.

	High Level 20xx Year OKRs	Goal
	<ul style="list-style-type: none"> • Launch mobile training 4Q 20xx • Grow Influence by training 100,000 learners 	8/30/20xx 100,000 trained
OBJ 1	Offer defined learning program and related exams	Owner
KR1	Foundation training and certification exams 50%	Name
KR2	Intermediate training and certifications exams 30%	Name
KR3	Setup professional certification platform 100%	Name
OBJ 2	Fast track program acceptance and influence	Owner
KR1	Marketing partner strategy agreed	Name
KR2	Marketing campaign and sales drive 100% done	Name
KR3	Onboard strategic partner 100% completed	Name

Communication. Iroko leaders use various strategies and multiple options to actively communicate with and promptly engage with the team members, customers, suppliers, and all the company's key stakeholders. As a large and multinational organization, Iroko leverages every opportunity to communicate with government institutions and other organizations to promote the company's visions and values and to support the broader enabling business ecosystem.

Internally, the CEO organizes a quarterly meeting to talk frankly with all the staff. In these quarterly meetings, which occur virtually, the employees ask unfiltered questions to the CEO. There are also quarterly meetings at the group level where the group leaders and their teams review the objectives and their related financial implications in more detail. The group also takes time to recognize team member achievements in furtherance

of the goals set to stimulate performance and provide clarifications on any questions. There is also an open forum for the group to freely discuss the objectives, key result areas, and other raised topics. These multiple meetings at different operational levels facilitate a proper cascading of the vision, mission, and values set at the strategic leadership level to the various subunits of the organization. The leadership of IrokoSTU follows a similar group-level communication approach of translating the corporate-level vision and strategy to the subunit level.

Externally, Iroko organizes many partner events. The partners attend these events to hear and discuss the company's strategic directions with the Iroko CEO. The company also has joint presentations with some of its key customers wherever they collaborate on some initiatives. These communications would involve reviewing their scorecards and their joint goals to harmonize the vision and direction. Iroko deliberately ensures, sometimes through formal mutual agreements, that their strategic partners keep them informed, and Iroko also keeps the partners informed of any significant development relating to their joint endeavors.

Mission and Corporate Performance. The leadership team of Iroko and IrokoSTU understand the critical importance of focusing on customer needs in translating the mission to desired corporate performance. The leadership team prioritizes disciplined action and taking an informed risk when solving customers' problems and takes revenue as a reward for meeting customers' important needs. The company starts investing in developing production environments as early as 5 years ahead of the target production date for the market, based on informed trust of what the market will need beyond the

current demand pattern. This disciplined pursuit of investing in the evolving customers' needs and market leadership helps the company to launch products at a premium before competitors design alternatives. The startup of IrokoSTU is also a predictive response to the customers' evolving needs. IrokoSTU leadership team collaborates widely to create content and customer experience to meet the evolving customer needs in the cloud computing hardware-delivery model. The leadership team of IrokoSTU follows the same process of trusting and leveraging an informed understanding of the evolving customer needs to take an informed risk at developing the learning products ahead of the competition.

Stimulating Innovative Environment for Success. IrokoSTU leadership follows the typical project life cycle (PLC) approach in delivering successful products to the market to meet customer needs. The process begins with the leadership team breaking down complex goals into accountable formats that can be measured consistently using the OKR framework. The team then articulates relevant market requirement documents (MRD) covering the opportunity, objectives, and product scope. After the MRD documents are approved, the team prepares a product requirement document and a technical requirement document to guide the development efforts. The curriculum requirement document produced at the end of the planning phase provides a guide for content development. The document includes information on the target audience, the learning objectives, the types of courses, and mapping the instructors to the respective learning development goals.

In response to the volatile environment, the team also follows a typical iterative and incremental agile approach in developing and rolling out curriculum content. Some course modules are released to the market early to gauge market acceptance and feedback. The team leverages the feedback from each release to enhance the product and improve the quality of subsequent modules.

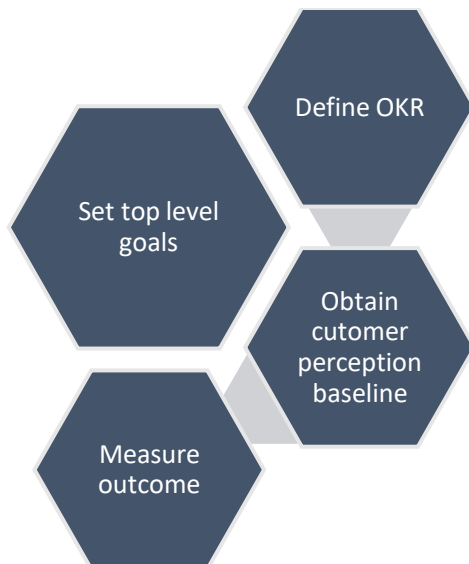
At both the Iroko group and IrokoSTU levels, the leadership team pays particular attention to creating an environment of equity, diversity, and egalitarian meritocracy to stimulate a healthy environment of success. The hiring managers are deliberately trained to mitigate bias in the hiring process, and they source candidates using job specifications with minimal requirements to broaden participation. A team of about five people sits in a recruitment-interview panel using broad criteria to measure different skills and experience to have a team of diverse backgrounds in a role to promote team diversity and inclusivity. The goal of diversity is not just to achieve a target quota but to promote inclusivity and diversity that boosts business performance. Iroko leadership team promotes fun events, scholarship programs, champions programs, and minorities programs to facilitate skills diversity and to broaden merit-based inclusive teams. The company leaders use these team events to broaden the participation of minorities, females, and underrepresented communities in the innovation delivery and promotion of the company's products and services. The Iroko organization focuses more on egalitarian meritocracy, which the company described as paying particular attention to what resources can learn or contribute to the team and not their college degrees.

The company operates a flat structure to provide the frontline staffs easy access to the CEO and senior leadership teams. Furthermore, the CEO and senior leadership team operate from the same floor and use the same shared facilities as the rest of the team as part of the easy access culture to enhance team dynamics. The flat reporting structure enables the company to sustain the culture of openness for ease of sharing ideas and information that enables rapid development and deployment of innovative ideas.

Stimulating Action Focus. IrokoSTU leadership team focuses on measurable actions and related results in pursuing the unit mission and mandate. The breakdown of the mission into top-level goals, which are further broken down into the respective objectives and key result areas, stimulates coordinated action. The unit leadership team also initiates periodic customer surveys to provide a baseline for understanding the customers' qualitative perception of the products and solutions. Periodic numeric measurement of the outcome on the defined OKRs and comparison of the qualitative customer feedback to the baseline provides a basis for stimulating teams' action to success. Figure 7 below is a pictorial depiction of steps the leadership team take to stimulate a focus to action in delivering unit's mission.

Figure 7

Stimulating Action Focus Activities.



Governance and Societal Responsibilities.

The following is a review of the Iroko corporate governance system, including highlights of the accountability framework, response to regulatory requirements, and ethical responsibilities in dealing with the community and stakeholders.

Organizational Governance System. As a public company, Iroko prepares an annual report in compliance with section 13 or 15(d) of the Securities Exchange Act of 1934 each year. The CEO and other members of the company's board of directors sign this annual report, which describes the operations and financial conditions of the company, for the use of the stakeholders and the public. Furthermore, the independent registered public accounting firm provides an independent assessment of how effective the internal control of the company is for providing credible, trustworthy, and fair

financial reports that are included in the annual report by the company. The 10-member board, which is responsible for the company's overall governance, comprises select academia from universities, leaders of partner organizations, significant investors, and executive members leading strategic divisions of the organization. The executive directors provide their respective units' strategic direction and goals to the board for review and approval at the beginning of each year. They follow up with a quarterly update to the board on the progress and changes in the plan for review and approval. IrokoSTU, as a unit under one of the groups led by an executive director, gets the board of directors' oversight through the representation of the director on the board.

The board provides the rallying point for aligning the activities of the various groups and subdivisions in the organization, evaluating their performance, and sustaining ethical behavior. Iroko has an executive sponsor responsible for ethics and compliance. The company takes legal and ethical issues seriously. Because of the organization's size and to sustain compliance culture, the executive sponsor for ethics and regulatory compliance provides a quarterly newsletter to all employees highlighting details of any ethical failures and emphasizing the importance of maintaining high ethical standards. The executives use frequent communication and an exemplary leadership style to sustain an ethical governance system.

Performance Evaluation. The company's management team annually assesses the adequacy of the internal control function for providing credible financial reporting and the overall quality of the control environment. The management team uses the framework issued by the Committee of Sponsoring Organizations of the Treadway

Commission (2013 framework) for the evaluation and reports to the public the evaluation outcome (see COSO, 2013). An independent registered public accounting firm also reports on the effectiveness of the company's internal control system to the public.

Besides evaluating the quality of the control and reporting environment, the respective unit leaders and their teams also measure the outcomes of the group-level targets translated to revenue goals. The company plans to enhance accountability management further using OKR measures on the defined road maps. When fully implemented, various teams can use the OKR system to keep the operational focus on the objectives and track variances from the planned deliverables and road maps.

Legal and Ethical Behavior. Iroko leaders adhere to strong legal and ethical standards and guidelines. Iroko leaders prepare financial statements and annual reports in compliance with the guidelines of the public company accounting oversight board of the U.S. (PCAOB), federal securities laws, and relevant laws of the U.S. Securities and Exchange Commission (SEC). The company provides an annual report on Form 10-K as required by section 13(a) of the Securities and Exchange Act of 1934. Iroko also provides public information on their compliance with Section 13(r) of the Exchange Act, requiring public companies to disclose transactions with individuals or entities subject to the U.S.-specific economic sanction during each reporting period. Furthermore, the company also provides public information on any noted significant deficiencies in the internal control system and any fraud involving any staff member that participates in maintaining the internal control system over financial reporting. These public pieces of information help keep the leadership team accountable to relevant legal requirements for doing ethical

business and help keep the investing public informed on the company's performance on the strategic goals. The CEO and other board members of the company share the responsibility of setting up and maintaining the proper controls and procedures for adequate disclosure as defined in the Exchange Act rules 13a – 15(e) and 15d – 15(e) and maintaining effective internal control over financial reporting as defined in the Exchange Act rules. The company strives to promote the right internal culture to enable effective legal and ethical compliance.

Iroko sustains a culture of strong ethical behavior by maintaining a long-term focus on promoting transparency and integrating corporate social responsibility across all its operations and supply chain. Employees are trained regularly on acceptable ethical practices like an anti-bribery stance in all dealings with government and other organizations and ensuring that the company does not go through a third-party organization that offers a bribe to execute contracts or services on behalf of the company. Iroko also avoids operations in regions and countries where the supply chain process could involve unfair labor practices or environmental damage.

The company leverages technology to inspire corporate and community culture that is inclusive and sustainable. The company leadership promotes responsible business and safety practices across their manufacturing operations spread across many countries. The company executives provide a public report annually on their corporate social responsibility practices, related plans, and progress on the plans for public accountability. Through RBV perspective, organization leaders can build an inspiring positive image for the organization among the employees to stimulate their innovative use of unutilized

resources for improving performance of the company. Employees identify with and promote interest of the organization that is socially responsible beyond their regular official tasks (El-Kassar et al., 2021). Iroko leadership's strong ethical stance and responsible governance are key enablers to optimal engagement of the internal workforce to the pursuit of the corporate vision and mission. The company also strategically pursue active societal contributions.

Societal Contributions. Iroko's overriding goal is to use technology to improve the quality of life on earth and to remain a good global corporate citizen as rapid changes in cloud computing, fifth generation (5G) inspired pervasive connectivity, AI, and intelligent edge computing, accelerate the digital transformation of the world. Iroko invests significant resources to support the implementation of the United Nations Sustainable Development Goals to advance social impact initiatives to the communities across the company's supply chain and the stakeholders. Iroko promotes the culture of developing and working with the local talents where the company is situated to enhance the spread of high-skilled and high-paying jobs across different regions. Iroko leaders and staff invest significant efforts in volunteering to educate organizations, institutions of learning, and disadvantaged groups to help them create pathways to high-paying careers in technology. The company partners with universities and colleges promoting the cause of underrepresented communities to boost their students' participation in engineering and computer science opportunities. Through these partnerships with learning institutions, Iroko promotes merit-based inclusivity, diversity, and broad representations of technical talents in high-paying technical jobs across various communities worldwide.

IrokoSTU also contributes to societal change by actively educating user organizations' technical teams to build their capabilities to make informed and optimal technology choices in the cloud computing operating model. Making the appropriate technology choice in cloud computing enables the leaders of the technology user organizations to minimize waste on cloud infrastructure resources for delivering their customer values and promotes sustainable resource usage. Iroko also leverage its innovation capabilities to manufacture technology components at scale to make the product affordable to a large user base to promote their access to needed digital capabilities to support their lifestyle quality.

Ethical, responsible, and transparent governance, in addition to the exemplary leadership style at Iroko and IrokoSTU, is the leadership model senior leaders follow to sustain competitive performance and stimulate employee engagement. The leadership team has followed these models to consistently fulfill the ethical and legal responsibilities of the company consistently. The company has also, through these practices, made significant contributions to society in its core areas of technology innovation and contributed to advancing sustainable corporate management practices. The prevailing leadership culture and responsible governance stance form the foundation of the strategic management practices of the organization.

Strategy

The following subsections are the description of the approach used by Iroko and IrokoSTU for conceptualizing, developing, and implementing the organizational strategies for delivering customers' and other stakeholders' values. The strategic

management approach follows a cyclical process of identifying opportunities, designing strategic objectives, detailed planning, implementing the strategy, and making relevant corrective adjustments in response to changing market trends or feedback from implementations, as shown in Figure 8 below. The strategic focus of Iroko is to continue to be a leader in the emerging digital technology affecting the world, especially in the era of ubiquitous computing, AI, and big data applications. IrokoSTU is a strategic unit the company conceptualized to ensure users understand and can optimally choose the company's superior computing components as rapid changes engulf the technology ecosystem because of the new cloud computing model.

Figure 8

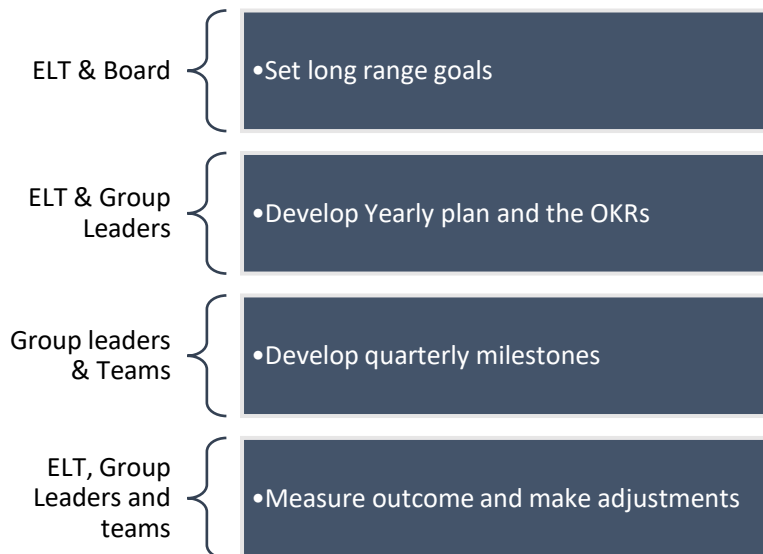
Iroko Strategic Management Cycle



Strategy Development

Iroko board and the executive leadership team provide the broad strategic road map for the entire organization and the various groups and subunits. The company does intense customer surveys and leverage extensive feedback data from the sellers, partners, and customers, analysis of competitors, and market trend to determine the strategic gap to fill in the medium to long term. For instance, the establishment of IrokoSTU micro certifications resulted from the feedback and analysis of unused compute and network resources and capacities noted in the market. Based on the feedback from the respective units and the groups, the executives articulate a long-range plan that the board reviews and approves to guide focused action for delivering stakeholders' values. The approved medium to long-range plan becomes the basis for the detailed strategic planning process.

Strategy Planning Process. The strategic planning process begins with developing the long-range business plan by the executive leadership team (ELT). After the board approves the long-range plan, the ELT works with their respective groups and units to develop a yearly plan incorporating the value propositions, relevant trade-offs, required resources, and related financial outcomes. They link these planning components together into a budget for each year. The budget cycle for each year completes at the end of December, with priorities defined and set for the new reporting period. Respective groups and unit leaders collaborate with their teams to break the annual budget into quarterly milestones to track results. Figure 9 is a pictorial representation of the strategy development cycle at Iroko and IrokoSTU.

Figure 9*Strategic Planning Process.**Strategy Planning at IrokoSTU*

The strategic planning process at IrokoSTU follows a similar structure to the overall Iroko strategic planning process. The leadership team of IrokoSTU sustains action through the strategic planning process to achieve broad corporate and specific unit goals. The goal is to use strategic training products as a competitive advantage enabler to boost the knowledge of customers in making an informed and preferred choice of the company's technology products embedded in the cloud computing systems. The following are key components of the strategic planning process at IrokoSTU.

Market Intelligence. IrokoSTU leaders work with various market research agencies to periodically get credible data on market trends, customer preferences, and competitor activities. The leadership team leverages the data from the research as an essential consideration in their strategic planning process. The leaders could determine

the organization's relative strengths, weaknesses, opportunities, and threats (SWOT) in the market using the market intelligence information and then craft relevant response strategies to optimize their competitiveness.

Big Goal and Strategic Considerations. The top strategic goal of IrokoSTU is to drive relevance for Iroko in the cloud ecosystem. At the team level, the big goal of the unit is to build a world-class certification engine and a team that can deliver scalable, world-class training, curriculum, and exams. This big goal is broken into timelines comprising the number of learners to be trained each year and the required funding to achieve the set goals. The unit sets quantitative goals based on the number of partners trained for a period and a qualitative measure based on the market perception of the services. The leadership team uses the baseline assessment of the curriculum from focus groups of actual users, interviews, and users' ratings on quality and usefulness to determine incremental goals during strategic planning. They also determine the quantitative target number of partners to be trained within the period.

IrokoSTU typically has competing demands from other units in the organization to be accommodated in their training goals. IrokoSTU uses a scalable framework to determine the resource input required for different outcome levels. This resource-outcome framework enables the unit to prioritize, assess and decide whether to accept multiple requests from different teams to expand the training function. They make strategic choices based on the availability of the required resource for the desired budgetary outcome and comparative benefits of each strategic alternative.

Strategic Implementation

IrokoSTU receives funding for implementing its big goals based on the approved medium-term 5-year goal and resources required to achieve the target quantitative and qualitative goals for each budget cycle. The unit collaborates closely with the other groups in the Iroko organization, like the marketing team, to augment marketing impacts with limited funds available to the unit. IrokoSTU also leverages vendors and contractors' expertise extensively to augment the limited number of internal employees available to implement the unit's budget. Furthermore, the unit depends on the LMS infrastructures, web environment, and relationship management systems owned and managed by other teams in the Iroko organization. Collaborating with multiple entities and teams for the execution of the unit's strategic goals and objectives provides significant opportunities for the unit to scale its operations rapidly. However, these dependencies expose the unit to multiple points of failure that require delicate and careful management.

The unit plans to gradually increase headcount as subscribers grow to justify the need to drive further growth. The leadership team uses metric dashboards to track users' engagement, progress on training, and analysis of user categories across multiple channels. The unit has the agility to change implementation plans, reprioritize delivery rapidly, and take intelligent risks in response to market conditions. The unit also follows a general company culture of tolerance for not having 100% success in every implementation and treating failures as a process for quicker learning rather than penalizing them.

The leadership team of IrokoSTU actively monitors the implementation of the strategy based on the defined OKRs and takes corrective measures to address variances or needs to rebase the plans. The performance on the defined qualitative and quantitative goals determines the pace of growth and allocation of growth resources in the subsequent strategic planning cycle. The Iroko leadership team garners comprehensive market intelligence through their strategic management process to align the innovative technology products they manufacture to the users' capabilities. IrokoSTU's specific focus on providing agnostic technology education to decision makers and users in the emerging cloud computing ecosystem is a strategic response to resolving the business problem of how to educate decision makers and users to make optimal technology choices for their organizations during periods of rapid technology changes and technology disruptions. Iroko could leverage unutilized SME capabilities in the organization to create world-class cloud computing contents that the IrokoSTU team offers to internal and external customers to develop their capabilities. From the context of RBV, the new knowledge that the customers obtain from attending IrokoSTU programs could help them identify unutilized available resources in the organization through optimal technology investment for enhanced job delivery and cost efficiency.

Customers

Iroko provides critical computer components to organizations building computer notebooks, desktops, servers, specialized data center high-performance cloud computing systems, and related systems leveraging ubiquitous big data. The technology industry is evolving rapidly, and competition is intensifying. Iroko keeps adapting and enhancing the

capability of the computer systems components that their corporate customers need to remain competitive, relevant, and sustain a leadership position in the industry.

Competitive players in the industry continuously extend their capabilities to innovate and manufacture critical computer components at scale to avail every technology user of limitless computing power and data access up to a petaflop of computing power and a petabyte of data without latency in the new cloud computing model. IrokoSTU's primary customer targets are the cloud ecosystem service providers, large multinational enterprises, small enterprises, and CSPs. Following are the approach Iroko and IrokoSTU leaders use to listen to, engage and manage their customers.

Customer Expectations

The senior leaders of Iroko and IrokoSTU invest significant effort in listening to and assessing customer expectations to satisfy their needs and expectations. Before the decision to startup IrokoSTU, the Iroko leaders did an extensive market study of the industry. They listened to the potential customers to understand their real needs and unmet expectations in the market. The gap in the market and informed customers' expectations led to the establishment of IrokoSTU, the design of the unit curriculum, and decisions on delivery models to meet the market needs.

Customer Listening. The Iroko sales team and subject matter experts (SMEs) provide first-level sensing of customers' needs through their interactions and extensive customer knowledge. Based on the preliminary information from the sales team and SMEs, IrokoSTU leaders commission extensive market research, using proven market research professionals, to understand the market phenomenon and the right target

audience for the strategic education content. Through extensive research, IrokoSTU understood that the critical technology buying decision now resides with the CSAs that work with technology service providers like Accenture and Deloitte rather than the organizations' IT managers, as was the case in the old hardware delivery model. Through this understanding, the IrokoSTU leaders could understand and tailor the training curriculum to enhance the target audience's knowledge to influence their technology buying decision in the cloud ecosystem. The unit listens to the customer before and after the product launch to sustain the culture of continuous improvement and innovation. Following are the preassessment activities in the unit.

During the preassessment phase, IrokoSTU leaders conduct interviews with customers mostly, about twice a year, to get their input. The leaders interview CSAs and other target customer groups to get information to articulate a high-level content scope. They also use anonymous focus group sessions to obtain unbiased audience views on desired product features. IrokoSTU leaders then share a draft curriculum developed from various feedback with customers for evaluation. The internal quality assurance team, partners, and SMEs also review the contents for quality and coverage of the defined topics. After the products successfully pass the early assessment stages, the unit also arranges a beta testing with select customers at a discounted price to use the product and share feedback on the overall experience with the product before public launch. The unit plans to implement the option of using customer engagement to determine program criteria, like determining how long it takes to complete a program. The leadership team plans to incorporate these features in future product release cycles. Table 6 below

includes the list of activities the company conducts during the preassessment of the product before market launch, the target audience for the activities, and their respective outcomes.

Table 6

Preassessment of Curriculum Product

Approach	Audience	Outcome
Interviews	Cloud solution architects and Internal SMEs.	Obtain customers' needs and expectations to build product scope.
	Anonymous focus group discussions.	Obtain an unbiased customer opinion.
Draft review	Select target customer groups. Internal SMEs. Quality assurance teams.	Confirm contents quality, coverage of the defined topics and learning outcomes.
Beta testing	Select sample of target customer groups.	Evaluate the overall experience with using the product before public presentation. Future enhancement will involve using the beta testing and customer engagement to determine program criteria.

Customer Segmentation and Service Offerings. IrokoSTU avails a similar portfolio of curriculum content to the company's primary and secondary target customers. The customers can follow the learning path based on their competency level. The content follows the broad industry category of foundational, associate, and professional-level content and certification exams. Table 7 below includes the details of the target customer groupings and categories of training offered to them.

The primary customer target for IrokoSTU is the cloud ecosystem partners comprising the technical resources delivering the cloud solutions, such as Accenture and

Deloitte, whereas the secondary target is the enterprises that use cloud services and the CSPs, such as AWS, Alibaba cloud, Oracle, Salesforce, and SAP. The groupings of the cloud ecosystem service providers are based on the nature of the services the cloud technical professionals provide.

Table 7

Product Offerings to Customer Segments

Segment	Curriculum level	Outcome
Primary & secondary customer categories	Foundational	Provides learners with solid cloud computing foundation. Designed for non-technical roles with little or no experience on cloud computing and operations.
	Associate	Includes intermediate proficiency level training and certifications for developers implementing, deploying, maintaining, and managing cloud projects.
	Professional	Expert level curriculum and certifications for professionals with multiple years' experience in the industry

Customer Engagement

IrokoSTU leaders conduct various marketing and sales activities to build a positive relationship with the customers and to engage them. The engagement approach for the internal customers begins with profiling and identifying all the employees and partners that need the unit's training. The internal target customers usually include the sales team and employees involved in cloud-related services. The unit collaborates closely with respective people managers and other group heads to create internal

publicity and compelling awareness to stimulate interest in registering for and completing the programs. Sometimes the unit uses incentives to encourage customers to complete the programs.

Engaging external customers involves the traditional marketing approach of onboarding customers. The unit retains the services of an advertising agency to lead the public presentations and marketing communication to the target customers. The unit's four pillar customer engagement strategies begin with creating foundational documents to help customers identify, indicate interest, register, or open the channel for subsequent follow-up discussions. Another approach is partnering with other channels in the Iroko group offering cloud-related products to include a call to action for their audience to register for appropriate cloud education levels to help them optimize their cloud budgets and performance. The unit also leverages media partnerships established by other Iroko groups across various regions to market the unit contents with minimal capital outlay. The IrokoSTU leadership team also leverages Iroko's sponsored events to engage customers. Furthermore, the unit also engages in direct marketing to the large enterprise accounts that provide cloud services to many organizations.

Through these engagement activities with internal and external customers, IrokoSTU leaders build the appropriate relationship to engage and serve the target customers. The target customers can access the unit programs directly through the web and receive needed support from the web portal. The customers can also communicate directly with the partners of IrokoSTU that provide specialized curriculum services like Pearson VUE, which provides certification exams in the industry. The unit provides an

adequate guide to customers on how to leverage these partner organizations for support and guides in the program.

Customer Satisfaction. IrokoSTU obtains feedback from every training interaction with the customer and uses this feedback to assess qualitative perception and customer satisfaction levels. The unit leaders also use market research information to understand audience satisfaction level and perception of IrokoSTU training compared to the competitors' offerings. The unit plans to formalize a 360 degrees survey and establish baselines for benchmarking and continuous improvement in customer satisfaction. These planned formalized surveys, when implemented, will provide a rating system to gauge progress on providing optimal services that delight customers.

Results Triad: Workforce, Operations, and Results

The Result Triad of the Baldrige Excellence Framework comprises the workforce, operations, and results categories. The review and analysis under the results triad section is an opportunity to provide data and information relating to the workforce and operational processes and the resultant outcome from these two processes (BPEP, 2021). As Baldrige Excellence Framework is a nonprescriptive framework, organizations can define, measure and report on the most appropriate metrics that align with their strategic direction and cultural context within results triad Analysis (BPEP, 2021; Strahan et al., 2022). I described and analyzed Iroko's result triads processes in the context of their approach, deployment, learning, and integration as suggested in the BPEP to understand their relevance to their corporate strategic direction and performance outcome.

Using the RBV lens, companies can leverage their unutilized resources to optimize the operational excellence of their workforces and operations and their resultant outcome. Effective measurement of the performance of the company's resources and outcomes provides appropriate feedback to build competitive internal resources in the context of RBV of firms (Al-Dhaafri & Alosani, 2021). Hence, company leaders can leverage the periodic feedback from the assessment of their resources and operations to discover and optimally apply unutilized available resources to sustain their competitiveness in the changing market environment. This flexibility to redeploy resources is critical in a fast-changing market as companies can adapt their workforce, processes, and operations in response to the dynamic challenges in their market to sustain superior performance (Manikas et al., 2019). The followings are the description and analysis of Iroko's workforce, operational processes, and their related results using the BPEP analysis dimensions of the approach, deployment, learning, and integration contexts as they relate to the optimal performance of workforce-focused processes.

Workforce

Iroko has over 100,000 employees as of the end of December 2022, spread over major commercial hubs in Asia, Europe, and America and serving broad industry categories spanning retail, services, public sector, and manufacturing. The workforces are predominantly technology resources working on the technology hardware components manufacturing, developing supporting software solutions, sales, research, and development. Iroko leaders manage and deploy these resources to sustain superior performance. Company and work performance is enhanced through the development of

workforce capabilities (Smoyer et al., 2021), as the workforce could drive the operations that create value for the customers. The SLT of Iroko understands the critical importance of the workforce in attaining the corporate strategy and consistently measures how competitive their talent capabilities, retention, and development are relative to the industry.

Iroko manages diversity and inclusion as a vital source of competitive innovation resources and positioning for long-term growth. The leadership team measures and rewards performance on inclusion and diversity targets each year. The focus on diversity and inclusion led to the rollout of special programs for diverse groups like developing women to assume technology leadership roles and growing technical skills of people that self-identify as disabled and less represented communities to participate in the digital innovation career and leadership. The company collaborates actively with other organizations in industry and society to stimulate inclusive culture in developing and deploying digital technologies across the globe.

IrokoSTU leaders follow Iroko's companywide workforce management and engagement culture. There were ten resources dedicated to the management and operations of IrokoSTU as of December 1022. The unit's staff can source, leverage, and collaborate with other resources within the Iroko organization to pursue the unit's strategic goals as needed. The unit leadership facilitates the right operating environment for optimal workforce engagement to attain strategic goals. Leaders can stimulate breakthrough innovations by aligning their strategic human resources management practices towards creating a workplace environment that stimulates optimal staff

engagement in high-risk, uncertain, and fast-changing environments (Choi et al., 2019).

Using the BPEP framework, organizational leaders can evaluate the alignment of the workforce to the innovation goals and strategic direction of the organization. Following is the analysis of the organization's practices on engaging, managing, and developing an optimal workforce to attain the overall corporate goals.

Workforce Environment

Iroko leaders sustain standardized practices across the organization to stimulate an effective and supportive workforce environment for continuous innovation, creativity, and attainment of the company's strategic goals. Each unit in the organization adapts and aligns its work environment and capabilities to the enterprise workforce practices and standards. Iroko competes for scarce technical talents with the rest of the technology organizations in the industry and hence creates an appropriate environment for nurturing, attracting, and retaining these talents. Descriptions of some key attributes of the company's workforce environment are in the following subsections.

Workforce Capability and Capacity. IrokoSTU hires talents based on the resource requirement for implementing the unit's curriculum strategy and setting up the supporting system to deliver content that delights users. The unit leadership aligns resources needs to achieve the budgeted new features for the curriculum and for sustaining the existing curriculum operations. They scale the addition of resources to the team as updated content, features, or modules are added to the curriculum and for expanding to new customer segments. Mapping deliverables to the headcount and staff roles makes it easy for the unit to extend or reduce operational scope based on the

available resources. The unit leaders also make significant use of contract staff resources to execute project activities with specific time-bound objectives and easily disengage the contract resources when the project tasks are completed. Contract resources bring the team market-ready skills and capabilities to execute assigned tasks to meet customers' delivery timelines and quality expectations. The regular and noncontract staff of the unit manage routine operational business activities and interface with other units of the Iroko organization to align unit operations with the group standards. IrokoSTU's regular employees provide stability to manage and run the activities of the unit in the long term, while the contract resources provide an immediate pool of resources to execute short team unique assignments in furtherance of the strategic objectives and market imperatives. IrokoSTU follows the companywide practices of providing regular training opportunities to the staff and sustaining the culture of consistent talent development to remain industry leaders.

Workforce Diversity and Inclusion. Iroko leadership uses deliberate practices like group interviews, hiring teams, and concise job requisition to mitigate bias and broaden diverse skills participation in the talent sourcing and hiring process. The hiring teams take a broad view of new talents and assess them in the context of their unique backgrounds and potential contribution to the diverse job requirements. Through these diversity-promoting practices, Iroko leadership sustains a culture of diverse and inclusive representation of ideas, cultures, demographics, and orientations in the hiring process and work environment.

In addition to following Iroko's broad diversity and inclusive hiring and workplace culture, IrokoSTU also promotes complementary-skills diversity in their hiring process. The unit promotes the culture of pairing team members with diverse skills and experience in curriculum development, management, and deployment within teams. Through effective collaborative team management and pairing complementary talents, the IrokoSTU leadership team harnesses and aligns diverse-multi talents to deliver superior customer experience.

Workforce Benefits and Policies. Iroko maintains competitive benefits packages, including stock options and structured family benefits like family leave, fertility support, and family integration programs. These benefits align with the practices among peer companies in the industry, and Iroko strives to sustain these practices to remain competitive and retain superior talents. Furthermore, Iroko maintains significant transparency in its compensation and benefits structure by publicly releasing the details of the company's EEO-1 pay data filed with the Equal Employment Opportunity Commission (EEOC) detailing the demographic breakdown of the company employees pay data (see "United States: EEOC Announces Opening of 2021 EEO-1 Component 1 Data Collection," 2022). These practices help sustain a competitive benefit regime and work environment for high-performing talents.

Iroko follows the industry trend of providing flexible work arrangements for the employees to either work from home or at the office location and ensures that staff has adequate support and tools to succeed equally in either of the work environments. The leadership team also strives to reduce job demand-related stress, health challenges, and

burnout. Work challenges, demand pressures, and the work environment could affect the physical, emotional, and motivational well-being of the employees (Kronenwett & Rigotti, 2022). Iroko makes adequate provisions for a safe and injury-free work environment. The company promotes overall wellness programs, including mental health programs among the staff, and supports programs to ensure they are physically, mentally, and socially sound to contribute optimally to work and general social demands. The company provides significant awareness programs for mental, behavioral, general wellness, and education to stimulate a culture of a healthy and safe environment for the staff to bring in their best talent to work.

IrokoSTU hired resources enjoy the standard Iroko benefits and compensation policies. The unit leaders also provide competitive industry hourly rates to the contractors engaged in working on specific components of the curriculum development, management, and related infrastructures. The competitive remuneration and benefits options at IrokoSTU engenders a hygiene atmosphere for attracting and retaining highly skilled employees and contractors to implement the unit strategies.

Workforce Health, Security and Accessibility. Iroko leadership regularly invests in programs, awareness campaigns, and routine education to sustain a culture of a safe, injury-free, and accessible work environment. The U.S. Department of Labor monitors employers' compliance and actively preserves the workers' right to a work environment that is healthy and safe (United States: Secretary Walsh on the International Labor Organizations Recognition of Occupational Safety, Health as a Fundamental Right, 2022). In both China and the EU, providing occupational health and a safe work

environment is also seen as the employer's responsibility, with a general principle of following preventive measures and avoidance of unsafe practices to sustain a healthy and safe work environment (Liu, 2019). Iroko's operation span the U.S., China, and the EU markets. The company leaders adhere to the requirement to preserve a healthy, safe, and accessible environment for workers in each of these regions. The company provides ergonomic equipment to the needing workers at home and at the offices, avails adequate security on each operating site, and uses modern collaborative technologies to meet workers' accessibility, safety, and injury-free work experience. The long-term goal of the company is to continue to leverage quality education and planned engagement programs to sustain the culture of a safe, accessible, and overall healthy work environment for workers across all its operating regions and within the industry.

Workforce Environment From RBV Context. The quality of the work environment plays an important role in enhancing employees' morale, engagement, and retention. Using the RBV context, organization leaders can leverage big data and predictive analysis tools to understand the prevailing work environment culture and human resource management strategies to optimize resource management, reduce dissatisfaction and stress, and enhance retention (Singh et al., 2022). Iroko leaders regularly generate and analyze relevant work-environment data such as undesired turnover rate, competitive industry benchmark, demographic profile, and pay data to elicit information to sustain a work environment for nurturing competitive human resource talents to thrive in the fast-changing industry.

Workforce Engagement

Drivers of Engagement. IrokoSTU leaders create and sustain an engaging work environment that promotes innovation and high-quality delivery. The prevalent leadership style and nature of the work environment can influence staff affective commitment and engagement to the organization's vision and mission (Aboramadan & Kundi, 2020). A culture of transparency is essential in stimulating workforce engagement as the employees understand the rationale for decisions and how they contribute to achieving the goals set (BPEP, 2021). IrokoSTU leaders and staff use a transparent OKR model to articulate the desired objectives for each quarter and how the work that each member of staff does relates to achieving the desired objectives. The clarity and transparency in the development and implementation of the OKRs enable opportunities to sustain staff engagement in the implementation of the vision and mission of the unit. Furthermore, the unit also follows a structured flow of work framework, as shown in Figure 10, to make delivery easy and predictable for the team. Using the flow of work, the team can deliver a high-quality curriculum that delights users and enhances staff morale.

Another important driver of workforce engagement in IrokoSTU is the inherent satisfaction the Subject Matter Experts (SMEs) derive from producing quality curriculum that bears their names. The recognition, visibility, and awards that come with delivering high-quality content stimulate the SMEs' engagement to deliver excellent results. The SMEs contributing to IrokoSTU content are predominantly Iroko employees and partner organization staff who volunteer to work on this project. Volunteering for a worthy cause

can enhance staff engagement in for-profit organizations (Erks et al., 2021). Iroko leverages the volunteering model in stimulating staff engagement in developing curriculum content. The SMEs at Iroko are very enthusiastic about providing high-quality content and support to the vision and mission of IrokoSTU to transform the education of cloud users to enhance their decision capabilities and optimal use of cloud solutions.

The agile work process at IrokoSTU is also another driver of workforce engagement. Leaders can follow the agile work process to sustain the culture of continuous improvement, workforce engagement, and stakeholder commitment. An agile culture stimulates a participatory approach to change management because of the focus on individual interactions and being open to welcoming changes, as articulated in the Agile Manifesto (Beck et al., 2001). The agile organization environment enables a culture of self-organizing teams with control and autonomy to respond to changes (Sauer & Nicklich, 2021). The agile work process at IrokoSTU follows the iterative and incremental agile delivery model, as shown in Figure 11, to drive workers' engagement, respond to change, and continuously improve on delivering value to customers in line with the organization's vision. The delivery cycle starts with sprint planning at the beginning of each 2 weeks sprint cycle. The development team then designs, develops, assesses, and deploys the new features. The team then reviews the product with the customer or stakeholders at the end of the two-week sprint to launch the accepted solution and take feedback for improvement on the next delivery cycle. The team incorporates the feedback in the subsequent delivery cycle for another incremental development.

Figure 10

IrokoSTU structured Flow of Work.

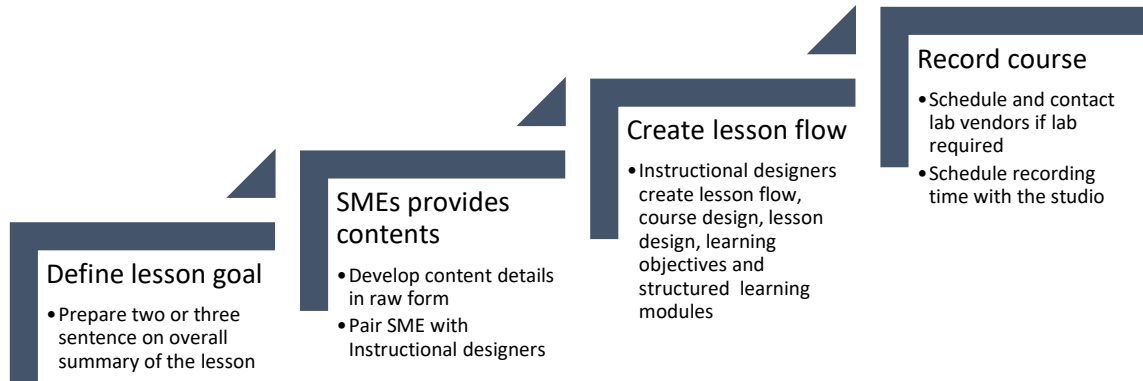
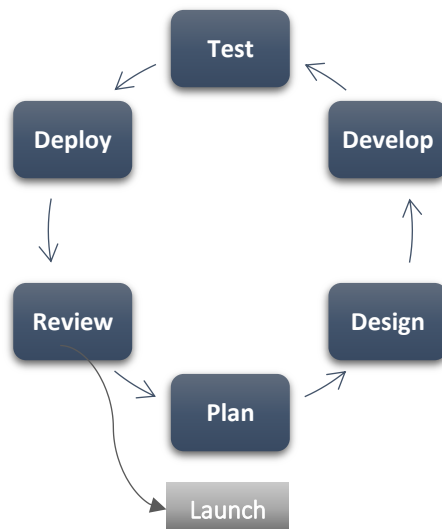


Figure 11

Iterative and Incremental Agile Delivery Cycle at IrokoSTU.



Organizational Culture. Iroko leaders adhere to and promote the culture of doing the right thing and fostering respect of intellectual property rights across the industry. The leadership team ensures that the organization provides right attribution to any product the company uses that is sourced from another entity. This property rights

respect culture stimulates a sense of originality and creativity among the workforce and the consciousness to avoid intellectual plagiarism. The workforce aligns to the prevalent culture of considering all stakeholders involved whenever they are engaged in their respective tasks. The culture of planning and measuring outcomes against the plan is another important factor in stimulating engagement to the vision at Iroko.

At IrokoSTU, the entire team has a good sense and clarity of the unit's and the organization's direction, which also includes a transparent commitment to diversity and high performance. The unit uses OKRs that are graded and measured quarterly to sustain open communication, performance expectations, and measurements. These OKRs are also stretched to stimulate the personal development aspirations of the employees.

Personal Development. Every employee at Iroko has required training to complete annually, ranging from regulatory compliance to technical and other personal effectiveness training. These training programs are designed to sustain ethical behaviors like avoiding bribery and corruption, provide regional context to distributed staff, and enhance professional competencies. The organization leaders conduct regular surveys to get feedback from the internal staff and partners taking these learning programs to understand the impact of the training on the desired outcome.

At IrokoSTU, the sales team undergoes extensive training on cloud curriculum to ensure their deep understanding of the product and enhance their performance on the sales goals. Furthermore, all IrokoSTU workforce are required to keep updating their cloud certification competencies to keep pace with industry developments. The number of courses delivered internally by IrokoSTU is also another indication of leveraging

personal development and learning for workforce engagement. IrokoSTU delivered over 7,000 courses last year as of December 2022, which was a significant increase from the prior years and is set to sustain the growth in the number of courses delivered in the current year. These courses are segregated into learning paths for the internal Iroko staff and learning paths for the partners based on their peculiar needs in addressing the company objectives and pursuit of defined missions.

Career Development and Succession Plan. At Iroko, there are regular conversations between the management and the employees on their career progression plans. The organization provides a structured technical leadership program to stimulate the development of staff for the next level in their career path. The respective managers of the employees collaborate with them on their career growth. Each resource determines the pace of their growth. Employees would normally identify open positions they aspire to progress into and work with their managers when the opportunity arises for considerations into the new positions. Some technical resources that do not want to progress to a higher or another position still enjoy due recognition and rewards in their preferred position. At the leadership level, Iroko has a deliberate succession plan for director positions and above. The CEO and the board have their respective succession plan and waiting periods for progressions to these positions to sustain the enterprise's stability and performance.

Operations

The quality of the operations in the organization is an essential strategic factor for the successful delivery of customer value. Organizational leaders can review and improve

their operational process performance to enhance customer satisfaction (Suárez-Barraza et al., 2021). The organizational leaders could use a proven systemic review framework for a holistic process review and improvements. For instance, a detailed review of organizational operations using BEF involves analysis of the design, management, improvement, and innovation relating to the products and work processes in the organization and how effective they are for delivering customer value and corporate success (BPEP, 2021). The SLT of IrokoSTU continuously improve and innovate their work process for delivering optimal curriculum to meet the users' and user organizations' needs in the fast-changing technology market. The following subsections include details of operational processes that IrokoSTU follows in delivering strategic cloud user education to aid the optimal choice of technology products by user organizations.

Work Processes

Product and Process Design. Iroko's work processes begin with a deep understanding of customers' needs through research to learn the gaps in the industry. Knowledge of what is currently being addressed, not being addressed, or what is not being addressed appropriately or sufficiently enough helps Iroko leaders understand the gaps their products could fill. The company designs and develops technology products with different use cases to meet identified specific needs of specialized industries besides general technology products needs of the general market. For instance, the specific need for cryptography in the workloads of AI and machine learning solutions led to creation of a cryptographic accelerator in the CPU system that is different from the regular CPU chips to speed up cryptographic calculations for generating required operation keys.

Furthermore, the specific needs for edge computing involving using the abstracted version of data for compute at the edge led to the development and successful rollout of specialized technology products for edge computing that makes it efficient to compute at the edge and seamlessly synchronize with the central system.

The overriding goal of the Iroko and IrokoSTU work process is to deliver technology products and services that enhance the quality of life on the planet earth. Figure 12 depicts the organization's high-level workflow process for delivering technology products and services. A periodic review of the business work process is important for providing sustained quality products and services to satisfy customer requirements (Borcoși, 2022). This research study process is part of the activities Iroko leaders follow to ensure regular review and improvement on it is work process.

Figure 12

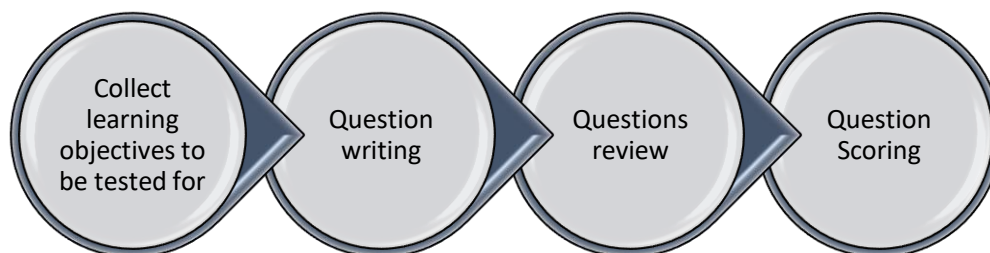
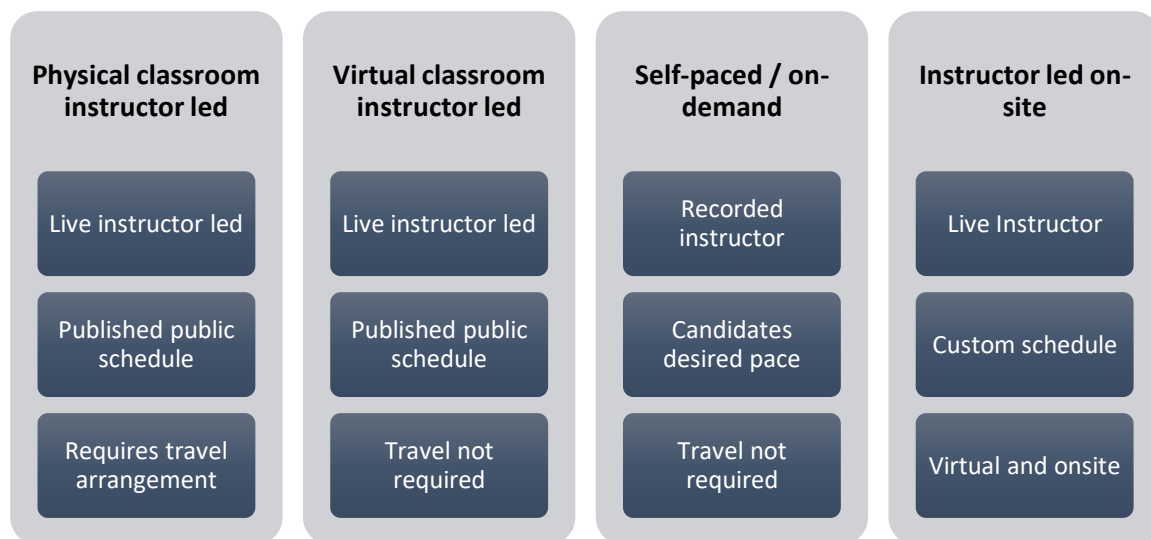
High Level Product Delivery Work Process



Work Process Design Concept. IrokoSTU's product design concept revolves around a rapid deployment of just-enough cloud learning products and solutions to the

market in response to the sensing function of the market needs and continuously improving the released product based on feedback rather than waiting for product perfection before deployment. IrokoSTU's market sensing function involves using trending data, focused sessions with customer user groups, looking broadly at the industry, noting customers' cosmetic changes, comparing usage changes across regions like Europe and America, and using other variables that make sense in the market to guide decisions on taking intelligent risks. IrokoSTU leaders also leverage the knowledge and information provided by the frontline SMEs interfacing with the customers to develop the curriculum design document to meet users' learning needs. IrokoSTU leaders have consistently used rapid curriculum deployment to the market and actively incorporating customer feedback in subsequent curriculum development to design the work process for superior industry performance.

The curriculum development also includes creating proficiency certification exams by professional psychometricians to measure the quality of user learning. The proficiency exams development follows a four-stage process of collecting learning objectives to be tested for lesson development, question writing and review, and question scoring, as shown in Figure 13. IrokoSTU aligns the design of its course delivery methods to the four common methods the cloud computing certification industry vendors use for delivering content to learners, depicted in Figure 14. The unit follows industry best practices in curriculum development, course delivery, and conduct of certification exams and continuously improves these processes in response to market needs.

Figure 13*High Level Proficiency Exams Work Process***Figure 14***Common Delivery Methods by Cloud Computing Certification Vendors*

Supply Network and Support System. IrokoSTU leverages a vast pool of suppliers to deliver curriculum products, support the users taking cloud lessons, and manage related cloud certification exams. IrokoSTU program managers provide the guide and measurement framework to ensure the inputs from the supply network comprising

the instructional designers, lab developers, psychometricians, digital assets contractors, and CSPs contributing to the curriculum meet the desired performance objectives of the unit and customer needs. The inputs from the supply network follow a careful review process to mitigate plagiarism and sustain high-quality delivery. IrokoSTU leaders also employ the services of storytellers and story creators to ensure the curriculum contents are cohesive in addressing the learning objectives. The deliberate pairing of instructional designers with SMEs within the organization facilitates alignment to strategic objectives and satisfying the customers' changing needs. The support process also leverages the supply network to meet the internal and external needs of sustaining the curriculum.

IrokoSTU has both internal and external support processes for different components of the learning platform and the users. IrokoSTU quality team ensures the external learning providers offering the unit's courses, like Udemy, Coursera, Udacity, and partner universities, maintain the most recent curriculum version. The team supports them to ensure old contents are removed from their respective sites and refreshed with new contents. The backend LMS for the program is also very interactive, easy to support, and compatible with various mobile devices and computer systems. IrokoSTU program managers and the quality team ensures effective alignment, collaboration, and resilience of the diverse supply network and support team in addressing customers' needs and strategic business requirements.

Operational Effectiveness

Building Quality Into the Process. Organizations can promote process efficiency and effectiveness through conscious management of process quality.

Organizations that underestimate the importance of process modelling and enhancement risk failure of their digital transformation (Aniskina & Azarov, 2022). Hence, using a systemic view of the work process, organization leaders could focus on critical factors driving operational effectiveness. IrokoSTU leaders focus on hiring the right professionals and partnering with proven suppliers to deliver efficient and effective products with minimal defects as a crucial driver of quality. Some key strategic resources at IrokoSTU have extensive performance excellence experience in implementing BEF. The BEF-experienced resources provide a broad guide for defining high-performance work processes, how to follow through with the implementation, benchmarking measured outcomes to desired results, and taking necessary improvement steps to sustain high performance. In addition, scholarly-practitioner psychometricians focusing on developing and enhancing rigorous test assessments that accurately measure performance on desired learning objectives and outcomes contribute to the failure-proof test process. Overall, the team includes a mix of professionals and suppliers that were carefully selected based on their proven industry track record to deliver the desired process outcome, on time, with minimal defects and inspection costs.

Systems Security and Reliability. IrokoSTU follows the principle of least privilege for providing access to the resources working on different aspects of the curriculum. Through this approach, resources are restricted to the curriculum sections they work on. For instance, the instructional designers would not have access to the certification exams' modules of the course. Iroko enforces clear boundaries and scope of access for sustaining data integrity and security and ensuring compliance with regulatory

and industry standards. There is enforced access control on SharePoint sites and locations where production tracking data is kept. Through these methods, IrokoSTU leaders could sustain systems' reliability and security for administering uninterrupted learning content to the users.

Measurement, Analysis, and Knowledge Management

Iroko leaders use interactive OKRs as fundamental to the organization's measurement, analysis, and knowledge management. Organizations can leverage an interactive performance management system to stimulate organizational learning, enhance collaboration in task delivery and improve employee performance (Zhang & Yu, 2020). It could be difficult for an organization that does not regularly measure, analyze, and improve its performance to remain competitive in a fast-changing market. BEF provides a good framework for iterative performance review and improvement. The measurement, analysis, and knowledge management section of BEF includes the description of the management and leadership approach used to ensure that empirical facts, continuous learning, and agile approach drive performance excellence efforts in the organization (BPEP, 2021). From the perspective of RBV theory of using unutilized resources for competitive advantage (Penrose, 1959), organizational leaders can apply the analysis and measurement of empirical data to sustain and enhance performance excellence. Organization leaders have used analysis of the quality of the human resources in the organization on the basis of their unique excellence and diversity to drive efficiency and extend performance outcomes (Han et al., 2021). The analysis and understanding of the internal resource capabilities and capacities provide the information

leaders can use in deciding how to exploit the opportunities available in the market. IrokoSTU leaders conduct quarterly surveys using experienced industry professionals to understand the performance of their courses in the market and potential improvement opportunities. These surveys involve extracting data to analyze the adoption rate of the courses, understand improvements in the learners' knowledge of cloud technology, and how learners' cloud computing communication and decision capabilities have increased after taking the courses. IrokoSTU leaders relate the outcome of these surveys and internal performance measurement system to the defined OKRs to understand the impact on the organization's performance, how they drive enterprise learning and sustain continuous performance improvement culture.

Measurement, Analysis, and Improvement of Organizational Performance

Organizations need to keep improving their performance to remain competitive and enhance superior performance. Organizational leaders can sustain more robust performance than competitors when they leverage the measured perspective of the managers and employees and conduct regular analysis of comparative industry data relating to the organization's performance (de Waal, 2021). These regular measurements and analyses can spur the team to sustain improvement in activities that yield superior performance outcomes. IrokoSTU has 10 major competitors providing tailored cloud learning programs. However, IrokoSTU provides a unique learning curriculum broader than existing competitors' products. The recent extensive market survey conducted in 2022 by a professional brand and marketing excellence professional firm, engaged by Iroko, shows that 65% of CSA influencers have a strong interest in 3rd-party multi-cloud

certification akin to the type offered by IrokoSTU. IrokoSTU leaders and employees measure the success of their offerings using the digital footprint of people taking the courses to understand trends in the number of registered students, course progression, and the extent of attaining the defined learning objectives.

Furthermore, IrokoSTU follows industry best practices in the cloud services industry for measuring students' performance and, by extension, the organization's performance. The learners take proctored exams to get industry-relevant certificates in addition to the badges they can get for completing designated modules in the course and taking relevant course quizzes. The unit leaders measure the overall partner and market demand of the courses to understand the success of their programs. As the quality of the course content is critical to the adoption rate and performance of the courses in the market, the unit leaders do a quarterly survey of their existing content in the market and benchmark them against other competitive curricula in the industry to gain market intelligence to improve performance to stay ahead of the competition.

Information and Knowledge Management

The IrokoSTU team have a deep understanding of the cloud ecosystem and intelligent knowledge of the capabilities of the players in the cloud computing training and certifications. The unit leaders leverage IT extensively to acquire, process, store, scale, use, and share knowledge across their channels. IT is a key enabler for enterprise knowledge management and information dissemination (Stamoulis et al., 2020). It would be difficult to manage the huge volume of strategic and operational information driving the enterprise operation without relevant technology tools. IrokoSTU team use mainly

SharePoint software to classify and archive documents, templates, guidelines, recorded videos, course lesson design, scripts, lesson documents, lab plan documents, lab data, and other industry documents along curricula knowledge areas for ease of reuse. The knowledge management team in the unit meets weekly to review stored materials to ensure they can be reused and can aid continuous improvement.

Leaders need credible information and knowledge to aid their decision making. Competitive intelligence facilitates the creation of new concepts, advancing innovation, and development of new process and product ideas (Poblano-Ojinaga, 2021). Through passion for knowledge, leaders can sustain continuous improvement on the available technological and resource capabilities to produce more efficient processes, products, and tools to respond to the fast-changing market conditions. IrokoSTU leaders are very collaborative on knowledge sharing. The unit leaders allow other teams in the organization to reuse materials developed in the unit for their work, innovation, aid their decision process. The IrokoSTU team strives to keep to its goal of building templates that can be reused for future curriculum developments and to make future enhancements easier and faster.

The effective use of knowledge management, measurement, and analysis of processes and performance play a critical role in the results attained by IrokoSTU in the organization. IrokoSTU leaders understand the constraints of the limited internal resources and knowledge base in the unit and augment these with external capabilities to remain competitive. The periodic professional review of the capabilities and performance of the expanded resources available to the unit has been the basis of continuous

improvement on the results generated by the unit in furtherance of its goal in the Iroko organization.

Collection, Analysis, and Preparation of Results

Thematic Findings

The purpose of this qualitative single case study was to explore strategies that technology manufacturing leaders use to educate users on how to make optimal cloud technology selection decisions for their organizations during periods of rapidly evolving innovation. I used the RBV conceptual framework to address this following research question: What strategies do technology manufacturing leaders use to educate users on how to make the optimal cloud technology selection decisions for their organizations during periods rapidly evolving innovation? In formulating the RBV theory Penrose (1959) argued that firm leaders can leverage deep knowledge of unutilized productive resources for growth and expansion. The focus of this study was on IrokoSTU, a strategic business unit of Iroko specialized in cloud education. Iroko is a leading multinational technology manufacturing and service organization based in the western United States. The study framework comprises the Baldrige Excellence Framework and RBV theory. I collected the study data through semistructured interviews with six SLT members of IrokoSTU, review of internal organizational documents, company websites, published accounts, government documents, and other publicly available information. The SLT research participants provided answers and documentary support to the seven Baldrige Criteria review categories covering critical aspects of the organization strategy, process, and performance. Further response to the research interview questions in addition to the

Baldrige criteria questions by the research participants provided a comprehensive and deep understanding of the organization and its processes. Using adapted Yin's (2018) approach for thematic analysis, four themes emerged from the study: (a) strategic customer intelligence, (b) credible agnostic cloud education, and (c) socially responsible involvement in the cloud industry ecosystem.

Thematic Finding 1: Strategic Customer Intelligence

It is important to have a good understanding of customers' evolving needs and wants in a fast-changing market to address them effectively. Organizations have used the application of customer intelligence to aid marketing decisions for creating optimal customer value in a knowledge-based economy (Dam et al., 2022). Having the right customer data could help the company form the right strategy to satisfy the customer and to remain competitive. IrokoSTU SLT Participant 2 believes as follows when responding to the question on the innovation strategies the company uses for sustaining customers' preference for the company's technology products:

So, I think research is probably the number one answer to the first question ... so we use the sales and marketing group not only to sell things, but to also understand what customers are talking about, interested in, and asking questions about.

Participant 1 noted that they also do comprehensive industry scans using reputable external professional research organizations. In Participant 1 words, "We had a research agency that go out and do this kind of scan. So, there's we have some data, you know and charts behind this." Participant 1 explained that the company uses the services of proven

market research specialists to provide intelligent market information to aid their strategic planning process. Furthermore, Participant 2 noted that the company does extensive analysis of the end-user personas of laptops and desktops to understand how they use the systems. Although these user categories are not Iroko's direct customers, their use cases influence the marketing decision of Iroko's direct customers. Having accurate intelligence of direct and indirect customers has been the key foundation of Iroko's innovation strategies. Table 8 includes the details of how Iroko and IrokoSTU gather customer intelligence as part of their strategic management process.

A review of the market scan and intelligence gathering reports by the consultants engaged by Iroko shows extensive use of both quantitative and qualitative methodologies involving over 100 cloud ecosystem participants. The reports include assessment of the positioning of IrokoSTU's cloud education function amongst other strong players in the industry, details of what influencers and customers are making inquiries about, tools CSA use, and activities of other players in the industry. IrokoSTU leaders leverage these findings for their strategic decisions in addressing customer needs.

This theme is an extension of the general findings of Dam et al. (2022) on the importance of customer intelligence in a unique case of cloud computing in a fast-changing technology market. Iroko's leadership team could leverage strategic customer intelligence in the cloud ecosystem to design solutions, products, and activities to drive sustained customers' preference for their products and ensure that customers know their products' inherent superior performance. This strategic customer intelligence and understanding of their needs led to creation of the IrokoSTU strategic unit to pursue

strategic customer education to bridge the identified knowledge gap on the optimal use of cloud computing capabilities in the industry.

Company leaders can leverage customer intelligence to adapt and improve their available resource capabilities to meet immediate and potential customer needs. The extent to which the improved resource capabilities are rare and imperfectly imitable determines how they affect the company's competitiveness (Barney, 1991). Iroko and peer organizations could develop strategies to acquire unique competencies based on strategic customer intelligence to sustain their performance. Researchers noted that organizations that gain knowledge and skills from the available massive data using customer analytics tools could create and deliver superior and more sustainable value to their customers than competitors (Dam et al., 2022). Smaller organizations have also used customer intelligence tools like customer journey maps, customer databases, and feedback systems to build customer-focused marketing structures that sustain their stability and competitiveness (Soldatenko et al., 2023). Iroko's significant investment of efforts to acquire customer intelligence and realigning available resource competencies to address long-term strategic goals aligns with Penrose's (1959) RBV perspective that available resource is the best measure of a company's competitiveness. Iroko could set up IrokoSTU because of the unique latent competencies in the company developed over time while providing mainstream technology products and services to customers. The company successfully applied its available resources to extend its competitiveness.

Table 8*IrokoSTU Customer Intelligence Gathering Methods*

Method	Done by	Purpose
Direct customer engagement	Sales and marketing team, SMEs, other field resources mapped to customers.	Understand what customers are talking about, what they are interested in or questions they are asking by talking to them directly, participating in conferences, and organizing focused sessions for executives and technology experts.
Market scan	Professional market research organizations.	Broad industry scan to understand service baselines, obtain comparative data, and industry trends.
Persona analysis	SMEs, sales and marketing team and consultants.	Determine the use cases for the laptops and desktops, the things users needed to do, intend to do, or unable to do but important.

Thematic Finding 2: Credible Agnostic Cloud Education

Organizations invest in educating existing and potential customers to make them aware of the unique value propositions of their products and service offerings. Seifollahi (2023) found that managing customers' knowledge through accurate understanding of how much they know about the company's offerings and providing appropriate education to augment their knowledge has a positive impact on the market performance, customer satisfaction, innovation activities, and customer loyalty in the banking industry. Knowledgeable customers could provide feedback to aid further product innovation and enhance affinity with the product. IrokoSTU leaders' active use of customer education is evident on the various options the company uses to educate the users as shown in Table 9 below.

All the participants in the study agreed that providing a cloud agnostic training option, involving designing common training for all cloud platforms, is the preferred strategy to educate the users in the cloud ecosystem because of the diverse technology options used by various CSP to deliver cloud solution to the clients. This approach makes it easy for managing cloud computing in organizations adopting multicloud option and ease of skills share for cloud developers and solution architects. Participant 2 noted that one of the benefits of cloud agnostic training model is to overcome the challenge of “how do we do this [training] without irritating the cloud providers” who are individually customers of Iroko. The CSPs do not feel threatened by IrokoSTU’s cloud education as learners also learn about their unique implementation as part of the training. Cloud agnostic training provides the benefit of providing training contents all the CSP can use and encourage their customers to use also without compromising their competitiveness.

Another advantage of structured agnostic training content that is open to a large audience is the scaling of the marketing function of Iroko. The participants noted that Iroko sales and marketing team have very limited reach of target customers and users of the company’s products in the cloud ecosystem. The trained and certified pool of resources from the structured training becomes agents that understand the superior value propositions of Iroko’s cloud products and can influence their respective user organizations to make informed choice of Iroko’s underlying cloud products and solutions. Participant 1 noted,

Salesperson or solution architect that's going out in person to do this work can only meet with a finite number of people and finite hours in a day. Our opportunity is to be able to extract that value and scale it.

The scaling through strategic user education offers Iroko an efficient option to expand marketing function in a fast-changing cloud computing environment to remain competitive and ensure alignment of their unique value proposition and customer capabilities. The market scan and customer survey report conducted by consultants engaged by the company in 2022 shows increasing awareness of the company's products and services among cloud solution providers and influencers.

The Iroko team also attend and organize various technology conferences and events, where they demonstrate their technology and learning products as part of user education strategies. The company's published annual reports also include information on how the company uses consumer and trade events to promote brand awareness and educate customers on their products to stimulate demand. This finding on the importance of customer education in the technology industry confirms Seifollahi's (2023) position that organizations can enhance their market performance by managing the knowledge of their customers. From the perspective of RBV theory, Iroko leaders were able to leverage the unutilized infrastructure and SME capabilities in the organization to create a structured training product to enhance the competitive advantage of the organization.

Table 9*Cloud Customers Education Options*

Segment	Audience	Outcome
Modularized cloud agnostic trainings	Cloud solution designers, solution architects, IT leads, sales & marketing team, customer decision makers, end users.	Provides learners with solid cloud computing foundation. It includes fundamental and non-technical lessons on cloud computing and operations to aid both internal and external resources communicate more intelligibly on service offerings. The trainings are also extended to include intermediate and expert technical proficiency levels for developers implementing, deploying, maintaining, and managing cloud projects.
Structured cloud agnostic certifications	Cloud solution designers, solution architects, IT leads	These includes certifications that shows competency of holders on diverse cloud technology platforms provided by different CSPs
Technology events and conferences	Decision makers, end users, direct, indirect, and potential customers	Presentations and demonstrations of company products to enhance the knowledge of the customers.

Providing cloud education to internal and external customers is an important strategy for developing resource capabilities to create customer-centric products and services and product awareness in the digital age. Cloud computing drives innovation in today's digital world and exposes cloud talents to high-demand career opportunities (Segec et al., 2021). Good knowledge of available cloud solutions could enhance how cloud users buy and apply these technologies to serve their customers. Having good knowledge of multiple cloud options makes it possible to compare and access the best

technology for the organization. Over 93% of companies consider multi-cloud adoption because of competitive pricing benefits, taking advantage of the best available cloud services, and avoiding CSP lock-ins (Nambiar, 2021). Agnostic cloud education offered to internal Iroko cloud ecosystem resources positions them to sustain developing optimal cloud products and services for the customers. Also, training external customers helps build their resource capabilities and awareness to access Iroko and other cloud technology options available in the industry to enhance their competitiveness. Organizations with trained and knowledgeable multi-cloud professionals can develop unique and rare capabilities to deliver customer values. Barney (1991) noted that these rare, valuable, difficult-to-imitate resource capabilities sustain competitive advantages. IrokoSTU drives the awareness of the capabilities in the multi-cloud environment and facilitates improving available resources skills to optimize their choices and use of available cloud technologies for superior performance.

Thematic Finding 3: Socially Responsible Involvement in the Cloud Industry Ecosystem

Industry leaders can make deliberate efforts to standardize and make their industry operating ecosystem safe, profitable, and sustainable in meeting the needs of the customers and the larger society. As organizations strive for competitive advantage over each other, they can still engage in cooperative activities to stimulate mutual benefits and growth of their industry. In emerging export markets, for instance, adhering to cooperation agreements mediated by formal institutions reduces tension, stimulates innovation, and enhances cooperative performance in the industry (Monticelli et al.,

2022). Furthermore, Garraffo and Siregar (2022) found that cooperation among competitors involved in developing and exploiting technological innovation could result in sustainable technological innovation solutions that enhance social progress. Industry leaders act socially responsible in their industry by supporting institutions that promote a healthy operating environment in their respective industries and benefit society. Iroko plays an active role in standardizing the cloud computing operating ecosystem. Participants remarked that Iroko invests heavily in open-source software initiatives like Linux on a continuing basis and computer security consortiums like the Confidential Computing Consortium, in efforts to sustain the innovation culture and rapid growth of the industry. Participant 2 noted that, “from security standpoint, Iroko also plays with the consortiums... to advance security in compute”. The participants acknowledged that a secured industry is of great advantage for the players to keep delivering superior value to the customers sustainably. The chairman’s message and information on Iroko’s 2022 annual report further reaffirm the company’s commitment to working with partners in the industry, stimulating open platform collaborations, and adhering to using defined industry standards.

Industry players that engage in socially responsible behavior involving promoting stability, structures, and standards in the industry could help sustain industry competitiveness and enhance their performance. An unstructured and informal industry could hamper innovation and creativity. For instance, in emerging markets like sub-Saharan Africa with poorly organized competitive environments, product innovation performance is constrained; companies that engage in collaborative behaviors in the

industry enhance their competitiveness (Avenyo et al., 2021). The stable and predictable industry climate could enable organizations in the industry to plan, develop, and apply resource capability that Barney (1991) referred to as valuable, rare, imperfectly imitable, and nonsubstitutable, for competitive advantage. Iroko leaders are leveraging the stability and structures they contribute actively to promoting in the industry to sustain their innovation and for stimulating superior customers' demands. Researchers found that companies can enhance their negotiation power in the industry and get reciprocal value to the extent of their contribution to the community (Gueler & Schneider, 2021). Iroko's active participation in streamlining, standardizing, and promoting collaboration and system security in the cloud ecosystem is a strategic stance for stimulating informed decisions on the technology product choices. This strategy favors Iroko as they produce superior technology products in the cloud computing industry. Enhanced capabilities of customer organizations to source optimal cloud products and solutions could help them optimize their profitable value delivery to their customers.

Iroko leaders' strategic approach of using their available resource capabilities to pursue socially responsible behavior in the industry for competitive advantage can be viewed from the RBV theory perspective. Penrose (1959) noted that the available resources to the business are the best measures of their competitiveness in the industry, and firm leaders can build a competitive strategy around a firm understanding of these available resources. These resources could comprise managerial capabilities, experiential learning, tangible and intangible assets (Tan et al., 2020). Iroko leaders could leverage their deep experience and huge available resources to pursue this socially responsible

strategy in the industry. As a result, they earned what the participants described as a “trusted advisor” in the industry, making it possible for them to successfully launch the IrokoSTU cloud education product that most players in the cloud industry use.

Product and Process Results

IrokoSTU leadership determines performance of their curriculum and exam products based on the customer satisfaction index, the rate learners are getting the badges for attending the courses and writing the certification exams. The leaders noted that the learners’ success rate determines the product performance success. The learners would typically complete the courses, often at self-pace, and take the respective competence exams. IrokoSTU hired consultants with doctorate degrees in psychometrics to prepare exams that provide proper measure of learners’ competencies after passing through the curriculum content products. Each exam has a pass or fail grade that indicates performance on the curriculum content. Typically, the exams have a 75% pass rate, which shows the exams are not too easy nor too difficult to pass.

IrokoSTU is also in the process of establishing a customer satisfaction baseline to aid future performance measures using qualitative survey questions such as “do you believe you got value from taking the curriculum content and going through the course, is the course something you can apply to your job?” The baseline could help the leadership team progressively measure the unit performance at meeting the goal of helping customers make better decisions on the available cloud migration options and optimize benefits from the available cloud computing capabilities.

Customer Results

Customers have been satisfied with the results of values delivered by IrokoSTU on the curriculum and certification exams products. Customers' feedback from the over 7000 courses delivered in the previous year has been very positive and increasing number of partners are showing interest to participate in the program. The cloud ecosystem scan done by a professional independent market consultant indicates that the majority of CSAs in the industry are interested in a third-party multicloud certification similar to the offerings of IrokoSTU. Furthermore, many other units in the Iroko organizations are approaching IrokoSTU to manage their education program which are testimonials on the quality of customers satisfaction with the results delivered by the unit.

One of the goals for setting IrokoSTU is to enrich customers' conversation on cloud options by providing them with in-depth knowledge of technologies driving cloud computing. This cloud knowledge will help sustain the unique value proposition of Iroko technology products designed to provide optimal and sustainable cloud computing ecosystem. For instance, based on the results of independent market scan, over 52% of CSAs are looking for ways to deliver solutions that are sustainable in the cloud, however, only 50% of CSA's are currently aware of Iroko's cloud services. The knowledge gap of some cloud professionals makes them treat some hardware products driving the workload in the cloud as commodities. For instance, the market survey further indicates that CSPs care little about the brand of the server processors and thinks the processors are interchangeable, which could unwittingly limit the capabilities offered to their ultimate

customers. IrokoSTU content is designed to address the knowledge gap driving this commodity mindset by CSPs and cloud decision makers.

IrokoSTU has huge potential market to scale the current successful curriculum and certification products, considering the appetite of the CSAs to deploy sustainable solutions, not limited by the offerings of specific CSPs. The market study shows that CSAs currently own certificates predominantly offered by the CSPs and many of them own certificates from multiple CSPs. The study further shows that IrokoSTU's perception as a credible alternative cloud certification provider has grown to a mean among the system integrators, managed service providers, and CSAs.

The increasing acceptance of IrokoSTU cloud education products by the influencers and decision makers in the cloud industry could significantly enhance customers' choice of Iroko cloud technology products. Good understanding of the product and service offerings by the existing and potential customers enhances their satisfaction and loyalty as they are more comfortable using and choosing the product during purchase decisions (Iqbal et al., 2021). Hence, the growing awareness of the superior value proposition of Iroko technology products inside CSP cloud platforms could sustain increasing customers' demand for CSP platforms running on Iroko's superior technology.

Workforce Results

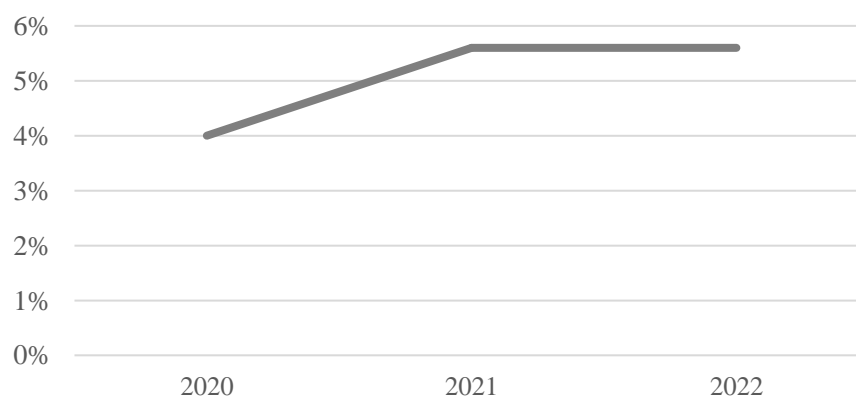
As a unit in the Iroko organization, IrokoSTU workforce climate and capabilities results measurement follow the long established and matured workforce-driven performance results of Iroko as a global technology innovation leader. The unit and the

organization operate with the strategic focus that human capital is fundamental to the success of the organization. The organization leaders prioritize a conducive environment for the wellbeing of the staff to fully express their talents. Getting the best out of the workforce involves providing a healthy balance between work and other life activities to enable the workforce recover fully to productively engage in the work activities (Hamilton Skurak et al., 2021). A flexible and healthy work-life balance is particularly important in a knowledge intensive technology work environment to sustain innovation and retain quality talent. For instance, Ng et al. (2022) noted that in the digital age, remote work has become a veritable long-term strategy for enhancing the workforce performance. Iroko provides total rewards package that includes competitive pay and other benefits like ample time for staff to engage with family, flexible work hours, conducive remote work environment accessories, and opportunities for staff to pursue personal societal passions. The company leaders also conduct an annual companywide employee survey to further understand how to enrich the work environment for the staff. These measures have enhanced the competitiveness of the company for attracting skilled talents to sustain innovation culture in the organization. Figure 15 shows a nonincreasing trend in the staff voluntary turnover rate compared to previous years. Voluntary turnover has an adverse effect on workers motivation and performance on the job (Koszela, 2020). Companies in the IT sector that do not measure and monitor their employees' voluntary turnover rate could lose competitiveness in the industry. The leadership team actively works on practices to improve workers morale to keep attracting and retaining skilled talents.

Iroko also measure the yearly performance on their target to expand inclusion of women and underrepresented communities in their technology leadership team. The leadership attention to inclusive management led to a 2% and 4% increase in women and underrepresented communities' participation in the company's leadership position between 2021 and 2022. The company also invest significant resources to train, develop and provide opportunities for staffs to learn on the job.

Figure 15

Staff Turnover



Leadership and Governance Results

The nature of leadership and governance results in an organization is an indication of the innovation behavior and performance outcomes of the organization. A destructive leadership retards team performance and hinders innovation (Suk Bong Choi et al., 2022). While authentic leadership style that stimulates organizational learning and innovation enhances organizational success (Nawaz & Tian, 2022). Iroko leaders maintain collaborative stance in the industry that endears them to other technology leaders and multinational consulting firms in the industry. This open communication and

engagement with partners have led to joint development of technology frameworks and platforms like the Linux opensource operating system and cryptographic standards that the industry leverage for rapid innovation. Iroko leadership team is capitalizing on the goodwill Iroko has garnered in the industry as the trusted technology advisor to expand IrokoSTU products and brand in the industry.

IrokoSTU operates in an unregulated technology education industry with curricula tied to the business goals of the parent company and partner organizations in the industry. The unit leadership team track performance on the basis of the number of people taking the courses and how the learners influence their organization's business decision and outcomes using the learnings from attending the course. OKRs are pervasive target setting and performance measurement frameworks the leadership team use for assessing the governance and leadership results. The leadership team encourages active interaction among different units in the organization to share expertise and resources and build quarterly OKRs. These OKRs are consolidated up to the executive-level to provide visibility on teams' pursuit of shared goals and performance objectives.

The leadership team encourages a culture of distributed innovation and intelligent risk taking. Some of the significant innovation ideas originate from the field resources and line staffs that are engaged directly with the customers or involved in active development. For instance, a regional unit of the organization adapted the learning content of IrokoSTU to a group learning module inside transit bus to address the peculiar needs of the region. The leadership culture of open collaborative behavior in the industry

endears the organization leadership team to the partners and makes it easy to earn partners' trust for new projects like the setup of IrokoSTU cloud education.

Financial and Market Results

The competitive pressure in the technology products and services industry is altering and affecting the financial performance of organizations in the industry. Iroko had over 30% drop in net income in 2022 despite increasing the spend on marketing and operational activities by over 10% from the previous year. Amazon webservice, another company in the sector, within the same period of 2022 financial year had about 30% growth in net sales. Established technology leaders lose their competitive edge and leadership position through consumers apathy, expansionary activities of new entrants, and increasing attention of policymakers for low consideration of social welfare (Thomas et al., 2021). Industry leaders can sustain leadership positions by leveraging available resources in the organization to proactively reinvent their customers loyalty, stay ahead of competitive pressures from new entrants, and remain socially responsible in the industry. IrokoSTU provides capabilities for stimulating customers' interest on Iroko's superior technology products which has been under significant pressure from new entrants to the market.

IrokoSTU was initially launched as an internal product without a direct financial goal to stimulate internal interest before extending the product to external customers. Subsequently, there has been an increasing demand for the product by the partners, as the training significantly reduces the learning curve of partners on the new cloud technologies. Although Iroko leaders are not putting significant attention on the sales

volume of IrokoSTU training contents currently, the unit leaders, however, plan to focus on rapid growth of students' enrollment, badges earned, and exams pass rate to assess the market performance and acceptance of the product. As a subunit of the marketing group, IrokoSTU provides indirect sales boost to the group through customers' education and the revenue earnings from the sales to external customers.

Key Themes

Process Strengths

Organizations achieve operational excellence through the processes or methods they use and consistently improve (BPEP, 2021). According to BPEP, the effectiveness of organizational processes can be measured through four factors comprising the approach, deployment, learning, and integration of the processes. Scores on Approach relate to the appropriateness of the process to the organizational context, its effective use, and repeatability of the process. Deployment involves measures of the consistent application of the process across respective work sections. Learning includes the extent of continuous process review and improvements, adoption of best practices, and open share of process improvements with other work units in the organization. Integration relates to the alignment of the processes to the enterprise goal and identified needs. IT organizations have used improvement on their development processes to enhance their capabilities and performance (Joembunthanaphong & Sriharee, 2022). Using the RBV framework involving use of available resource for competitive advantage (Penrose, 1959), we can understand strengths of IrokoSTU processes in advancing the unit objectives and company-wide performance goals.

IrokoSTU cloud education process begins with objectives and key result areas that are aligned to the organizational goals. The unit uses repeatable curriculum development processes that can easily scale to develop contents and certification exams and deploy them internally and externally across multiple platforms to reach a wider customer audience. The unit leaders use the approach of getting the internal customers in the Iroko organization to take the courses and exams before exposing them to the larger external market to provide credibility to the training products, perfect the product with rich internal feedbacks, and ensure alignment to the desired company-wide goal of enhancing knowledge and decision process on cloud computing technologies.

IrokoSTU understands the competitive pressure in the cloud education and certification industry dominated by the CSPs and other technology manufacturers, and hence, leverages the best capabilities to ensure continuous improvement and learning as the company rolls out cloud education curriculum products. SMEs with several years of experience in cloud computing paired with industry acclaimed content developers provide quality learning content while professional psychometricians develop appropriate certification exams for the courses. The unit deliberately follows industry best practices and continuously improves on the practices using periodic industry scan and customer survey by professional market scan consultants.

Process Opportunities

As a new entrant in the competitive cloud education market, IrokoSTU has opportunities to learn from the mistakes of the industry leaders and standardize effective processes to gain market share and remain competitive. They could do this by

continuously improving the instructional design and curriculum development process to align with the fast-changing customer needs in the industry. The unit does not currently have a formal process for reviewing and improving the instructional design and curriculum development process after a course is launched. Research participants noted that the unit can formalize periodic customer engagement after a course is launched to review program criteria to sustain continuous improvement of the process.

Results Strengths

The results achieved by the IrokoSTU team help to stimulate broader Iroko organization brand awareness and enhanced products demand in the cloud computing ecosystem. The uptake of the rolled-out courses continues to increase, and the unit has scalable capabilities to expand the curriculum coverage as customers' and partners' demand increases. There is also increasing request by other units in the Iroko organization to transfer some of their other related training programs to IrokoSTU to leverage the growing impact and professionalism of the unit's training model.

Another result strength of IrokoSTU is getting the CSPs actively involved in the development, deployment, and marketing of the curriculum products. This mitigated the risk of adversarial posture of the CSPs to the program and has broadened the customer base for the learning products. The increasing performance of the curriculum could significantly enhance the knowledge of the key players in the industry in making appropriate cloud investment decisions and hence sustain the passion for innovation in the industry.

Results Opportunities

IrokoSTU has growth limitations as a subunit of a group in a very large organization. The unit competes with several other smaller units for budgetary resources to execute operational and strategic plans. These limitations place the unit at a disadvantage compared to other independent organizations offering similar learning products. IrokoSTU leaders also face significant constraints at creating unique, consistent, and common branding message for the cloud training products of the unit. It could be difficult separating the unit brand communication from the overall corporate brand messages or adapting the message to their unique cases. Furthermore, there are other training functions in the broader Iroko organization managing their training function with platforms and resources different from what IrokoSTU uses. Harmonizing these diverse training capabilities and creating a training subsidiary organization could enhance overall performance result of the organization.

Project Summary

Cloud computing has disrupted the traditional hardware delivery model. The users only access abstracted instances, services, resources, and tools to build their solutions (Gan et al., 2020). The underlying hardware is no longer visible to the users, and user organizations face the risk of choosing instances that do not benefit their workload. The COVID-9 pandemic hastened the cloud revolution across many sectors (Sharma et al., 2023). Players in each sector grapple with adapting to the new trend. Users' cloud knowledge determines the quality of capabilities they can choose and use in the cloud to develop their business solutions (Cukier, 2019; Gkika et al., 2020). A poor choice could

lead to weak customer solutions and loss of competitiveness. Hence the purpose of this qualitative single case study was to explore strategies technology manufacturing leaders use to educate users on how to make optimal cloud technology selection decisions for their organizations during periods of rapidly evolving innovation. Some global technology brands lost about 50% of their customer loyalty because of new capabilities and alternatives available in the emerging cloud computing model (Kocaman et al., 2020; Terneborg et al., 2021). Adapting to the emerging cloud revolution is critical to the survival and competitiveness of organizations.

I researched how a major technology provider located in the western region of the United States responded successfully to stem the waning competitiveness of its technology products and solutions during the cloud revolution. My study and research with the leaders of IrokoSTU (a pseudonym to protect the identity of the strategic business unit of the major technology provider) indicate that the specific business problem is that some technology manufacturing leaders lack strategies to educate users on how to make optimal cloud technology selection decisions for their organizations during periods of rapidly evolving innovation. The participating IrokoSTU leaders in this research took an active part in the strategic management process of the unit and the organization.

I used the RBV theory (Penrose, 1959) and the 2021–2022 Baldrige Excellence Framework (see BPEP, 2021) as the conceptual framework for a systemic study and analysis of the company. I interviewed IrokoSTU business leaders to understand the organization and its strategic management process. I also reviewed the company

documents, organization website, publicly available information, and market research reports of consultants engaged by the company to gather data and information regarding their strategic response to cloud disruption. I discussed the research findings with IrokoSTU leaders to broaden the unit's impact on aiding cloud technology decisions for user organizations. The first component of the research was the review and analysis of the organizational profile that highlighted the strategic challenges and opportunities of the unit. The organizational profile data provided the basis for analyzing the leadership triad comprising leadership approach, strategic management process, and customer management. IrokoSTU leaders initially launched its unique version of cloud education curricula as an internal program to educate internal customers first and structured as a subunit of the larger Iroko organization. This structure as a subunit of Iroko constrains the unit from developing unique marketing communication and embarking on strategic entrepreneurial rollout to compete with the more established traditional cloud education providers in the industry after IrokoSTU curricula were opened to the larger public. IrokoSTU leaders understand the competitive limitations of their subunit structure and extensively leverage external professionals and internal sales teams to augment workforce and sales capabilities.

I reviewed the results triad comprising the workforce, and operations details, including the measurement and results analysis, after the leadership triad. During the analysis, IrokoSTU leaders identified the need for a structured customer engagement mechanism to continuously improve and enhance program criteria after launching the curricula. The leadership team also recognized the need to establish curricula

performance baselines to track progress. IrokoSTU cloud curricula rollout appears to enjoy significant uptake and growth during the study period. The number of learners subscribing to the partner sites offering the curricula increased rapidly at the end of 2022. The unit has a scalable and repeatable model that can scale to the extent of available resources and demand-pull.

IrokoSTU leaders leverage the OKR planning and prioritization framework to prioritize the overarching goal of using cloud training to drive relevance and preference for Iroko's products and services in the cloud ecosystem. The unit leverages external and internal resources at the team level to build a world-class cloud certification program engine and teams that deliver training, curriculum products, and certification exams. The unit is positioned to continue expanding curriculum delivery to reach a wider audience and broaden influence on user organizations' decision makers in their cloud computing products and solution choices. RBV was the apt conceptual framework for this study because of Penrose's (1959) perspective of using available unutilized resources to attain competitive advantage. Iroko deployed the available resource capabilities they built over time that other players in the industry could not easily imitate to launch IrokoSTU cloud curricula. This approach aligns with Barney's (1991) view on RBV that it is the resource that is valuable, rare, imperfectly imitable, and nonsubstitutable that can be used to sustain competitive advantage.

Contributions and Recommendations

The findings from this research can be used to understand how technology manufacturers and service providers can reposition their organizations to compete

successfully in the cloud computing ecosystem. The research review process further strengthened IrokoSTU leaders' capabilities for periodic review and enhancement of the cloud curricula operating unit. Organization leaders can leverage learnings from previous actions to enhance their future operations and sustain innovation performance (Patky, 2020). IrokoSTU leaders can leverage learnings and recommendations from this study to further enhance their performance. Technology leaders, besides IrokoSTU leaders, can periodically review their organization using BPEP tools to deepen their organizational learning and innovativeness.

Strategic customer intelligence is critical for adapting innovations to customer needs and influencing their decisions. Leaders in a rapidly changing industry can leverage the intelligent construction of customer models to support decisions on personalizing customer needs (Pereira et al., 2022). Understanding customers' needs accurately can facilitate tailoring innovative solutions to address them and influencing favorable customer decisions. The findings from the research include evidence of active use of strategic customer intelligence within Iroko organization to conceive and develop customer-centric cloud curricula products for educating customers and influencing user organizations' cloud computing decision process. Further research can be done to identify the relative significance of strategic customer intelligence on innovation performance and influencing user organization choices.

IrokoSTU can be repositioned as a more independent group or a subsidiary of the Iroko organization to maximize the benefits of the agnostic cloud education curricula. Strategic business units operating as independent entities provide special development

and marketing focus to the product lines (Islami et al., 2021). The recommended structure would stimulate entrepreneurial expansion and unique brand identity for broader impact. This new structure could enhance IrokoSTU's capabilities to compete better with other leading peer providers of similar products. I recommend that similar large organizations extending their services towards different market segments could leverage appropriate strategic business structures to provide adequate leeway for the business unit to operate and compete effectively with peers in the new market.

IrokoSTU also needs to standardize post curricula launch review process to measure periodic growth from baseline towards desired goals. The existing review process involving extensive use of consultants can serve the unit at the early stages of operations. Standardizing the review process could provide the learning for sustained innovation, attending to changing customer needs, and influencing the organization's decisions.

Application to Professional Practice

The findings of this study using the RBV theory as the conceptual framework and 2021–2022 Baldrige Excellence Framework (see BPEP, 2021) adds to the existing body of knowledge on technology providers' response to cloud computing disruption and rapid technology innovation revolution in the industry. Technology providers in the United States and worldwide seeking to sustain competitiveness in the fast-changing computer delivery model leaning toward cloud computing may benefit from this study's findings and recommendations. The three primary themes from this study comprise (a) strategic

customer intelligence, (b) credible agnostic cloud education, and (c) socially responsible involvement in the cloud industry.

Customers' preferences, desires, and expectations are evolving rapidly in the modern market. Business leaders need deep knowledge of their existing and potential customers. The disruptive technologies driven by cloud computing, AI, and digital channels expose customers to alternatives and stimulate expectations for personalized services (Adke et al., 2022). Technology and service providers need adequate information to manage customer experience and retain loyalty. Professional services companies that enhance their decision process and reporting with automation tools and use AI to mine data keep their customers engaged and satisfied (Nichols, 2022). The strategic customer intelligence finding in this research is an approach businesses and organizations can use to sustain their competitiveness during rapid digital transformation. Business leaders can leverage AI data mining, using professional market research organizations and maintaining close contact with customers to keep abreast of their evolving profiles. Through strategic customer intelligence, business leaders can adapt their innovation delivery to enhance overall customer experience and sustain their competitiveness. Organizations that lag in customer intelligence during rapid technology changes can lose competitiveness. The contemporary market is intensely competitive, disruptive, and dynamic arising from technologies empowering changing customer needs, expectations, and behaviors (Sarangee et al., 2022). Iroko leaders leveraged strategic customer intelligence to create innovative IrokoSTU agnostic cloud education to address the potential commoditization of their superior technology product because of available

alternatives in the cloud. Technology providers can enhance their manufacturing process and attain sustainable product development through consumer intelligence (Bhardwaj, 2021). The providers can use customer intelligence to develop appropriate products for customers and use the same intelligence to sustain product improvement to meet changing customer needs. This finding has a valuable practical implication for business practitioners. It includes insights into how business leaders can keep their organization nimble, and fact driven to readily adapt their value chain to changing needs using accurate customer intelligence.

Another business implication of this research finding is that customers' depth of knowledge of the available innovative cloud products can affect customer organizations' choice and performance of technology solutions. Uninformed users can choose cloud solutions that do not benefit their organizations' payload. Cloud adoption involves extensive evaluation of the reliability and support cost of the existing IT system compared to their cloud computing alternatives (Bian et al., 2020). These evaluations for cloud adoption require deep knowledge of cloud computing technologies and desired solution performance to meet customer needs. CSPs provide limited cloud computing knowledge options to user organizations and solution designers as they provide specialized training focusing on their unique cloud offerings. The credible agnostic cloud education approach adopted by Iroko is a replicable model that other organizations can use to influence preferences for their products in a very competitive and multiproduct industry. Iroko cloud curricula cover the contents and technology offerings of all the major cloud providers. The cloud-agnostic training model positions Iroko as a trusted

advisor in an industry with siloed competitors. IrokoSTU cloud education, covering the services provided by other players in the industry, makes it easy for user organizations to comparatively assess the options available in the cloud to determine optimal solution choices for their operating model and customer needs. Iroko leaders use this agnostic cloud education to sustain the innovation performance in the organization as the customers could identify, prioritize, and choose their superior products in the new abstracted-hardware cloud computing model. Customers are also able to provide informed feedback to sustain innovation performance.

Responsible corporate organizations that collaborate and support overall industry growth and standardization can enhance their reputation and improve their financial performance. Organizations engaging in socially responsible practices enhance their reputation, firm value, and competitiveness (Qonita et al., 2022). Iroko leaders enhanced their reputation and improved the cloud industry innovation capabilities through their responsible model of partnering with competitors, customers, and regulatory bodies to enhance the cloud industry standards. Business leaders can repeat this responsible engagement in society and across industries. For instance, the horticultural industry in the Netherlands could attain sustainable high-tech innovations for improved performance on energy-efficient and climate-neutral objectives through the co-creation of value among industry players (Moons et al., 2021). Corporate leaders can leverage the enabling cooperative structure and stability created through socially responsible corporate practices of the industry players to enhance their sustainable innovation performance. As the cloud industry ecosystem continues to evolve, sustained socially responsible

involvement of key players in the cloud industry would keep strengthening the operating model in the industry for innovation performance improvement, satisfying changing customer needs, and driving higher firm value for the industry players.

Implications for Social Change

This study's implication for potential social change extends beyond the Iroko organization leaders, staff, partners, and customers. Cloud computing has revolutionized the operating model of many industries and how we live, work, and play in communities. Cloud computing is a powerful tool for optimizing technology resource allocation and accessing and managing massive data on the internet (Bigdeloo et al., 2022). Deep knowledge of cloud computing enhances how we live and work. How IT organizations and teams manage their workloads and digital resources has been disrupted (Pericherla, 2023). Organizations can increase or decrease their resources more efficiently and work from anywhere. Modern organizations need knowledgeable resources to operate in the new model. Cloud ecosystem players with deep knowledge of various cloud solutions could have a significant edge over their peers in getting dream jobs and contributing to industry growth.

Furthermore, organizational leaders with good knowledge of cloud computing can improve the quality of their resource allocation and hence their capacity to contribute to society's goods and quality of living. Organizational leaders can leverage optimal resource decisions framework to manage, for instance, the technology resource allocation concerns in higher education institutions during cloud computing disruptions (Qasem et al., 2021). Hence, the innovative agnostic cloud education strategy Iroko leaders use

could contribute to developing the capabilities of the industry leaders and operational resources for making the right technology choices to sustain operations, enrich the work content, and improve the quality of products and services to society.

The outcome of Iroko's socially responsible involvement in the industry can stimulate other business leaders to follow socially responsible practices in their respective industries. Organizations get reciprocated value for their contributions to the industry (Gueler & Schneider, 2021). Hence, organizational leaders leveraging this finding on socially responsible involvement in the industry could collaborate more to enhance innovation performance and improve services to the customers and the society in their respective industries.

Finally, organizational leaders across industries can leverage strategic customer intelligence using the available massive data in the cloud to innovate their service delivery as the market evolves during rapid changes. Organizations that respond too slowly could lose competitiveness, leading to significant losses to the impacted business communities and society. As knowledge management impacts organizational performance (Darmawan et al., 2023), organizational leadership can prioritize the knowledge of their customers to enhance their performance during rapid technology innovation.

Recommendations for Action

The recommendation for action is based on the analysis, findings, and conclusions from the study of Iroko organization research data. The leaders of Iroko, IrokoSTU, and other technology innovation providers in cloud ecosystem can consider implementing the

recommendations for sustainable competitiveness. At the subunit level, IrokoSTU leaders can standardize customer intelligence to include a structured engagement and analysis of the customers that took cloud curricula courses to understand their preferences, satisfactions level, trends, and improvement feedbacks. They can leverage this knowledge for continuous improvement of cloud education offering to stay competitive as the cloud ecosystem market changes rapidly. At the organizational level, Iroko leaders need to reposition IrokoSTU as a more independent strategic business entity to aid better communication of the value proposition of the unit to the target audience. Large companies that are not homogenous includes internal subunits that engage in internal cooperative and competitive relationships that can impact innovation performance and startup collaborations (Seran & Bez, 2021). Careful structuring and management of emerging rival business units could enhance rapid growth of new startup ideas to compete in emerging diverse market segments. Repositioning IrokoSTU as a more independent business unit could facilitate rapid growth to maximize the benefits of the early acceptance of IrokoSTU cloud curricula offerings, attained through reputation Iroko built overtime through responsible corporate activities and innovation drive in the industry.

Other industry leaders can also adapt the findings on strategic customer intelligence and cloud education to their context to remain competitive as cloud computing disrupts service delivery model across industries. In the financial industry for instance, FinTechs are challenging traditional business model and leveraging technologies and collaboration to extend their customer acquisition and satisfaction

(Ruhland & Wiese, 2023) and they are making significant contribution to the sustainable developments in the banking and financial industry (Legowo et al., 2020). Existing banking and financial industry leaders need to engage actively to understand the changing customer profile and acquiring significant cloud computing education to evolve innovation to compete and collaborate with the emerging new players in the industry.

Industry leaders in fast changing sectors can form alliances to standardize their industry to create stability, cooperation, and transparency that can stimulate innovation as Iroko did in the emerging cloud ecosystem sector. Companies that share common interests or involved in evolving technologies can unite to standardize their sector to achieve their goals better (Moon & Lee, 2021). Standardization and interoperability sustain assets digitalization driving industry 4.0 technology revolution (Inigo et al., 2020). Organization leaders can use the findings from this research to lead or participate more in efforts to enhance collaborations and operating standards of their industry to improve innovation performance and meet customers' changing needs. Government agencies can also leverage findings from this research to promote policies that engender open collaboration, transparency, and standardization to enable players in the industry have the stability for long term innovation investments.

The results of this study will be disseminated widely and made easily accessible. Doctoral students need to be sensitive to the ethical issues that may arise from unequal access to different methods used to disseminate research findings including social media options (Robinson-Pant & Singal, 2020). The research findings will be disseminated through publications, conferences, trainings, and lectures. The findings will also be

disseminated through social media for ease of discovery by industry leaders and consultants.

Recommendations for Further Research

This study did not focus on creating a framework for choosing from multiple cloud options in the market. Future researchers can develop framework organization leaders can use to identify, profile, and select from the available cloud options in the market that best fits their workload. Another area for further research is on the impact and cost of reverting from cloud computing back to the traditional on premises computing. Some organization in a bid to follow the cloud migration trend fail to do adequate impact analysis of moving legacy applications to cloud which could lead to significant cost overrun and implementation delays as new cloud operating model involves some hidden costs and involves different commercial models (Ramchand et al., 2021). Further research on the costs of moving from cloud computing back to on premises could help business leaders reevaluate their cloud choices in context of their strategic business needs. Researchers can also consider using multiple case studies to further validate the findings of this research across multiple organization contexts.

Reflections

The consulting capstone of Doctor of Business Administration offered through Walden University provided me the opportunity to conduct a qualitative case study and practice as a scholar consultant for a major technology provider. I gained significant experience using the 2021–2022 Baldrige Excellence Framework to obtain deep knowledge of my client organizations and identified improvement opportunities while

engaged in reflective communications with the client leaders. Consultants can stimulate industry best practices that enhance collaboration and sustainable growth (Mariana Radov, 2022).

I prioritized validity and reliability of the research process and findings in this study. I recognized the risk of personal bias and provided adequate measures to mitigate them using member checking, data triangulation, transcript validation, and an interview protocol. To deepen the quality of conversation and understanding of the client perspective, I quickly improved my cloud knowledge early in the interaction with the client. I also ensured accurate understanding of discussions with client using transcripts of each discussion to provide summaries for member checking with the client. Using member checking enhances the rigor and credibility of academic research (Marshall & Rossman, 2016). I leveraged member checking to minimize personal bias while using structured data analysis process that includes adaptation of Yin's 5-step analysis to synthesize the research data.

My writing, reading, and comprehension skills improved significantly through this DBA consulting process. The study process strengthened my capacity to engage in reflective discussions on business issues from an unbiased perspective. The deep engagement with the client on specific cloud computing innovation provided me with deeper insights on the trends and opportunities in the industry for further studies and consulting engagements. I learned useful skills and practices from this study that I can apply to my consulting and business career to serve a larger client base.

Conclusion

The purpose of this qualitative single case study was to explore strategies technology manufacturing leaders use to educate users on how to make optimal cloud technology selection decisions for their organizations during periods of rapidly evolving innovation. Technology providers and cloud computing user organizations that seek to optimize their cloud investment can benefit from the findings and recommendations in this research. The emerging themes from this study include the importance of (a) strategic customer intelligence, (b) credible agnostic cloud education, and (c) socially responsible involvement in the cloud industry. The findings and recommendations from this research can enrich positive social impact through enhanced collaboration, fact-based decisions, and socially responsible behaviors that can stimulate innovation and sustainable products and services that enhances value delivery to customers and society.

References

- Abasiattai, I., & Ahmed, S. A. (2020). Case study of the application of the Malcolm Baldrige criteria to improve quality performance of a completions workshop. *Performance Improvement*, 59(10), 30–53. <https://doi.org/10.1002/pfi.21942>
- Aboramadan, M., & Kundi, Y. M. (2020). Does transformational leadership better predict work-related outcomes than transactional leadership in the NPO context? Evidence from Italy. *Voluntas: International Journal of Voluntary and Nonprofit Organizations*, 31(6), 1254–1267. <https://doi.org/10.1007/s11266-020-00278-7>
- AbuRaya, R., & Gomaa, Y. A. (2020). Philosophical assumptions, methodological choices and research design: E-learners versus non e-learners. *2020 Sixth International Conference on E-Learning (Econf)*, 374–380. <https://doi.org/10.1109/econf51404.2020.9385478>
- Adams, P., Bodas Freitas, I. M., & Fontana, R. (2019). Strategic orientation, innovation performance and the moderating influence of marketing management. *Journal of Business Research*, 97, 129–140. <https://doi.org/10.1016/j.jbusres.2018.12.071>
- Adke, V., Bakhshi, P., & Askari, M. (2022). Impact of disruptive technologies on customer experience management in ASEAN: A review. *2022 IEEE International Conference on Computing (ICOCO)*, 364–368. <https://doi.org/10.1109/ICOCO56118.2022.10031882>
- Agostini, L., Galati, F., & Gastaldi, L. (2020). The digitalization of the innovation process: Challenges and opportunities from a management perspective. *European*

Journal of Innovation Management, 23(1), 1–12. <https://doi.org/10.1108/EJIM-11-2019-0330>

Ahn, S., Kim, K. S., & Lee, K. H. (2022). Technological capabilities, entrepreneurship, and innovation of technology-based start-ups: The resource-based view. *Journal of Open Innovation: Technology, Market and Complexity*, 8(156), 156–156.

<https://doi.org/10.3390/joitmc8030156>

Akbar, M. A., Sang, J., Khan, A. A., Mahmood, S., Qadri, S. F., Hu, H., & Xiang, H. (2019). Success factors influencing requirements change management process in global software development. *Journal of Computer Languages*, 51, 112–130.

<https://doi.org/10.1016/j.cola.2018.12.005>

Akter, J. S., & Haque, S. M. (2022). Innovation management: is big data necessarily better data? *Management of Sustainable Development*, 14(2), 27–33.

<https://doi.org/10.54989/msd-2022-0013>

Akman, B., Yazici, D. N., & Akgül, E. (2022). Determining the practice differences in preschool teachers' practices for evaluating children in the face-to-face and distance education process, with the views of the teachers. *Journal of Education (HAYEF)*, 19(2), 130–137. <https://doi.org/10.54614/hayef.2022.22004>

Al-Dhaafri, H. S., & Alosani, M. S. (2021). Mechanism of organisational excellence as a mediator on the relationship between human resource management and organisational performance: Empirical evidence from public sector. *International Journal of Quality & Reliability Management*, 38(3), 822–838.

<https://doi.org/10.1108/IJQRM-12-2019-0364>

- Al-Shami, S., Bakri, M. H., Adil, H., & Mamun, A. A. (2022). Information technology competencies as antecedents for absorptive capacity and innovation capabilities in a high-tech industry. *Foresight*, 24(5), 565–585. <https://doi.org/10.1108/FS-12-2020-0129>
- Alam, M. K. (2021). A systematic qualitative case study: Questions, data collection, NVivo analysis and saturation. *Qualitative Research in Organizations and Management: An International Journal*, 16(1), 1–31. <https://doi.org/10.1108/QROM-09-2019-1825>
- Ali, D., Rehman, A. U., & Khan, F. H. (2022). Hardware accelerators and accelerators for machine learning. *2022 International Conference on IT and Industrial Technologies (ICIT)*, 01–07. <https://doi.org/10.1109/ICIT56493.2022.9989124>
- Andrevski, G., & Ferrier, W. J. (2019). Does it pay to compete aggressively? Contingent roles of internal and external resources. *Journal of Management*, 45(2), 620–644. <https://doi.org/10.1177/0149206316673718>
- Aniskina, N. N., & Azarov, V. N. (2022). The special aspects of quality management of the organization at the stage of digital transformation. *2022 International Conference on Quality Management, Transport and Information Security, Information Technologies (IT&QM&IS)*, 11–16. <https://doi.org/10.1109/ITQMIS56172.2022.9976811>
- Antonio, M. G., Schick-Makaroff, K., Doiron, J. M., Sheilds, L., White, L., & Molzahn, A. (2020). Qualitative data management and analysis within a data repository.

Western Journal of Nursing Research, 42(8), 640–648.

<https://doi.org/10.1177/0193945919881706>

- Archibald, M. M., Ambagtsheer, R. C., Casey, M. G., & Lawless, M. (2019). Using Zoom videoconferencing for qualitative data collection: Perceptions and experiences of researchers and participants. *International Journal of Qualitative Methods*, 18, 1–8. <https://doi.org/10.1177/1609406919874596>
- Assensoh-Kodua, K. (2019). The resource-based view: A tool of key competency for competitive advantage. *Problems and Perspectives in Management*, 17(3), 143–152. [https://doi.org/10.21511/ppm.17\(3\).2019.12](https://doi.org/10.21511/ppm.17(3).2019.12)
- Avenyo, E. K., Konte, M., & Mohnen, P. (2021). Product innovation and informal market competition in sub-Saharan Africa: Firm-level evidence. *Journal of Evolutionary Economics*, 31(2), 605–637. <https://doi.org/10.1007/s00191-020-00688-2>
- Awan, M. A. A., & Jehanzeb, K. (2022). How CEO transformational leadership impacts organizational and individual innovative behavior: Collaborative HRM as mediator. *Leadership & Organization Development Journal*, 43(8), 1271–1286. <https://doi.org/10.1108/LODJ-05-2021-0197>
- Azadi, M., Emrouznejad, A., Ramezani, F., & Hussain, F. K. (2019). Efficiency measurement of cloud service providers using network data envelopment analysis. *IEEE Transactions on Cloud Computing*. <https://doi.org/10.1109/TCC.2019.2927340>
- Azadi, M., Izadikhah, M., Ramezani, F., & Hussain, F. K. (2020). A mixed ideal and anti-ideal DEA model: An application to evaluate cloud service providers. *IMA*

Journal of Management Mathematics, 31(2), 233–256.

<https://doi.org/10.1093/imaman/dpz012>

Baldrige Performance Excellence Program. (2021). *2021–2022 Baldrige excellence framework: Proven leadership and management practices for high performance*.

U.S. Department of Commerce, National Institute of Standards and Technology.

<https://www.nist.gov/baldrige/publications/baldrige-excellenceframework>

Baouya, A., Mohamed, O. A., Ouchani, S., & Bennouar, D. (2021). Reliability-driven automotive software deployment based on a parametrizable probabilistic model checking. *Expert Systems with Applications*, 174, Article 114572.

<https://doi.org/10.1016/j.eswa.2021.114572>

Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99–120. <https://doi.org/10.1177/014920639101700108>

Beardsley, M., Martínez Moreno, J., Vujovic, M., Santos, P., & Hernández-Leo, D. (2020). Enhancing consent forms to support participant decision making in multimodal learning data research. *British Journal of Educational Technology*, 51(5), 1631–1652. <https://doi.org/10.1111/bjet.12983>

Beck, K., Beedle, M., Van Bennekum, A., Cockburn, A., Cunningham, W., Fowler, M., Grenning, J., Highsmith, J., Hunt, A., & Jeffries, R. (2001). *The agile manifesto*. Agile Alliance.

Benozzo, A., & Gherardi, S. (2019). Working within the shadow: What do we do with “not-yet” data? *Qualitative Research in Organizations and Management: An*

International Journal, 15(2), 145–159. <https://doi.org/10.1108/QROM-09-2018-1684>

Bergeron, D. A., & Gaboury, I. (2020). Challenges related to the analytical process in realist evaluation and latest developments on the use of NVivo from a realist perspective. *International Journal of Social Research Methodology*, 23(3), 355–365. <https://doi.org/10.1080/13645579.2019.1697167>

Bevens, W., Reece, J., Jelinek, P. L., Weiland, T. J., Nag, N., Simpson-Yap, S., Gray, K., Jelinek, G. A., & Neate, S. L. (2022). The feasibility of an online educational lifestyle program for people with multiple sclerosis: A qualitative analysis of participant semi-structured interviews. *Digital Health*, 8. <https://doi.org/10.1177/20552076221123713>

Bhardwaj, B. R. (2021). Adoption, diffusion and consumer behavior in technopreneurship. *International Journal of Emerging Markets*, 16(2), 179–220. Complementary Index. <https://doi.org/10.1108/IJOEM-11-2018-0577>

Bian, Y., Kang, L., & Zhao, J. L. (2020). Dual decision-making with discontinuance and acceptance of information technology: The case of cloud computing. *Internet Research*, 30(5), 1521–1546. <https://doi.org/10.1108/INTR-05-2019-0187>

Bigdeloo, M., Ramezani, M., & Rafat, A. (2022). Cloud computing and security. *Indonesian Journal of Innovation and Applied Sciences*, 2(2), 105–113. <https://doi.org/10.47540/ijias.v2i2.518>

Bolatan, G. I. S., Golgeci, I., Arslan, A., Tatoglu, E., Zaim, S., & Gozlu, S. (2022). Unlocking the relationships between strategic planning, leadership and

technology transfer competence: The mediating role of strategic quality management. *Journal of Knowledge Management*, 26(11), 89–113.

<https://doi.org/10.1108/JKM-12-2020-0897>

Bone, E. K., & Ross, P. M. (2021). Rational curriculum processes: Revising learning outcomes is essential yet insufficient for a twenty-first century science curriculum. *Studies in Higher Education*, 46(2), 394–405.

<https://doi.org/10.1080/03075079.2019.1637845>

Bonnin, G., & Alfonso, M. R. (2019). The narrative strategies of B2B technology brands. *Journal of Business & Industrial Marketing*, 24(17), 1448–1458.

<https://doi.org/10.1108/JBIM-03-2019-0112>

Borcoși, C. A. (2022). The importance of business modeling using the unified modeling language (UML). *Research & Science Today*, 24(2), 91–101.

<https://doi.org/10.38173/RST.2022.24.2.7:91-101>

Bougie, R., & Sekaran, U. (2019). *Research methods for business: A skill-building approach* (8th ed.). John Wiley & Sons.

Brown, A., & Danaher, P. A. (2019). CHE principles: Facilitating authentic and dialogical semi-structured interviews in educational research. *International Journal of Research & Method in Education*, 42(1), 76–90.

<https://doi.org/10.1080/1743727X.2017.1379987>

Buetow, S. (2019). Apopenia, unconscious bias and reflexivity in nursing qualitative research. *International Journal of Nursing Studies*, 89, 8–13.

<https://doi.org/10.1016/j.ijnurstu.2018.09.013>

- Bullard, E. (2019). Purposive sampling. *Salem Press Encyclopedia*. Grey House Publishing.
- Chatterjee, S., Rana, N. P., Tamilmani, K., & Sharma, A. (2021). The effect of AI-based CRM on organization performance and competitive advantage: An empirical analysis in the B2B context. *Industrial Marketing Management*, 97, 205–219. ScienceDirect. <https://doi.org/10.1016/j.indmarman.2021.07.013>
- Choi, B., Ravichandran, T., & O'Connor, G. C. (2019). Organizational conservatism, strategic human resource management, and breakthrough innovation. *IEEE Transactions on Engineering Management*, 66(4), 529–541. <https://doi.org/10.1109/TEM.2018.2845343>
- Campbell, S., Greenwood, M., Prior, S., Shearer, T., Walkem, K., Young, S., Bywaters, D., & Walker, K. (2020). Purposive sampling: Complex or simple? Research case examples. *Journal of Research in Nursing*, 25(8), 652–661. <https://doi.org/10.1177/1744987120927206>
- Candela, A. G. (2019). Exploring the function of member checking. *The Qualitative Report*, 24(3), 619–628. <https://doi.org/10.46743/2160-3715/2019.3726>
- Cardno, C. (2019). Policy document analysis: A practical educational leadership tool and a qualitative research method. *Educational Administration: Theory and Practice*, 24(4), 623–640. <https://doi.org/10.14527/kuey.2018.016>
- Cassel, G. A. S., Rodrigues, V. F., da Rosa Righi, R., Bez, M. R., Nepomuceno, A. C., & da Costa, C. A. (2022). Serverless computing for Internet of Things: A systematic

literature review. *Future Generation Computer Systems*, 128, 299–316.

<https://doi.org/10.1016/j.future.2021.10.020>

Changchit, C., Cutshall, R., & Changchit, C. (2022). Determinants of students' intention to learn cloud computing. *Journal of International Technology & Information Management*, 31(1), 45–78. <https://doi.org/10.58729/1941-6679.1510>

Chauhan, R. S. (2022). Unstructured interviews: Are they really all that bad? *Human Resource Development International*, 25(4), 474–487.

<https://doi.org/10.1080/13678868.2019.1603019>

Chen, W. T., Zhou, G. S., & Zhu, X. K. (2019). CEO tenure and corporate social responsibility performance. *Journal of Business Research*, 95, 292–302.

<https://doi.org/10.1016/j.jbusres.2018.08.018>

Choi, S. B., Jung, K. B., & Kang, S. W. (2022). What hinders team innovation performance? Three-way interaction of destructive leadership, intra-team conflict, and organizational diversity. *Frontiers in Psychology*, 13, 1–18.

<https://doi.org/10.3389/fpsyg.2022.879412>

Clauss, T., Harengel, P., & Hock, M. (2019). The perception of value of platform-based business models in the sharing economy: Determining the drivers of user loyalty. *Review of Managerial Science*, 13(3), 605–634. [https://doi.org/10.1007/s11846-](https://doi.org/10.1007/s11846-018-0313-0)

[018-0313-0](https://doi.org/10.1007/s11846-018-0313-0)

Coleman, P. (2021). Validity and reliability within qualitative research in the caring sciences. *International Journal of Caring Sciences*, 14(3), 2041–2045

- Committee of Sponsoring Organizations of the Treadway Commission (COSO). (2013). Internal control — integrated framework. *Association Sections, Divisions, Boards, Teams*. 689. https://egrove.olemiss.edu/aicpa_assoc/689
- Cooksey, R., & McDonald, G. (2019). How should I approach data analysis and display of results. In *Surviving and thriving in postgraduate research* (2nd Ed., pp. 921–1002). Springer. https://doi.org/10.1007/978-981-13-7747-1_21
- Criado-García, F., Calvo-Mora, A., & Martelo-Landroque, S. (2020). Knowledge management issues in the EFQM excellence model framework. *International Journal of Quality & Reliability Management*, 37(5), 781–800. <https://doi.org/10.1108/IJQRM-11-2018-0317>
- Cronin, L., Allen, J., Ellison, P., Marchant, D., Levy, A., & Harwood, C. (2021). Development and initial validation of the life skills ability scale for higher education students. *Studies in Higher Education*, 46(6), 1011–1024. <https://doi.org/10.1080/03075079.2019.1672641>
- Cukier, W. (2019). Disruptive processes and skills mismatches in the new economy: Theorizing social inclusion and innovation as solutions. *Journal of Global Responsibility*, 10(3), 211–225. <https://doi.org/10.1108/JGR-11-2018-0079>
- Cumyn, A., Ouellet, K., Côté, A.-M., Francoeur, C., & St-Onge, C. (2019). Role of researchers in the ethical conduct of research: A discourse analysis from different stakeholder perspectives. *Ethics & Behavior*, 29(8), 621–636. <https://doi.org/10.1080/10508422.2018.1539671>

- Cusack, B., & Adedokun, A. (2022). Cloud disruption impacts business IT role requirements. *Journal of Computer Information Systems*, 62(5), 1061–1071. <https://doi.org/10.1080/08874417.2021.1978113>
- Cuthbertson, R. W., & Furseth, P. I. (2022). Digital services and competitive advantage: Strengthening the links between RBV, KBV, and innovation. *Journal of Business Research*, 152, 168–176. <https://doi.org/10.1016/j.jbusres.2022.07.030>
- Dagnino, G. B., Picone, P. M., & Ferrigno, G. (2021). Temporary competitive advantage: A state-of-the-art literature review and research directions. *International Journal of Management Reviews*, 23(1), 85–115. <https://doi.org/10.1111/ijmr.12242>
- Dalkin, S., Forster, N., Hodgson, P., Lhussier, M., & Carr, S. M. (2021). Using computer assisted qualitative data analysis software (CAQDAS; NVivo) to assist in the complex process of realist theory generation, refinement and testing. *International Journal of Social Research Methodology*, 24(1), 123–134. <https://doi.org/10.1080/13645579.2020.1803528>
- Dam, N. A. K., Dinh, T. L., & Menvielle, W. (2022). The quest for customer intelligence to support marketing decisions: A knowledge-based framework. *Vietnam Journal of Computer Science*, 09(03), 349–368. <https://doi.org/10.1142/S2196888822500208>
- Darmawan, S., Agusvina, N., Lusa, S., & Sensuse, D. I. (2023). Knowledge management factors and its impact on organizational performance: a systematic literature review. *JOIV: International Journal on Informatics Visualization*, 7(1), 161–167. <https://doi.org/10.30630/joiv.7.1.1644>

- de Waal, A. (2021). The high performance organization: Proposed definition and measurement of its performance. *Measuring Business Excellence*, 25(3), 300–314.
<https://doi.org/10.1108/MBE-04-2020-0064>
- Delgado-Hito, P., & Romero-García, M. (2021). Elaboration of a research project using qualitative methodology. *Enfermería Intensiva*, 32(3), 164–169.
<https://doi.org/10.1016/j.enfie.2021.03.001>
- Dempsey, M., Geitner, L., Brennan, A., & McAvoy, J. (2022). A Review of the success and failure factors for change management. *IEEE Engineering Management Review*, 50(1), 85–93. <https://doi.org/10.1109/EMR.2021.3130989>
- Dibley, L., Dickerson, S., Duffy, M., & Vandermause, R. (2022). *Doing hermeneutic phenomenological research: A practical guide*, 3–14.
<https://doi.org/10.4135/9781529799583>
- Donnellan, J., & Rutledge, W. L. (2019). A case for resource-based view and competitive advantage in banking. *Managerial & Decision Economics*, 40(6), 728–737.
<https://doi.org/10.1002/mde.3041>
- Doss, W., Rayfield, J., Burris, S., & Lawver, D. (2021). A Quantitative content analysis of survey research methods over a 40-year time period in the Journal of Agricultural Education. *Journal of Agricultural Education*, 62(3), 310–328.
<https://doi.org/10.5032/jae.2021.03310>
- Dovbischuk, I. (2022). Innovation-oriented dynamic capabilities of logistics service providers, dynamic resilience and firm performance during the COVID-19

pandemic. *International Journal of Logistics Management*, 33(2), 499–519.

Complementary Index. <https://doi.org/10.1108/IJLM-01-2021-0059>

Du, J., Lu, J., Wu, D., & Chang, X. (2022). An integrated model of knowledge transfer from global flagships to local firms in global production networks. *Singapore Economic Review*, 67(3), 1047–1069.

<https://doi.org/10.1142/S021759082045006X>

El-Kassar, A.-N., Yunis, M., Alsagheer, A., Tarhini, A., & Ishizaka, A. (2021). Effect of corporate ethics and social responsibility on OCB: the role of employee identification and perceived CSR significance. *International Studies of Management & Organization*, 51(3), 218–236.

<https://doi.org/10.1080/00208825.2021.1959880>

Ellahi, R. M., Ali Khan, M. U., & Shah, A. (2019). Redesigning curriculum in line with Industry 4.0. *Procedia Computer Science*, 151, 699–708.

<https://doi.org/10.1016/j.procs.2019.04.093>

Erks, R. L., Allen, J. A., Harland, L. K., & Prange, K. (2021). Do volunteers volunteer to do more at work? The relationship between volunteering, engagement, and OCBs. *Voluntas: International Journal of Voluntary & Nonprofit Organizations*, 32(6), 1285–1298. <https://doi.org/10.1007/s11266-020-00232-7>

Ezer, F., & Aksüt, S. (2021). Opinions of graduate students of social studies education about qualitative research method. *International Education Studies*, 14(3), 15–32.

- Favaretto, M., Clercq, E. D., Gaab, J., & Elger, B. S. (2020). First do no harm: An exploration of researchers' ethics of conduct in big data behavioral studies. *PLoS ONE*, *15*(11), e0241865–e0241865. <https://doi.org/10.1371/journal.pone.0241865>
- Ferrando, M., Hoogerwerf, E.-J., & Kadyrbaeva, A. (2019). Qualitative research on the factors affecting transferability of digital solutions for integrated care. *International Journal of Integrated Care*, *19*(4), 236–242. <https://doi.org/10.5334/ijic.s3236>
- Flor, M. L., Oltra-Mestre, M. J., & Sanjurjo, E. L. (2021). An analysis of open innovation strategies in firms in low and medium technology industries. *IEEE Transactions on Engineering Management*, *68*(3), 853–867. <https://doi.org/10.1109/TEM.2019.2911253>
- Frishammar, J., Richtnér, A., Brattström, A., Magnusson, M., & Björk, J. (2019). Opportunities and challenges in the new innovation landscape: Implications for innovation auditing and innovation management. *European Management Journal*, *37*(2), 151–164. <https://doi.org/10.1016/j.emj.2018.05.002>
- Gan, Y., Zhang, Y., Cheng, D., Shetty, A., Rathi, P., Katarki, N., Bruno, A., Hu, J., Ritchken, B., Jackson, B., Hu, K., Pancholi, M., He, Y., Clancy, B., Colen, C., Wen, F., Leung, C., Wang, S., Zaruvinsky, L., & Espinosa, M. (2020). Unveiling the hardware and software implications of microservices in cloud and edge systems. *IEEE Micro*, *40*(3), 10–19. <https://doi.org/10.1109/MM.2020.2985960>

- Garraffo, F. M., & Siregar, S. L. (2022). Coopetition among competitors in global industries: Drivers that lead to cooperative agreements. *Competitiveness Review*, 32(3), 428–454. <https://doi.org/10.1108/CR-04-2021-0055>
- Gkika, E. C., Anagnostopoulos, T., Ntanos, S., & Kyriakopoulos, G. L. (2020). User preferences on cloud computing and open innovation: A case study for university employees in Greece. *Journal of Open Innovation*, 68(2), 41–41. <https://doi.org/10.3390/joitmc6020041>
- Gossel, B. M. (2022). Analogies in entrepreneurial communication and strategic communication: Definition, delimitation of research programs and future research. *International Journal of Strategic Communication*, 16(2), 134–156. <https://doi.org/10.1080/1553118X.2021.2015689>
- Grant, R. M. (1996). Toward a knowledge-based theory of the firm. *Strategic Management Journal*, 17(S2), 109–122. <https://doi.org/10.1002/smj.4250171110>
- Granstrand, O., & Holgersson, M. (2020). Innovation ecosystems: A conceptual review and a new definition. *Technovation*, 90–91, 102098. <https://doi.org/10.1016/j.technovation.2019.102098>
- Greco, M., Strazzullo, S., Cricelli, L., Grimaldi, M., & Mignacca, B. (2022). The fine line between success and failure: An analysis of open innovation projects. *European Journal of Innovation Management*, 25(6), 687–715. <https://doi.org/10.1108/EJIM-12-2021-0620>
- Gueler, M. S., & Schneider, S. (2021). The resource-based view in business ecosystems: A perspective on the determinants of a valuable resource and capability. *Journal*

of Business Research, 133, 158–169.

<https://doi.org/10.1016/j.jbusres.2021.04.061>

Gupta, V., Rubalcaba, L., Fernandez-Crehuet, J. M., & Pereira, L. F. (2021). Innovation through startup collaboration: Build a relationship with your peer startups. *IEEE Engineering Management Review*, 49(3), 126–135.

<https://doi.org/10.1109/EMR.2021.3101116>

Hamilton Skurak, H., Malinen, S., Näswall, K., & Kuntz, J. C. (2021). Employee wellbeing: The role of psychological detachment on the relationship between engagement and work–life conflict. *Economic & Industrial Democracy*, 42(1), 116–141. Education Source. <https://doi.org/10.1177/0143831X17750473>

Han, S., Park, S. K., & Kwak, K. T. (2021). Workforce composition of public R&D and performance: Evidence from Korean government-funded research institutes. *Sustainability*, 13(3789), 3789–3789. <https://doi.org/10.3390/su13073789>

Hassan, J., Shehzad, D., Habib, U., Aftab, M. U., Ahmad, M., Kuleev, R., & Mazzara, M. (2022). The rise of cloud computing: Data protection, privacy, and open research challenges—a systematic literature review (SLR). *Computational Intelligence & Neuroscience*, 2022, 1–26. <https://doi.org/10.1155/2022/8303504>

Hayashi, P., Jr., Abib, G., & Hoppen, N. (2019). Validity in qualitative research: A processual approach. *The Qualitative Report*, 24(1), 98–112.

<https://doi.org/10.46743/2160-3715/2019.3443>

Haven, T., & Van Grootel, L. (2019). Preregistering qualitative research. *Accountability in Research*, 26(3), 229–244. <https://doi.org/10.1080/08989621.2019.1580147>

- Holowka, P. F. (2020). Collaboration and communication in the leadership of educational technology. *Journal of Systemics, Cybernetics and Informatics*, 18(1), 261–272.
<https://doaj.org/article/24440a5e8cf14ae5859bda074ce06e64>
- Homayounfard, A., & Zaefarian, G. (2022). Key challenges and opportunities of service innovation processes in technology supplier-service provider partnerships. *Journal of Business Research*, 139, 1284–1302.
<https://doi.org/10.1016/j.jbusres.2021.09.069>
- Hou, S. -I. (2021). A mixed methods process evaluation of an integrated course design on teaching mixed methods research. *International Journal for the Scholarship of Teaching & Learning*, 15(2), 1–9. <https://doi.org/10.20429/ijstol.2021.150208>
- Hu, X. (2022). Application of Moore's law in semiconductor and integrated circuits intelligent manufacturing. *2022 IEEE 2nd International Conference on Power, Electronics and Computer Applications (ICPECA), Power, Electronics and Computer Applications (ICPECA), 2022 IEEE 2nd International Conference On*, 964–968. <https://doi.org/10.1109/ICPECA53709.2022.9719252>
- Husain, Z., Dayan, M., Sushil, & Di Benedetto, C. A. (2022). Impact of customer focus on technology leadership via technology development capability – a moderated mediation model. *Journal of Business & Industrial Marketing*, 37(2), 282–293.
<https://doi.org/10.1108/JBIM-04-2020-0186>
- Inigo, M. A., Porto, A., Kremer, B., Perez, A., Larrinaga, F., & Cuenca, J. (2020). Towards an asset administration shell scenario: A use case for interoperability and standardization in Industry 4.0. *NOMS 2020 - 2020 IEEE/IFIP Network*

Operations and Management Symposium, Network Operations and Management Symposium, NOMS 2020 - 2020 IEEE/IFIP, 1–6.

<https://doi.org/10.1109/NOMS47738.2020.9110410>

Isabelle, D., Horak, K., McKinnon, S., & Palumbo, C. (2020). Is Porter's five forces framework still relevant? A study of the capital/labour intensity continuum via mining and IT industries. *Technology Innovation Management Review*, 10(6), 28–41. <https://doi.org/10.22215/timreview/1366>

Islami, E., Sejdiu, L., Hajdini, A., & Imeri, V. (2021). The role of departmentalization, divisional structure and strategic business units (SBUs) in enterprises in Kosovo. *Quality - Access to Success*, 22(183), 18–22.

Iqbal, K., Munawar, H. S., Inam, H., & Qayyum, S. (2021). Promoting customer loyalty and satisfaction in financial institutions through technology integration: The roles of service quality, awareness, and perceptions. *Sustainability*, 13(12951), 12951–12951. <https://doi.org/10.3390/su132312951>

Jasny, L., Sayles, J., Hamilton, M., Roldan Gomez, L., Jacobs, D., Prell, C., Matous, P., Schiffer, E., Guererro, A. M., & Barnes, M. L. (2021). Participant engagement in environmentally focused social network research. *Social Networks*, 66, 125–138. <https://doi.org/10.1016/j.socnet.2021.01.005>

Jaya, P. E. J., & Yuliarmi, N. N. (2019). Factors influencing competitiveness of small and medium industry of Bali: Porter's five forces analysis. *Russian Journal of Agricultural and Socio-Economic Sciences*, 89(5), 45–54. <https://doi.org/10.18551/rjoas.2019-05.06>

- Jiang, H., Sun, S., Xu, H., Zhao, S., & Chen, Y. (2020). Enterprises' network structure and their technology standardization capability in Industry 4.0. *Systems Research and Behavioral Science*, 37(4), 749–765. <https://doi.org/10.1002/sres.2716>
- Jin, S. H., & Choi, S. O. (2019). The effect of innovation capability on business performance: A focus on IT and business service companies. *Sustainability* (2071-1050), 11(19), 5246. <https://doi.org/10.3390/su11195246>
- Joembunthanaphong, P., & Sriharee, G. (2022). The improvement process for the software development and requirements management to achieve capability level 3 of CMMI. *2022 26th International Computer Science and Engineering Conference (ICSEC)*, 296–301. <https://doi.org/10.1109/ICSEC56337.2022.10049356>
- Johnson, J. L., Adkins, D., & Chauvin, S. (2020). A review of the quality indicators of rigor in qualitative research. *American Journal of Pharmaceutical Education*, 84(1), 138–146. <https://doi.org/10.5688/ajpe7120>
- Jones, D. E., Lindquist-Grantz, R., & DeJonckheere, M. (2020). A review of mixed methods community-based participatory research applications in mental health. *Journal of Social, Behavioral, and Health Sciences*, 14(1), 254–288. <https://doi.org/10.5590/JSBHS.2020.14.1.18>
- Jucevičius, G., Jucevičienė, R., & Žigienė, G. (2021). Patterns of disruptive and sustaining innovations in Fintech: A diversity of emerging landscape. *2021 IEEE International Conference on Technology and Entrepreneurship (ICTE)* 1–6. <https://doi.org/10.1109/ICTE51655.2021.9584486>

- Kaliber, A. (2019). Reflecting on the reflectivist approach to qualitative interviewing. *All Azimuth: A Journal of Foreign Policy and Peace*, 8(2), 339–357.
<https://doi.org/10.20991/allazimuth.477335>
- Kao, H.-K., Tsai, S.-N., Chang, W.-L., & Chang, J.-H. (2021). Factors affecting vlog viewers' behavioral intentions: An empirical study based on innovation diffusion theory. *2021 International Conference on Technologies and Applications of Artificial Intelligence (TAAI)* 168–173.
<https://doi.org/10.1109/TAAI54685.2021.00039>
- Khayer, A., Bao, Y., & Nguyen, B. (2020). Understanding cloud computing success and its impact on firm performance: An integrated approach. *Industrial Management & Data Systems*, 120(5), 963–985. <https://doi.org/10.1108/IMDS-06-2019-0327>
- Khurana, R. (2021). Jio Fiber: Disrupting the digital market in India. *Journal of Information Technology Case & Application Research*, 23(2), 115–138.
 Supplemental Index. <https://doi.org/10.1080/15228053.2021.1889742>
- Kocaman, B., Gelper, S., & Langerak, F. (2020). Till the cloud do us part: Technological disruption and brand retention in the enterprise software industry. *International Journal of Research in Marketing*. <https://doi.org/10.1016/j.ijresmar.2022.11.001>
- Koszela, A. (2020). The influence of staff turnover on work motivation and job performance of employees in IT sector - the results of empirical research. *Forum Scientiae Oeconomia*, 8(1), 29–48. https://doi.org/10.23762/FSO_VOL8_NOI_3
- Kronenwett, M., & Rigotti, T. (2022). All's well that ends well!? Moderating effects of goal progress on the relation between challenge and hindrance appraisal and well-

being. *Journal of Managerial Psychology*, 37(5), 444–466.

<https://doi.org/10.1108/JMP-11-2019-0618>

Krotov, V. (2019). Predicting the future of disruptive technologies: The method of alternative histories. *Business Horizons*, 62(6), 695–705. ScienceDirect.

<https://doi.org/10.1016/j.bushor.2019.07.003>

Larson, B. E., Sanders, M. A., & Bohler, J. A. (2021). Aligning the technical and soft skills of management information systems and business analytics curricula to supplement accounting education. *Information Systems Education Journal*, 19(6), 27–39.

Lee, Y.-C. (2019). Adoption intention of cloud computing at the firm level. *Journal of Computer Information Systems*, 59(1), 61–72.

<https://doi.org/10.1080/08874417.2017.1295792>

Lee, C. M. J., Che-Ha, N., & Alwi, S. F. S. (2021a). Service customer orientation and social sustainability: The case of small medium enterprises. *Journal of Business Research*, 122, 751–760. <https://doi.org/10.1016/j.jbusres.2019.12.048>

Legowo, M. B., Subanidja, S., & Sorongan, F. A. (2020). Model of sustainable development based on fintech in financial and banking industry: A mixed-method research. *2020 3rd International Conference on Computer and Informatics Engineering (IC2IE), Computer and Informatics Engineering (IC2IE), 2020 3rd International Conference On*, 194–199.

<https://doi.org/10.1109/IC2IE50715.2020.9274605>

- Leite, D., Padilha, M., & Cecatti, J. (2019). Approaching literature review for academic purposes: The literature review checklist. *Clinics*, 74. e1403.
<https://doi.org/10.6061/clinics/2019/e1403>
- Lewin, K. (1946). Action research and minority problems. *Journal of Social Issues*, 2(4), 34–46. <https://doi.org/10.1111/j.1540-4560.1946.tb02295.x>
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Sage.
- Liu, K. (2019). Regulating health and safety at the workplace: Prescriptive approach vs goal-oriented approach. *Safety Science*, 120, 950–961.
<https://doi.org/10.1016/j.ssci.2019.08.034>
- Liu, H., Kulturel-Konak, S., & Konak, A. (2021). A measurement model of entrepreneurship education effectiveness based on methodological triangulation. *Studies in Educational Evaluation*, 70, 100987.
<https://doi.org/10.1016/j.stueduc.2021.100987>
- Loghin, D., Cai, S., Chen, G., Dinh, T. T. A., Fan, F., Lin, Q., Ng, J., Ooi, B. C., Sun, X., Ta, Q., Wang, W., Xiao, X., Yang, Y., Zhang, M., & Zhang, Z. (2020). The Disruptions of 5G on Data-Driven Technologies and Applications. *IEEE Transactions on Knowledge and Data Engineering*, 32(6), 1179–1198.
<https://doi.org/10.1109/TKDE.2020.2967670>
- Ma, F., Khan, F., Khan, K. U., & XiangYun, S. (2021). Investigating the impact of information technology, absorptive capacity, and dynamic capabilities on firm performance: An empirical study. *PSAGE Open*, 11(4), 215824402110613.
<https://doi.org/10.1177/21582440211061388>

- Maiti, M., Krakovich, V., Shams, S. M. R., & Vukovic, D. B. (2020). Resource-based model for small innovative enterprises. *Management Decision*, 58(8), 1525–1541. <https://doi.org/10.1108/MD-06-2019-0725>
- Manikas, A. S., Patel, P. C., & Oghazi, P. (2019). Dynamic capital asset accumulation and value of intangible assets: An operations management perspective. *Journal of Business Research*, 103, 119–129. <https://doi.org/10.1016/j.jbusres.2019.06.014>
- Maravilhas, S., & Martins, J. (2019). Strategic knowledge management in a digital environment: Tacit and explicit knowledge in Fab Labs. *Journal of Business Research*, 94, 353–359. <https://doi.org/10.1016/j.jbusres.2018.01.061>
- Marquardson, J. (2020). Encouraging Lifelong Learning through Tech Explorations. *Information Systems Education Journal*, 18(6), 28–37. <https://doi.org/10.1016/j.jbusres.2018.01.061>
- Marshall, C., & Rossman, G. (2016). *Designing qualitative research*. Sage.
- Maxwell, J. A. (2010). Validity. How might you be wrong? In W. Luttrell (Ed.), *Qualitative educational research: Readings in reflexive methodology and transformative practice* (pp. 279–287). Routledge.
- Mazilescu, V. (2020). Cloud migration and global digitalization of business models. *Annals of Dunarea de Jos University. Fascicle I: Economics and Applied Informatics*, 26(3), 89–96. <https://doi.org/10.35219/eai15840409141>
- Meekaewkunchorn, N., Szczepańska-Woszczyńska, K., Muangmee, C., Kassakorn, N., & Khalid, B. (2021). Entrepreneurial orientation and SME performance: The

mediating role of learning orientation. *Economics & Sociology*, 14(2), 294–312.

<https://doi.org/10.14254/2071-789X.2021/14-2/16>

Meurer, A. M., & Costa, F. (2020). Behold the best and worst of me: The impostor phenomenon and academic behavior in the business area. *Revista Contabilidade & Finanças*, 31(83), 348–363. <https://doi.org/10.1590/1808-057x201910370>

Monticelli, J. M., Garrido, I. L., Vieira, L. M., Chim-Miki, A. F., & Carneiro, J. (2022). Can competitors cooperate? The impact of formal institution agents in promoting coopetition among emerging market exporters. *Journal of Business & Industrial Marketing*, 37(9), 1915–1932. <https://doi.org/10.1108/JBIM-10-2020-0482>

Montoya, J. S., & Kita, T. (2018). Exponential growth in product performance and its implications for disruptive innovation theory. *International Journal of Business and Information*, 13(1), 1–36. [https://doi.org/10.6702/ijbi.201803_13\(1\).0001](https://doi.org/10.6702/ijbi.201803_13(1).0001)

Moons, I., Daems, K., & Van de Velde, L. L. J. (2021). Co-creation as the solution to sustainability challenges in the greenhouse horticultural industry: The importance of a structured innovation management process. *Sustainability* (2071-1050), 13(13), 7149–7149. <https://doi.org/10.3390/su13137149>

Moon, S., & Lee, H. (2021). The primary actors of technology standardization in the manufacturing industry. *IEEE Access*, Access, IEEE, 9, 101886–101901. <https://doi.org/10.1109/ACCESS.2021.3097800>

Motulsky, S. L. (2021). Is member checking the gold standard of quality in qualitative research? *Qualitative Psychology*, 8(3), 389–406. <https://doi.org/10.1037/qup0000215>

- Muhamed, S., Mohammed, M., & Nayl, T. (2019). Case study for migration from on premise to cloud. *Iraqi Journal for Computers and Informatics*, 45(2), 15–19. <https://doi.org/10.25195/ijci.v45i2.48>
- Murimi, M. M., Ombaka, B. E., & Muchiri, J. (2021). Strategic resources, a driver of performance in small and medium manufacturing enterprises in Kenya. *International Journal of Business and Economic Sciences Applied Research*, 14(02), 43–57. <https://doi.org/10.25103/ijbesar.142.04>
- Murray, E. (2019). How researchers understand, construct, and bound context: Liminality and the integration of space. In N. Meier & S. Dopson (Eds.), *Context in action and how to study it: Illustrations from health care*. 182–194. <https://doi.org/10.1093/oso/9780198805304.003.0011>
- Mwita, K. M. (2022). Factors influencing data saturation in qualitative studies. *International Journal of Research in Business & Social Science*, 11(4), 414–420. <https://doi.org/10.20525/ijrbs.v11i4.1776>
- Nair, S. R., Pillai, K. G., & Demirbag, M. (2021). Reaping benefits from knowledge transfer—The role of confidence in knowledge. *Journal of Knowledge Management*, 25(5), 1059–1080. <https://doi.org/10.1108/JKM-04-2020-0262>
- Nam, K., Dutt, C. S., Chathoth, P., Daghfous, A., & Khan, M. S. (2021). The adoption of artificial intelligence and robotics in the hotel industry: Prospects and challenges. *Electronic Markets*, 31(3), 553–574. <https://doi.org/10.1007/s12525-020-00442-3>

- Nambiar, P. (2021). Multi-cloud Security: Use of multi-cloud strategies is increasing in business. Cybersecurity professionals need to be flexible to adapt to their use. *ISSA Journal*, 19(4), 18–22.
- National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research. (1979). The Belmont Report: Ethical principles and guidelines for the protection of human subjects of research. *Washington, DC: U.S. Department of Health and Human Services*.
<https://www.hhs.gov/ohrp/regulations-and-policy/belmont-report/index.html>
- Nawaz, A., & Tian, R. (2022). The impact of authentic leadership on project success: The mediating effect of organizational learning and innovation. *International Journal of Managing Projects in Business*, 15(6), 960–982.
<https://doi.org/10.1108/IJMPB-12-2021-0329>
- Ng, P. M. L., Lit, K. K., & Cheung, C. T. Y. (2022). Remote work as a new normal? The technology-organization-environment (TOE) context. *Technology in Society*, 70.
<https://doi.org/10.1016/j.techsoc.2022.102022>
- Nichols, C. (2022). Professional services companies need to practice what they preach: The need to fast-track digital transformation in the industry. *Strategic HR Review*, 21(1), 2–5. <https://doi.org/10.1108/SHR-09-2021-0046>
- Novianti, K. R. (2019). Achieving competitive advantage through knowledge management practices: Knowledge-based view (KBV) strategy on Indonesia electricity sector. *APMBA (Asia Pacific Management and Business Application)*, 7(3), 163–176. <https://doi.org/10.21776/ub.apmba.2019.007.03.3>

- O’Sullivan, L., Feeney, L., Crowley, R. K., Sukumar, P., McAuliffe, E., & Doran, P. (2021). An evaluation of the process of informed consent: Views from research participants and staff. *Trials*, 22(1), 1–15. <https://doi.org/10.1186/s13063-021-05493-1>
- Palsdottir, A. (2021). Data literacy and management of research data – a prerequisite for the sharing of research data. *Aslib Journal of Information Management*, 73(2), 322–341. <https://doi.org/10.1108/AJIM-04-2020-0110>
- Papazoglou, M. E., & Spanos, Y. E. (2021). “Influential knowledge and financial performance: The role of time and rivals’ absorptive capacity.” *Technovation*, 102. ScienceDirect. <https://doi.org/10.1016/j.technovation.2021.102223>
- Pashutan, M., Abdolvand, N., & Harandi, S. R. (2022). The impact of IT resources and strategic alignment on organizational performance: The moderating role of environmental uncertainty. *Digital Business*, 2(2). 100026
<https://doi.org/10.1016/j.digbus.2022.100026>
- Patky, J. (2020). The influence of organizational learning on performance and innovation: A literature review. *Journal of Workplace Learning*, 32(3), 229–242.
<https://doi.org/10.1108/JWL-04-2019-0054>
- Peng, X., Prybutok, V., & Xie, H. (2020). Integration of supply chain management and quality management within a quality focused organizational framework. *International Journal of Production Research*, 58(2), 448–466.
<https://doi.org/10.1080/00207543.2019.1593548>
- Penrose, E. (1959). *The theory of the growth of the firm*. Oxford University Press.

- Penrose, E. (2009). *The theory of the growth of the firm*. Oxford University Press.
- Peterson, J. S. (2019). Presenting a qualitative study: A reviewer's perspective. *Gifted Child Quarterly*, 63(3), 147–158. <https://doi.org/10.1177/0016986219844789>
- Pereira, A. M., Moura, J. A. B., Costa, E. D. B., Vieira, T., Landim, A. R. D. B., Bazaki, E., & Wanick, V. (2022). Customer models for artificial intelligence-based decision support in fashion online retail supply chains. *Decision Support Systems*, 158. <https://doi.org/10.1016/j.dss.2022.113795>
- Pericherla, S. S. (2023). Cloud computing threats, vulnerabilities and countermeasures: A state-of-the-art. *ISeCure*, 15(1), 1–58. <https://doi.org/10.22042/ISECURE.2022.312328.718>
- Piekkari, R., & Welch, C. (2018). The case study in management research: Beyond the positivist legacy of Eisenhardt and Yin. *The SAGE Handbook of Qualitative Business and Management Research Methods*, 345–358. <https://doi.org/10.4135/9781526430212>
- Poblano-Ojinaga, E. R. (2021). Competitive intelligence as a factor of the innovation capability in Mexican companies: A structural equations modeling approach. *Journal of Intelligence Studies in Business*, 11(2), 69–79.
- Porter, M. E. (1979). How competitive forces shape strategy. *Harvard Business Review*, 57(2), 137–145. https://doi.org/10.1007/978-1-349-20317-8_10
- Porter, M. E. (1996). What is strategy? *Harvard Business Review*, 74(6), 61–78.
- Porter, M. E. (2008). The five competitive forces that shape strategy. *Harvard Business Review*, 86(1), 25–40.

- Qasem, Y. A., Abdullah, R., Jusoh, Y. Y., Atan, R., & Asadi, S. (2021). Analyzing continuance of cloud computing in higher education institutions: Should we stay, or should we go? *Sustainability*, *13*(4664), 4664–4664.
<https://doi.org/10.3390/su13094664>
- Qonita, F., Moeljadi, M., & Ratnawati, K. (2022). The influence of corporate social responsibility on firm value through corporate reputation and financial performance. *International Journal of Environmental, Sustainability, and Social Science*, *3*(3). <https://doi.org/10.38142/ijesss.v3i3.271>
- Quintão, C., Andrade, P., & Almeida, F. (2020). How to improve the validity and reliability of a case study approach? *Journal of interdisciplinary studies in education*, *9*(2), 264–275. <https://doi.org/10.32674/jise.v9i2.2026>
- Radov, M. (2022). Emerging trends in business and management consulting. *Eastern European Journal of Regional Studies*, *ume 8*(2), 30–49.
<https://doi.org/10.53486/2537-6179.8-2.03>
- Ramchand, K., Baruwal Chhetri, M., & Kowalczyk, R. (2021). Enterprise adoption of cloud computing with application portfolio profiling and application portfolio assessment. *Journal of Cloud Computing: Advances, Systems and Applications*, *10*(1), 1–18. <https://doi.org/10.1186/s13677-020-00210-w>
- Rashid, Y., Rashid, A., Warraich, M. A., Sabir, S. S., & Waseem, A. (2019). Case study method: A step-by-step guide for business researchers. *International Journal of Qualitative Methods*, *18*. <https://doi.org/10.1177/1609406919862424>

- Ragmoun, W., & Alwehabie, A. (2020). Sustainable human resource management (SHRM) and corporate social responsibility (CSR): An integrated mediated moderation model of dynamic capabilities (DC) on family business industry. *Management Science Letters*, *10*(10), 2259–2268.
<https://doi.org/10.5267/j.msl.2020.3.010>
- Rennie, S., Day, S., Mathews, A., Gilbertson, A., Luseno, W. K., Tucker, J. D., & Henderson, G. E. (2019). The role of inclusion benefits in ethics committee assessment of research studies. *Ethics & Human Research*, *41*(3), 13–22.
Complementary Index. <https://doi.org/10.1002/eahr.500015>
- Reñosa, M. D. C., Mwamba, C., Meghani, A., West, N. S., Hariyani, S., Ddaaki, W., Sharma, A., Beres, L. K., & McMahon, S. (2021). Selfie consents, remote rapport, and Zoom debriefings: Collecting qualitative data amid a pandemic in four resource-constrained settings. *BMJ Global Health*, *6*(1), e004193.
<https://doi.org/10.1136/bmjgh-2020-004193>
- Robinson-Pant, A., & Singal, N. (2020). Beyond authorship and accountability? The ethics of doctoral research dissemination in a changing world. *British Educational Research Journal*, *46*(4), 859–877. <https://doi.org/10.1002/berj.3590>
- Rodríguez, R., Svensson, G., & Mehl, E. J. (2020). Digitalization process of complex B2B sales processes – Enablers and obstacles. *Technology in Society*, *62*, 101324–101336 <https://doi.org/10.1016/j.techsoc.2020.101324>
- Rogers, F. J. (1995). Diffusion of preventive innovations. *Addictive Behaviours*, *27*(6), 989–993. [https://doi.org/10.1016/S0306-4603\(02\)00300-3](https://doi.org/10.1016/S0306-4603(02)00300-3)

- Ruhland, P., & Wiese, F. (2023). FinTechs and the financial industry: Partnerships for success. *Journal of Business Strategy*, 44(4), 228–237.
<https://doi.org/10.1108/JBS-12-2021-0196>
- Sarangee, K., Schmidt, J. B., Srinath, P. B., & Wallace, A. (2022). Agile transformation in dynamic, high-technology markets: Drivers, inhibitors, and execution. *Industrial Marketing Management*, 102, 24–34.
<https://doi.org/10.1016/j.indmarman.2021.12.001>
- Sauer, S., & Nicklich, M. (2021). Empowerment and beyond: Paradoxes of self-organised work. *Work Organisation, Labour & Globalisation*, 15(2), 73–90.
<https://doi.org/10.13169/workorgalaboglob.15.2.0073>
- Saunders, M., Lewis, P., & Thornhill, A. (2019). *Research methods for business students*. Pearson Education.
- Segec, P., Moravcik, M., & Kontsek, M. (2021). Cloud education – the first AWS academy in Slovakia. *2021 19th International Conference on Emerging ELearning Technologies and Applications (ICETA)*, 339–344.
<https://doi.org/10.1109/ICETA54173.2021.9726602>
- Seifollahi, N. (2023). The Impact of Customer knowledge management on market performance: The mediating role of innovation capabilities. *Public Management Researches*, 15(58), 233-259. <https://doi.org/10.22111/jmr.2021.34434.5096>
- Sen, Y. (2019). Knowledge as a valuable asset of organizations: Taxonomy, management and implications. *Management Science*, 29–48. https://doi.org/10.1007/978-3-030-13229-3_2

- Senagi, K., & Tonnang, H. E. Z. (2022). A novel tightly coupled information system for research data management. *Electronics (2079-9292)*, *11*(19), 3196.
<https://doi.org/10.3390/electronics11193196>
- Seran, T., & Bez, S. M. (2021). Open innovation's "Multiunit Back-End Problem": How corporations can overcome business unit rivalry. *California Management Review*, *63*(2), 135–157. <https://doi.org/10.1177/0008125620968609>
- Sharma, M., Singh, A., & Daim, T. (2023). Exploring cloud computing adoption: COVID era in academic institutions. *Technological Forecasting & Social Change*, *193*, N.PAG-N.PAG. <https://doi.org/10.1016/j.techfore.2023.122613>
- Shi, Y., Gokhale, P., Murali, P., Baker, J. M., Duckering, C., Ding, Y., Brown, N. C., Chamberland, C., Javadi-Abhari, A., & Cross, A. W. (2020). Resource-efficient quantum computing by breaking abstractions. *Proceedings of the IEEE*, *108*(8), 1353–1370. <https://doi.org/10.1109/JPROC.2020.2994765>.
- Si, S., & Chen, H. (2020). A literature review of disruptive innovation: What it is, how it works and where it goes. *Journal of Engineering and Technology Management*, *56*, 101568. <https://doi.org/10.1016/j.jengtecman.2020.101568>
- Singh, N., Benmamoun, M., Meyr, E., & Arikan, R. H. (2021). Verifying rigor: Analyzing qualitative research in international marketing. *International Marketing Review*, *38*(6), 1289–1307. <https://doi.org/10.1108/IMR-03-2020-0040>
- Singh, R., Sharma, P., Foropon, C., & Belal, H. M. (2022). The role of big data and predictive analytics in the employee retention: A resource-based view.

International Journal of Manpower, 43(2), 411–447. <https://doi.org/10.1108/IJM-03-2021-0197>

Smajlović, S., Umihanic, B., & Turulja, L. (2019). The interplay of technological innovation and business model innovation toward company performance.

Management: Journal of Contemporary Management Issues, 24(2), 63–79.

<https://doi.org/10.30924/mjcmi.24.2.5>

Smoyer, C. B., Dwyer, R. J., Garfield, J. K., & Simmons, B. D. (2021). Developing workforce capability in nonprofits through effective leadership. *International Journal of Applied Management and Technology*.

<https://doi.org/10.5590/IJAMT.2021.20.1.09>

Soh, S. L.-H., Lane, J., & Tan, C.-W. (2020). Researcher as instrument: A critical reflection using nominal group technique for content development of a new patient-reported outcome measure. *International Practice Development Journal*,

83(2), 1–9. <https://doi.org/10.19043/ipdj.102.010>

Soldatenko, T. Đ., Ali, F., Yessimzhanova, S. R., Fedorova, T., & Aliyeva, N. (2023). From customer intelligence to sustainability: Management feature of SMEs in Almaty city. *Journal of Strategic Marketing*.

<https://doi.org/10.1080/0965254X.2023.2199024>

Stake, R. (1995). *The art of case study research*. Sage.

Stamoulis, D., Platis, C., Sepetis, A., Psomiadi, M.-E., & Pierrakos, G. (2020).

Knowledge management driven information systems for improved services in the

social administration field. *International Journal of Caring Sciences*, 13(2), 1480–1488.

Stenfors, T., Kajamaa, A., & Bennett, D. (2020). How to ... assess the quality of qualitative research. *Clinical Teacher*, 17(6), 596–599.

<https://doi.org/10.1111/tct.13242>

Strahan, J. O., Hearld, L. R., Carroll, N. W., McWhorter, J., & Szychowski, J. M. (2022). Assessing the performance value of the baldrige journey: A comparison of baldrige applicants and nonapplicants. *Journal of Healthcare Management*, 67(4), 266–282. Academic Search Complete. <https://doi.org/10.1097/JHM-D-21-00045>

Straughair, C. (2019). Reflections on developing a conceptual framework to support a constructivist grounded theory study on compassion in nursing. *Nurse Researcher*, 27(1), 22–26. <https://doi.org/10.7748/nr.2019.e1621>

Suárez-Barraza, M. F., Miguel-Dávila, J. A., & Morales-Contreras, M. F. (2021). Application of Kaizen-Kata methodology to improve operational problem processes. A case study in a service organization. *International Journal of Quality and Service Sciences*, 13(1), 29–44. <https://doi.org/10.1108/IJQSS-07-2020-0113>

Sun, X., Zhao, D., Zhang, D., & Tian, F. (2021). Entrepreneurship and sustainable innovation capabilities in platform enterprises: The mediating role of knowledge integration. *Chinese Management Studies*, 16(3), 627–652.

<https://doi.org/10.1108/CMS-04-2021-0175>

- Tan, D., Su, W., Mahoney, J. T., & Kor, Y. (2020). A review of research on the growth of multinational enterprises: A Penrosean lens. *Journal of International Business Studies*, 51(4), 498–537. <https://doi.org/10.1057/s41267-020-00328-8>
- Teece, D. J. (2018). Profiting from innovation in the digital economy: Enabling technologies, standards, and licensing models in the wireless world. *Research Policy*, 47(8), 1367–1387. <https://doi.org/10.1016/j.respol.2017.01.015>
- Terneborg, M., Ronnberg, J. K., & Schelen, O. (2021). Application agnostic container migration and failover. *2021 IEEE 46th Conference on Local Computer Networks (LCN), Local Computer Networks (LCN), 2021 IEEE 46th Conference On*, 565–572. <https://doi.org/10.1109/LCN52139.2021.9525029>
- Terpstra-Tong, J., Ralston, D. A., Treviño, L. J., Naoumova, I., de la Garza Carranza, M. T., Furrer, O., Li, Y., & Darder, F. L. (2020). The quality of leader-member exchange (LMX): A multilevel analysis of individual-level, organizational-level and societal-level antecedents. *Journal of International Management*, 26(3), 100760–100797. <https://doi.org/10.1016/j.intman.2020.100760>.
- Tshabalala, M. M., & Marnewick, C. (2021). Agile as an enabler towards innovation-based organisational transformations. *South African Journal of Information Management*, 23(1), 1–10. <https://doi.org/10.4102/sajim.v23i1.1309>
- Thomas, M., Le Masson, P., Weil, B., & Legrand, J. (2021). The future of digital platforms: Conditions of platform overthrow. *Creativity and Innovation Management*, 30(1), 80–95. <https://doi.org/10.1111/caim.12422>

- Thunberg, S., & Arnell, L. (2022). Pioneering the use of technologies in qualitative research – A research review of the use of digital interviews. *International Journal of Social Research Methodology*, 25(6), 757–768.
<https://doi.org/10.1080/13645579.2021.1935565>
- Trepáčová, M., Kurečková, V., Zámečník, P., & Řezáč, P. (2020). Advantages and disadvantages of rail transportation as perceived by passengers: A qualitative and quantitative study in the Czech Republic. *Transactions on Transport Sciences*, 11(3), 52–62. <https://doi.org/10.5507/tots.2020.014>
- Tubig, P., & McCusker, D. (2021). Fostering the trustworthiness of researchers: SPECS and the role of ethical reflexivity in novel neurotechnology research. *Research Ethics*, 17(2), 143–161. <https://doi.org/10.1177/1747016120952500>
- United States: EEOC Announces Opening of 2021 EEO-1 component 1 data collection. (2022, April 20). *Mena Report*.
<https://search.ebscohost.com/login.aspx?direct=true&AuthType=shib&db=edsgea&AN=edsgcl.701055698&site=eds-live&scope=site&custid=s6527200>
- United States: Secretary Walsh on the International Labor Organizations recognition of occupational safety, health as a fundamental right. (2022, June 27). *Mena Report*.
<https://search.ebscohost.com/login.aspx?direct=true&AuthType=shib&db=edsgea&AN=edsgcl.708420838&site=eds-live&scope=site&custid=s6527200>
- Vaismoradi, M., & Snelgrove, S. (2019). Theme in qualitative content analysis and thematic analysis. *Forum: Qualitative Social Research*, 20(3), 1–14.
<https://doi.org/10.17169/fqs-20.3.3376>

- Van de Ven, A. H. (2021). Projecting backward and forward on processes of organizational change and innovation. *Journal of Applied Behavioral Science*, 57(4), 436–446. APA PsycInfo. <https://doi.org/10.1177/00218863211042895>
- Vansovits, V., Petlenkov, E., Tepljakov, A., Vassiljeva, K., & Belikov, J. (2022). Bridging the gap in technology transfer for advanced process control with industrial applications. *Sensors (Basel, Switzerland)*, 22(11). <https://doi.org/10.3390/s22114149>
- Vindrola-Padros, C., & Johnson, G. A. (2020). Rapid techniques in qualitative research: A critical review of the literature. *Qualitative Health Research*, 30(10), 1596–1604. <https://doi.org/10.1177/1049732320921835>
- Walden University. (2021). Doctoral study rubric and research handbook. <https://academicguides.waldenu.edu/researchcenter/osra/dba>
- Wang, L., Qu, G., & Chen, J. (2022). Towards a meaningful innovation paradigm: Conceptual framework and practice of leading world-class enterprise. *Chinese Management Studies*, 16(4), 942–964. <https://doi.org/10.1108/CMS-12-2020-0536>
- Weissman, J. S., Campbell, E. G., Cohen, I. G., Lynch, H. F., Largent, E. A., Gupta, A., Rozenblum, R., Abraham, M., Spikes, K., Fagan, M., & Carnie, M. (2018). IRB Oversight of patient-centered outcomes research: A national survey of IRB chairpersons. *Journal of Empirical Research on Human Research Ethics*, 13(4), 421–431. <https://doi.org/10.1177/1556264618779785>

- Wernerfelt, B. (1984). A resource-based view of the firm. *Strategic management journal*, 5(2), 171–180. <https://doi.org/10.1002/smj.4250050207>
- Whiffin, C. J., Smith, B. G., Selveindran, S. M., Bashford, T., Esene, I. N., Mee, H., Barki, M. T., Baticulon, R. E., Khu, K. J., Hutchinson, P. J., & Kolias, A. G. (2021). The value and potential of qualitative research methods in neurosurgery. *World Neurosurgery*, 161, 441–449. <https://doi.org/10.1016/j.wneu.2021.12.040>
- White, S., White, S., & Borthwick, K. (2020). MOOCs, learning designers and the unbundling of educator roles in higher education. *Australasian Journal of Educational Technology*, 35(5), 71–84. <https://doi.org/10.14742/ajet.6111>
- Wiechmann, D. M., Reichstein, C., Haerting, R.-C., Bueechl, J., & Pressl, M. (2022). Agile management to secure competitiveness in times of digital transformation in medium-sized businesses. *Procedia Computer Science*, 207, 2353–2363. ScienceDirect. <https://doi.org/10.1016/j.procs.2022.09.294>
- Williams, M., & Moser, T. (2019). The art of coding and thematic exploration in qualitative research. *International Management Review*, 15(1), 45–55.
- Wilson, A., & Mason, B. (2020). The coming disruption – The rise of mobility as a service and the implications for government. *Research in Transportation Economics*, 83. <https://doi.org/10.1016/j.retrec.2020.100898>
- Wohlfart, O. (2020). “Digging Deeper?”: Insights from a novice researcher. *International Journal of Qualitative Methods*, 19. <https://doi.org/10.1177/1609406920963778>

- Ye, Q., Wang, D., & Guo, W. (2019). Inclusive leadership and team innovation: The role of team voice and performance pressure. *European Management Journal*, 37(4), 468–480. <https://doi.org/10.1016/j.emj.2019.01.006>
- Yin, R. K. (2018). *Case study research and applications: Design and methods* (6th ed.). Sage.
- Youn, I., Cheong, M. J., Kim, J., Kim, S. I., Kim, H. K., Kwon, M., Seo, J., Nam, D., & Leem, J. (2021). Understanding the experiences and perception of people living with HIV on integrative traditional East Asian medicine management in Korea: An interview protocol for qualitative research. *BMJ Open*, 11(12), e051880. <https://doi.org/10.1136/bmjopen-2021-051880>
- Zackarias, A. J., Bond-Barnard, T. J., & van Waveren, C. C. (2022). Improving knowledge transfer processes to address skills and knowledge gaps between senior and junior staff in engineering projects. *South African Journal of Industrial Engineering*, 33(4), 147–164. <https://doi.org/10.7166/33-4-2672>
- Zelege, A., & McCollum, W. (2021). Determinants of effective change management for software deployment projects. *International Journal of Applied Management & Technology*, 20(1), 124–142. <https://doi.org/10.5590/ijmat.2021.20.1.07>
- Zhang, L., & Yu, W. (2020). Effects of the interactive use of performance measurement systems on job performance: Mediation effect of organizational learning. *Frontiers in Psychology*, 10. <https://doi.org/10.3389/fpsyg.2019.03059>
- Zhao, L., & Zhang, B. (2019). Research on trusted cloud computing in cloud environment from security perspective. *2019 International Conference on*

Machine Learning, Big Data and Business Intelligence (MLBDBI), 333–336.

<https://doi.org/10.1109/MLBDBI48998.2019.00075>

Zhao, Q., Feng, L., Liu, H., Yu, M., Shang, S., Zhu, Y., Xie, Y., Li, J., & Meng, Y.

(2022). Impact of agile intuition on innovation behavior: Chinese evidence and a new proposal. *Plos One*, 17(4), e0262426.

<https://doi.org/10.1371/journal.pone.0262426>

Zhao, Y., & Liu, H. (2020). Cloud curriculum resource management platform based on

Hadoop. *Measurement & Control (0020-2940)*, 53(9/10), 1782–1790.

<https://doi.org/10.1177/0020294020948088>

Appendix A: Interview Protocol

The research question for this study is: What innovation management strategies do technology business leaders use to thrive in fast-changing market? Therefore, this semistructured interview consists of open-ended questions to gain ideas, contexts, and insights from experienced technology leaders.

Interview Protocol	
What I will do	What I will say / actions
<p>Introduce the interview and set the tone – usually over a meal or coffee</p>	<ul style="list-style-type: none"> • I am using an interview protocol which starts from now for this study. • My name is Magnus Ekwunife, I am a doctoral candidate in Business Administration-Entrepreneurship, at Walden University. • I am conducting research on the innovation management strategies technology business leaders use to thrive in fast-changing market. I am using the Baldrige Excellence Framework guidelines for this study. • Thank you very much for accepting to take part in this research, and for creating time for this interview. • Your participating in this study is voluntary and confidential. You can decide not to participate any time, including during our interview, by notifying me. If I ask any question that you are not willing to answer, please just let me know. • For confidentiality reasons, I will not use your name in this interview, I will refer to you as Participant (number). It is only you and me that knows who Participant (number) for this research is. • I will audio-record this interview for accuracy purposes. There are opportunities to clarify statements made during this interview through the process we call member checking, where I will share summaries of our discussions with you to validate. • There will be analysis of the transcriptions of all the interviews with senior leaders as part of the

	<p>case study, along with any archival data, reports, and documents that the organization's leadership deems fit to share.</p> <ul style="list-style-type: none"> The copies of your interview recording, and transcript are available from me upon request. <p>We can start the interview now if you are ready and I will start recording.</p>
<p>During the interview</p> <ul style="list-style-type: none"> Watch for non-verbal ques Paraphrase as needed Ask follow-up probing questions to get more in depth 	<ol style="list-style-type: none"> 1. What innovation strategies have you used to sustain the users' preference for your organization's technology products? 2. What methods did you find that worked well for educating user organizations about your technology products? 3. How do you assess the effectiveness of your organization's strategies? 4. What were the key barriers to implementing strategies to educate users on how to make optimal technology buying decisions? 5. How did your organization address the identified barriers to implementing strategies to educate users to make optimal technology buying decisions? 6. What else can you share with me on your organization's strategies for educating user organizations on making optimal technology selection decisions during rapidly evolving innovation?
<p>Wrap up the interview thanking participant</p>	<ul style="list-style-type: none"> Thank you so much for allowing me the opportunity to have this interview with you. I want to be sure I understand the meaning of our discussions and the data collected, so I will prepare a short summary of your answers to the interview questions and share with you to verify the meaning, context, and interpretation of the answers. You can also go over the questions and confirm your agreement with the summary of the answers.
<p>Transcribing the interview</p>	<ul style="list-style-type: none"> I will transcribe each interview and email transcription and interpretation to participants.
<p>Transcript review</p>	<ul style="list-style-type: none"> I will transcribe each interview and email transcription summary and interpretation to participants.

	<ul style="list-style-type: none"> • The copies of your interview recording, and transcript are available from me upon request.
Schedule a follow-up member checking interview	<ul style="list-style-type: none"> • I will schedule a follow up discussion with the participant to confirm if my synthesis represents their response or if there is additional information they would like to share.
Introduce follow-up interview and set the stage	<ul style="list-style-type: none"> • Thank you very much once again for accepting to take part in this research, and for creating time for this interview. • As you already know your participating in this study is voluntary and confidential. You can decide not to participate any time, including during our interview, by notifying me. If I ask any question that you are not willing to answer, please just let me know. • For confidentiality reasons, I will not use your name in this interview, I will refer to you as Participant (number). It is only you and me that knows who Participant (number) for this research is. • I will audio-record this interview for accuracy purposes. We can start the interview now if you are ready and I will start recording.
Share a copy of the concise synthesis for each question <ul style="list-style-type: none"> • Introduce probing questions related to other information found during the study. • Ensure the additional information is related to study topic to ensure adherence to IRB approval. • Walk through each question, read the interpretation, and ask: <ul style="list-style-type: none"> ○ Did I miss anything? Or what would you like to add? 	<ol style="list-style-type: none"> 1. Question and concise synthesis of the interpretation - usually paragraph 2. Question and concise synthesis of the interpretation - usually paragraph 3. Question and concise synthesis of the interpretation - usually paragraph 4. Question and concise synthesis of the interpretation - usually paragraph 5. Question and concise synthesis of the interpretation - usually paragraph 6. Question and concise synthesis of the interpretation - usually paragraph 7. Question and concise synthesis of the interpretation - usually paragraph 8. Question and concise synthesis of the interpretation - usually paragraph

Appendix B: Interview Questions

1. What innovation strategies have you used to sustain the users' preference for your organization's technology products?
2. What methods did you find that worked well for educating user organizations about your technology products?
3. How do you assess the effectiveness of your organization's strategies?
4. What were the key barriers to implementing strategies to educate users on how to make optimal technology buying decisions?
5. How did you address the identified barriers to implementing strategies to educate users to make optimal technology buying decisions?
6. What else can you share with me on your strategies for educating user organizations on making optimal technology selection decisions during rapidly evolving innovation?