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THE AMERICAN UNIVERSITY IN CAIRO

School of Global Affairs and Public Policy

**The Role of Innovation Hubs in Driving Local
Entrepreneurial Behavior: The Case of Creativa Innovation
Hubs in Qena and Aswan**

A Thesis Submitted to the

Department of Public Policy and Administration in partial fulfillment of
the requirements for the degree of Master of Public Administration

By

Lamees Mahmoud

Supervised By\ **Dr. Ghada Barsoum**

Fall 2024

Table of Contents

1. Introduction	7
1.1 IHs and Local Communities' Entrepreneurial Behavior	8
1.2 Research Objectives and Policy Relevance	10
1.3 Research Problem	12
1.4 Study Contribution	13
1.5 Research Questions.....	14
1.6 Thesis Outline	15
2. Conceptual Framework	17
2.1 Innovation Hubs Definition.....	17
2.2 Services IHs offer	18
2.3 Types of IHs	19
2.4 Entrepreneurship and Entrepreneurial Behavior Definition	21
2.5 Conceptual Framework	24
3. Literature Review	27
3.1 Innovation Hubs	27
3.1.1 Why are IHs important in the development of local communities?.....	28
3.1.2 Are other terms used to describe Innovations Hubs?	29
3.2 The Entrepreneurial Behavior.....	30
3.2.1 What is the significance of Entrepreneurship Education for individuals?	31
3.2.2 How does Entrepreneurship Education lead to Entrepreneurial Behavior?	32
3.3 Significance of IHs on Driving Entrepreneurial Behavior in Local Communities	34
3.3.1 How do IHs impact the creation of collaborative communities and expertise engagement?	34
3.3.2 How do IHs impact the level of Cooperation and Innovation in Local Communities?.....	35
3.3.3 How do IHs participate in developing a local understanding of Entrepreneurship?	36
3.3.4 IHs' Role in Driving Entrepreneurial Behavior.....	37
4. Contextual Framework.....	40
4.1 Egypt's Governmental Efforts in Promoting Innovation	40
4.2 Entrepreneurship Ecosystem Support in Upper Egypt	43
4.3 Creativa Innovation Hubs Initiative	44
4.4 Creativa Hubs in Promoting Entrepreneurial Behavior in Upper Egypt	50
5. Research Methodology	52

5.1 Research Methodology	52
5.2 Sample Selection.....	54
5.3 Data Analysis	56
5.4 Ethical Considerations	56
5.5 Study Limitations.....	56
6. Analysis.....	58
6.1 The Community Perception of Creativa Innovation Hubs' Role.....	60
6.1.1 Creativa Hubs' perceived value in the local ecosystem	62
6.1.2 How does the local community see the services provided by Creativa Innovation Hubs	63
6.2 Creativa Innovation Hubs Management Model	75
6.2.1 Organizations Forming Creativa Innovation Hubs	75
6.2.2 Collaboration within Creativa Hubs' governmental entities.....	77
6.2.3 The Perception of Creativa Hubs' Operating Model between private and public sector organizations	78
6.2.4 The perceived challenges of private sector operators	80
6.2.5 Local coordinators' role in evaluating operators' performance	83
6.3 IHs Role on Communities' Entrepreneurial Behavior	85
6.3.1 Creativa Hubs influencing Proactiveness and Resource Management among beneficiaries	86
6.3.2 Creativa Hubs influencing beneficiaries' Risk Exposure.....	88
6.3.3 Creativa Hubs Influencing Beneficiaries' Self-Confidence	90
6.4 Accessibility to Opportunities through Creativa.....	91
6.4.1 Accessibility to similar programs.....	92
6.4.2 Accessibility to Employment Opportunities	93
7. Recommendations and Conclusion	100
7.1 Recommendations	100
7.2 Concluding Remarks	105
8. References	110

List of Figures

Figure 1: IHs Variety of Services (Source: Constructed by the author)

Figure 2: Conceptual Framework (Source: Constructed by the author)

Figure 3: Creativa Innovation Hubs' branches map across Egypt in August 2024 (Source: constructed by the author)

Figure 4: Creativa Innovation Hub in Qena (Source: Captured by the Author)

Figure 5: Percentage of Poverty in Egypt (Source: Constructed by the author using CAPMAS report, 2018)

Figure 6: Numbers of jobs created in Creativa IHs across governorates from establishment till April 30th, 2024 (Source: Constructed by the author using TIEC's shared analysis, 2022)

Figure 7: Analysis Chapter Breakdown (Constructed by the Author)

List of Tables

Table 1: Respondents' demographic characteristics- Hubs' managers

Table 2: Respondents' demographic characteristics - Hubs' beneficiaries

List of Acronyms

MCIT	Ministry of Communication and Information Technology
NTI	National Telecommunication Institute
IH	Innovation Hubs
TIEC	Technology Innovation and Entrepreneurship Center
ITI	Industrial Training Institute
ITIDA	Information Technology Industry Development Agency

The American University in Cairo
School of Global Affairs and Public Policy
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The Role of Innovation Hubs in Driving Local Entrepreneurial Behavior: The Case of Creativa Innovation Hubs in Qena and Aswan

By **Lamees Mahmoud**

Supervised by **Professor Ghada Barsoum**

Abstract

This study investigated the role of innovation hubs in driving innovation and entrepreneurial behavior among local communities, ultimately contributing to the development of better national entrepreneurship ecosystems. The researcher employed a qualitative methodology using a case study approach to conduct an empirical investigation to obtain deeper insights into the innovation hubs phenomenon using the Creativa Innovation Hubs initiative in two governorates in Upper Egypt, Qena and Aswan. Semi-structured in-depth interviews were conducted with twenty individuals between beneficiaries and managers of Creativa innovation hubs. The study demonstrated that government efforts to promote entrepreneurship through the Creativa Innovation Hubs Initiative significantly influence youth entrepreneurial skills and access to opportunities, particularly in communities facing geographic development gaps. More planned efforts from other entrepreneurship support organizations need to be directed to these communities to leverage the potential of such initiatives. Furthermore, the hybrid operating model of the innovation hubs has proven highly successful, as it leverages the agility and resourcefulness of private sector companies while capitalizing on the government support dedicated to these hubs. This model was found most beneficial when it uses local operators, especially in marginalized communities, in contrast to well-established national operators, as local ones facilitated localized

services tailored for communities with geographic disparities, thereby improving access to opportunities in entrepreneurship, freelancing, or regular employment.

Keywords: Innovation Hubs (IHs), Entrepreneurship, Upper Egypt, Creativa Innovation Hubs, Entrepreneurial Behavior

Chapter One

Introduction

Much attention has been focused on establishing Innovation Hubs (IHs), centers, and labs by governments and international organizations in both the North and South of the world (Mian & Hulsink, 2009). IHs have garnered this attention as they foster entrepreneurship and innovation by acting as a "bridge" between startups and their surroundings and assisting businesses in creating and introducing novel business models (Hussey, 2015). Creating national initiatives and plans to encourage entrepreneurship and innovation through IHs will lead to improving entrepreneurial behavior in local communities (Sambuli & Whitt, 2017). Despite the emergence of a growing ecosystem for entrepreneurship, many initiatives need help with scalability and long-term sustainability (Laguador & Ramos, 2014). That is why there is a need to understand how local IHs established by the government and operated by local private sector organizations can help mitigate these challenges and drive community entrepreneurial behavior.

The study is driven by a need for more robust evidence surrounding this research area, including the lack of clarity surrounding the contribution of IHs to promoting entrepreneurship and innovation, as stated in this chapter, which explains the research objectives and the contribution of this study to the existing literature. This presents an important research problem, especially when considering marginalized and geographically overlooked communities, such as most of Upper Egypt's governorates. Stating the research questions will help identify IHs' perceived values by the community and the key factors influencing their services' effectiveness. The research will analyze the relationship between beneficiaries' self-employment aspirations and their participation in different services provided by IHs such as training and mentoring. Ultimately,

the study aims to reveal how IHs support local communities and strengthen local entrepreneurship ecosystems.

1.1 IHs and Local Communities' Entrepreneurial Behavior

The first known innovation hub (IH) was established in North London in 2005, leading to the emergence of additional innovation hub workspaces across various locations in London and later worldwide (Bachmann, 2014). Over the past two decades, there has been a proliferation of organizations referred to as IHs, which foster collaboration among their beneficiaries and facilitate the exchange of knowledge essential for stimulating and strengthening businesses and individuals (Olma, 2012). In 2015, the World Bank listed 117 technology innovation hubs in Africa, demonstrating how governments are adopting IHs as a stamping tool to compete in the global knowledge economy (Panchol et al., 2015). Those IHs serve primarily as a space for individuals, particularly entrepreneurs and freelancers, seeking to work on specific projects or develop startups, often incorporating a social aspect. At its core, IHs provides various services, including coworking, incubation, scaling support, and essential resources such as internet access to foster entrepreneurship (Bachmann, 2014).

According to Sambucci and Whitt (2017), innovation hubs function as a guide for innovation that opens doors for entrepreneurship. To understand IHs role in promoting entrepreneurial behavior, it is crucial to understand what entrepreneurship is and why it is essential now more than ever. Morris et al. (2001, p. 41) define entrepreneurship as "opportunity-driven business behavior" and successful entrepreneurs as "those who are adept at recognizing patterns or forces that combine to form opportunities." According to Basu (2004), the aspirations of entrepreneurs were frequently distinct from those of ordinary people. Among other personal characteristics that are purported to distinguish entrepreneurship from owner-managership are

initiative, a willingness to take risks, self-confidence, perseverance, resourcefulness, independence, persuasiveness, tolerance for uncertainty and ambiguity, imagination, a strong sense of control over one's own destiny, and a strong belief in being in control of one's own destiny (Gibb, 2002). Veciana (1999) noted that the drive for achievement, independence, and feeling "marginalized" are the main driving forces behind entrepreneurship, and the choice to act entrepreneurial is the outcome of multiple elements coming together. Vijaya and Kamala-Nabhan (1998) discovered that various entrepreneurial behaviors had been identified in entrepreneurs; these include the importance placed on originality, self-reliance, excellence in performance, and regard for one's work. This is where entrepreneurial behavior can be cultivated when an individual observes a respected role model and recognizes that this model engages in various behaviors that result in positive reinforcement (Bandura, 1977). This reward is more essential now than ever, as new waves of globalization and liberalization have raised the need for entrepreneurial skills among new graduates; thus, building a community understanding of entrepreneurship is extremely important.

Egypt's government efforts are clearly demonstrating a direction toward building a solid entrepreneurship ecosystem to equip youth with the tools and skills needed for today's competitive job market. The Egyptian Start-up Ecosystem Report (ITIDA, 2021) indicates that Egypt has one of Africa's most promising startup ecosystems, characterized by high levels of startup activity and significant inbound investments. In contrast, Egypt's entrepreneurial education and training still need to be developed compared to other sectors. While some private universities have started incorporating entrepreneurship education into their curricula, efforts in public universities are mainly focused on informal activities rather than comprehensive reforms that would integrate entrepreneurship into the academic culture (Ismail, 2022). This is being addressed in the "Building

Digital Egypt” initiative by the Ministry of Communications and Information Technology (MCIT) in accordance with Egypt Vision 2030 and Egypt's digital transformation strategy. The comprehensive plan and vision known as "Digital Egypt" lays the groundwork for Egypt's transition to a digital society (ITIDA, 2022). As part of this vision, MCIT launched the Creativa initiative in 2021 by establishing seven innovation hubs in public universities in seven governorates; now, there are 13 hubs, most of them are established inside public universities, aiming to reach 26 hubs by the end of 2025. The Ministry of Communications and Information Technology (MCIT) and the Ministry of Higher Education & Scientific Research work together on this project. The services provided by the joint efforts of the Ministry's ITI, ITIDA-TIEC, and NTI institutions serve as a single point of contact for training in ICT (Information and Communication Technologies) and activities that foster innovation. The Creativa Initiative partnered with private sector ecosystem players to operate Creativa Innovation Hubs across Egypt. Some hubs were chosen to be operated by international accelerators like Sultan Hussien Palace Hub in Cairo, which is operated by Plug and Play, a global technology center, and MQR company, a national support organization for startups, which operates Aswan and Menoufia’s Innovation Hubs. Other hubs were chosen to be operated by local/ early-stage private sector companies, like the case of Qena’s hub assigned to a startup called “Dandara AlEbdaa- دنندرة الابداع.” This operational model is in place to empower IHs' scalability and access to local communities, as they support entrepreneurs and serve as a vital tool for job generation.

1.2 Research Objectives and Policy Relevance

The primary objective of this study is to enhance the understanding of Innovation Hubs' role in fostering innovation and entrepreneurship in Upper Egypt with a case study of two Creativa Innovation Hubs in Qena and Aswan. The unique operating model of Creativa, a governmental

innovation hub based in public universities across Egypt operated by private sector companies, is worth investing in to understand the value this model brings to the collaborative work of local ecosystem support organizations. This research aims to identify the various services these IHs offer and pinpoint the critical components of their operational models that influence their effectiveness. By analyzing the data collected concerning the research questions, the study seeks to provide insights into how Creativa Innovation Hubs support local communities and stimulate entrepreneurial activities. Also, this study investigated the relationship between the beneficiaries' desire to become self-employed, either create their own business or engage in freelance work, and their involvement in the entrepreneurial capacity-building programs offered by Creativa Innovation Hubs, such as training workshops, boot camps, coworking spaces, and mentoring contributing to the success of these innovation hubs, ultimately leading to a more robust support system for entrepreneurs.

Advocates for technology innovation hubs frequently emphasize their capacity to dismantle barriers between communities that have typically operated in isolation (Bridgespan Group, 2014). Sambuli and Whitt (2017) stated that this “silo mentality” is prevalent not only among government entities but also within entrepreneurship ecosystem support organizations themselves. The private sector operators have played a significant role in breaking down these silos through the establishment of various hubs around the globe aimed at fostering the development of new technologies and commercial startups, thereby contributing to a lucrative pipeline for commercial innovations (Sambuli & Whitt, 2017). Through this exploration, the research will provide insights for academics, policymakers, and practitioners seeking to optimize the impact of innovation hubs in Upper Egypt and beyond. It can guide the allocation of resources and funding toward programs that significantly impact local entrepreneurship and economic

development. It can also support the development of policies that encourage collaboration between public institutions, private sector operators, and educational institutions, fostering a more integrated approach to supporting innovation.

On another level, as the Egyptian government seeks to stimulate economic growth and create job opportunities, understanding the role of these IHs in promoting entrepreneurial behavior becomes crucial. The research indicates a connection between employability and entrepreneurial skills, even if enhancing employability is not the primary focus of entrepreneurial education. By examining these aspects, the study will highlight the significance of IHs in promoting entrepreneurship in marginalized communities and empowering aspiring entrepreneurs to find employment in the labor market or establish their own businesses.

1.3 Research Problem

Atiase et al. (2020) point out that while innovation hubs are widely recognized for their ability to foster entrepreneurial drivers, there is a need to have more empirical data to support this notion. Numerous reasons contribute to this need for more compelling data as uncertainty surrounds innovation hubs' role in fostering entrepreneurship and innovation, which poses a research challenge, particularly in the context of Upper Egypt. Although these hubs are becoming more common in rural governorates, there's a need for more research on their efficiency, as evidenced by the body of work by Sambuli and Whitt (2017), which documents their effects on local communities.

In the case of Upper Egypt, Creativa Innovation Hubs represent a pivotal initiative to foster entrepreneurial behavior among youth. Examining the operating model of Creativa as a governmental initiative run by private sector operators will provide insights into how these hubs function, the services they offer, and the specific support they provide to aspiring entrepreneurs.

To achieve the objectives of IHs, people with diverse skills must be enabled to collaborate and commercialize ideas and enable industrial diversification by stimulating demand for additional professional and commercial services and jobs (UNIDO, 2015). In most established IHs, the objectives in terms of desired impacts are often not clearly defined, leading to confusion regarding the specific outcomes they aim to achieve.

This research will investigate innovation hubs' role in driving entrepreneurial behavior in their local communities, which has yet to be thoroughly explored. This leaves critical aspects of their influence unexamined, like the impact on participants' access to experts, support networks, entrepreneurial education, and opportunities that wouldn't be accessible otherwise.

1.4 Study Contribution

This study contributes to the existing literature on Innovation Hubs and their role in fostering entrepreneurship, particularly in the context of Upper Egypt. One of the primary ways this investigation will add value is by filling existing gaps in the literature regarding the effectiveness of such hubs in promoting entrepreneurial behavior and the effectiveness of the unique model that Creativa IHs employed to run such an initiative. Through empirical evidence and detailed insights, this research will enhance the understanding of how IHs function and their actual contributions to local entrepreneurial ecosystems in Upper Egypt. This analysis can provide a more comprehensive view of the dynamics within the IHs and their impact on aspiring entrepreneurs in marginalized communities. To the best of the researcher's knowledge, this is the first study examining the Creativa Innovation Hubs model, especially in rural governorates, as it is a relatively new initiative established in 2021. This study explores the factors influencing the success of communities adopting entrepreneurial behavior and offers insights into the interplay between geographical and socio-economic elements. Such analysis will contribute to a clearer

view of innovation ecosystems, demonstrating that the effectiveness of Innovation Hubs may vary significantly based on local circumstances. Finally, through the Creativa Innovation Hubs case study, this research will highlight best practices for operating IHs effectively. By outlining successful methods observed in this study, this information will benefit practitioners in Egypt and serve international audiences seeking to establish or enhance similar initiatives.

1.5 Research Questions

Through this comprehensive exploration of the research questions, the study will provide insights into the potential of Innovation Hubs as drivers for entrepreneurial behavior in local communities. This study will contribute knowledge that can aid in developing more efficient and impactful local innovation ecosystems in Egypt; that's why the main question of this research is:

“How can Innovation Hubs drive entrepreneurial behavior among youth in local communities?”

The study will aim to address the research question by exploring a series of related sub-questions:

1. How do Creativa Innovation Hubs influence youth entrepreneurial behavior in Upper Egypt?
2. In what ways does the operational model of Creativa innovation hubs, a governmental initiative run by private sector operators, in Upper Egypt benefit local communities?
3. How can Creativa Innovation Hubs' services address the unique needs of local communities in Upper Egypt?

1.6 Thesis Outline

This study consists of six chapters, which will provide an overview of the significance of entrepreneurial behavior in driving economic development and the role of Innovation Hubs in fostering entrepreneurship.:

Chapter One: Introduction: This chapter will outline the research problem, articulating the main research question and sub-questions. Additionally, it will highlight the study's relevance to the policy landscape and discuss how the findings may inform decisions regarding youth entrepreneurship and innovation in Egypt.

Chapter Two: Literature Review: This chapter will delve into a comprehensive literature review, beginning with an overview of Innovation Hubs. This section will define the concept and track its evolution both globally and within the Egyptian context. The literature review will then explore the relationship between entrepreneurship and employability, underscoring how entrepreneurial skills contribute to workforce readiness.

Chapter Three: Contextual Framework: This chapter will draw the contextual framework of the unique challenges and opportunities faced by aspiring entrepreneurs in Upper Egypt, discussing how local conditions influence the effectiveness and operation of Innovation Hubs like Creativa.

Chapter Four: Research Methodology: This chapter outlines the research methodology employed in the study. It details the research design, overarching research strategy, sample selection process, and data analysis techniques utilized. Additionally, ethical considerations are addressed, and the limitations of the research are discussed at the end.

Chapter Five: Findings and Analysis: This chapter presents the analysis's findings and gives a detailed analysis of the primary data collected. It is offered in alignment with the review of secondary sources from the literature and will present and discuss the research findings.

Finally, Chapter Six: Conclusion: This chapter will conclude the study with a summary of key findings, acknowledging the study's limitations while also providing policy recommendations based on the insights gained throughout the research

Chapter Two

Conceptual Framework

This chapter aims to help readers understand the different terms used in this study by demonstrating their definitions in the literature. It will also explain the conceptual framework designed to illustrate the relationships among key variables impacting entrepreneurial behavior and the various components of innovation hubs.

2.1 Innovation Hubs Definition

Researchers from various fields have distinct perspectives on the innovation hub concept. According to Evers (2008), an innovation hub is an environment for innovation inside networks that facilitates the exchange and production of knowledge. This description is closely linked to that given by Mian and Hulsink (2009), who stated that a hub of this kind is a networked platform, a characteristic feature of an innovation ecosystem. Another definition of the hubs is places where different stakeholders can come together through their networks to co-create creative solutions to address societal issues (Nicolopoulou, 2015). These hubs, according to Evers (2008), are places with strong internal and external networking and knowledge-sharing capacities in their knowledge architecture. Another definition of a hub is the center of attention for a particular activity or the place from which other things emerge or spin (Schwaab & Olthof, 2013). In the hub space, decision-makers can meet with scientists and business experts to discuss business solutions because they facilitate face-to-face encounters and knowledge exchange between researchers, businesses, industry experts, investors, government, and representatives of academia (UNIDO, 2015).

2.2 Services IHs offer

The most popular services to support entrepreneurs in the ecosystem are Training and Entrepreneurship Education, Awareness programs, Incubation and acceleration, and Access to finance (Ismail, 2022). For IHs to fulfill the ecosystem's needs, the IH must support and expand all facets of the innovation ecosystem. The IH needs to engage with the various communities within this ecosystem, enabling their participation and focusing their collective efforts (Sharma & Meyer, 2019).

Beyond merely establishing a physical presence and providing direct services, according to Sharma and Meyer (2019), innovation hubs actively promote several vital components to advance the innovation economy. The first component is leadership, as it is crucial within innovation hubs. It enables organizations within the ecosystem to operate without exerting excessive control, allowing for the careful management of operations while respecting external entities. Secondly, the curriculum encompasses the blend of programs and structures offered to startups, facilitating their growth and development. Building collaborative community relationships is essential, as hubs can foster connections without imposing control. Additionally, bolstering services provides significant operational support to startups during their early stages, enabling the hub to assess risks and mitigate challenges, which enhances the overall entrepreneurial experience (Sharma & Meyer, 2019). Facilities provide essential infrastructure, while educational offerings must be tailored to the specific needs of the local innovation ecosystem. Lastly, investment is vital and directly linked to the hub's competency in its foundational functions. Collectively, these elements underscore the integral role of innovation hubs in supporting emerging startups, as noted in various studies (Friederici, 2016; Beer et al, 2017)



Figure 1: IHs Variety of Services (Constructed by the author)

2.3 Types of IHs

According to Sambuli & Whitt (2017, p. 5), "One embodiment of a larger lab conceptual space which encompasses everything from incubators and accelerators through action labs and living labs to co-working spaces" is how they define innovation hubs. They are a subset of a broader idea of "lab" space, which includes co-working spaces, action labs, accelerators, incubators, and living labs. Many definitions and typologies of these entities have been offered by earlier research, which has attempted to distinguish between "hubs" and "labs" or "incubators" and "accelerators" (Whitt, 2016). The "lab" universe, which consists of combinators, co-working spaces, action labs, accelerators, and incubators, is embodied in hubs, a vast conceptual area. These areas are all innovation labs that apply technology expertise and entrepreneurial spirit to problem-solving (Whitt, 2016).

According to (Kelly & Firestone, 2016), we can divide hubs into four primary operational types that this research has looked at: the first two types are the government-led hub and the academic-led hub, as their organizational structure is overseen by an administration or oversight body of a university or government agency, and which receive the majority of their funding from these types of institutions. The third type is a civil society-led hub, which includes hubs managed by nonprofit organizations, tech-activist consortiums, foundations, or private sector companies' foundations unconnected to the public or private sectors. The last model is the hybrid-led hub, which is defined as those run independently by a group of stakeholders or an administrative board. Although government-led and academic-led hubs frequently use government—or university-owned real estate, this is not a strict need because hybrid and civil society-led models sometimes use the same space, especially when they can access government-funded tech parks at discounted rates (Kelly & Firestone, 2016).

Additionally, Beer et al. (2017) suggest classifying hubs into three distinct categories: 'cluster hubs,' 'company hubs,' and 'country hubs.' The authors defined each category as follows: Firstly, a 'cluster hub' refers to a concentration of diverse entities situated in close physical proximity, which fosters frequent and close interactions among them. Secondly, a 'company hub' is characterized as a specific entity that attracts and shapes its own community while engaging with the external environment like a corporation. Lastly, a 'country hub' represents a broader perspective, in which an entire nation or region promotes itself as an innovative hub, guided by government policies that shape the activities of that area. No matter their operational model, IHs represent a direct, intentional effort from the government, private sector, and donor organizations to create new products, technologies, and market solutions by converging disparate sectors and

specializations (widely focused on technological solutions) to create economic development (UNIDO, 2015).

In Africa, IHs accept various legal forms, such as associations, private/for-profit companies, NGOs, and academic institutions. They also engage in a variety of activities with differing degrees of specialization, such as incubators, accelerators, co-working spaces, technology parks, and corporate initiatives (Giuliani & Ekeledo, 2019). In contrast, fabrication laboratories, co-working spaces, hackerspaces, and maker spaces can serve as innovation hubs (David-West et al., 2018). When it comes to funding, most African IHs depend on outside investment in one way or another. In addition to receiving financing from donors, their sources of income include membership fees and consulting, which is the primary source of income for many IHs (Atiase V. Y., 2020).

2.4 Entrepreneurship and Entrepreneurial Behavior Definition

“Content, methods, and activities supporting the creation of knowledge, competencies, and experiences that make it possible for youth to initiate and participate in entrepreneurial value-creating processes” is what the Danish Foundation for Entrepreneurship defines as entrepreneurship education (The Danish Foundation for Entrepreneurship, 2012, p. 13). This definition makes it clear that entrepreneurship is the process of seizing chances and developing concepts to create something with economic, cultural, or social value, which is exactly the objective of such hubs. According to anecdotal evidence, entrepreneurial education may benefit both the individual and the community levels (European Commission, 2012). Previous research indicates that having entrepreneurial abilities might help someone have a successful career since employers value those qualities in potential hires (Gibb, 2002).

Researchers explain that Entrepreneurial Behavior is defined as “the methods, practices, and decision-making styles individuals use to act entrepreneurially” by Lumpkin and Dess (1996, p. 136). Several authors defined the characteristics that best represent entrepreneurial behavior; according to Lumpkin & Dess (1996), the main characteristics are inventiveness, proactiveness, and risk-taking tendencies. Miller (1983) included competitive aggressiveness and autonomy. These characteristics are crucial in determining the capacity to regularly develop new goods and services (Nair et al., 2020). New innovations may arise from innovativeness or the capacity to support and engage in novel ideas through experimentation and creativity. Nevertheless, given that innovation necessitates taking risks and allocating resources to projects (Lyon et al., 2000).

It's important to understand the skills or characteristics that determine a person is adopting entrepreneurial behavior. Initiative, appetite to take risks, self-confidence, resilience, resourcefulness, autonomy, openness for ambiguity and uncertainty, creativity, a strong sense of having ownership of an individual's future, and an unwavering faith in path are among other personal traits that are said to set entrepreneurship apart from owner-managership (Gibb, 2002). Additionally, Veciana (1999) demonstrated that the decision to behave entrepreneurially results from several factors coming together; the primary motivators for entrepreneurship are the desire for achievement, independence, and feeling "excluded." Entrepreneurs have been found to exhibit a variety of entrepreneurial characteristics, as noted by Vijaya and Kamala-Nabhan (1998). These behaviors include the value placed on innovation, self-reliance, quality in performance, and regard for one's own work.

According to Baumol (1990, P. 898), "the rules of the game that govern the payoff" to entrepreneurship or the reward system in the economy significantly influence how an entrepreneur behaves at a particular moment and location. Baumol effectively suggested that people choose to

become entrepreneurs when or because their utility (from wealth, power, and prestige) is maximized by doing so by characterizing entrepreneurs as people who are clever and creative in discovering methods to add to their own riches, power, and prestige (Baumol, 1990). However, Douglas and Shepherd (2000) significantly broaden this concept. They distinguish entrepreneurial abilities and attitudes and connect these attributes and an individual's potential for financial gain. They investigate attitudes toward particular job conditions in greater detail, including effort needed, risk exposure, and decision-making autonomy. As such, they create an entrepreneurial theory based on a utility-maximization model of human behavior, which helps to explain why a person could choose to work for themselves or for a company already in existence.

A higher risk taker experiences very low marginal disutility from taking on more risk. Self-employment usually reflects a riskier undertaking, even while employment possibilities vary in level of risk (an employee typically receives a salary or an income that may or may not be supplemented by commissions and bonuses) (Duchesneau & Gartner, 1990). The possibility of profit unpredictability is dangerous to the employee or self-employed individual, who may choose to work harder without receiving more compensation. According to an empirical study, self-employed people's wages vary by more than three times as much as those of paid employees (Rees & Shah, 1986). This research focuses on the skills of proactiveness, resource management, self-confidence, and risk-taking within beneficiaries in the IHS and the effects of these skills on their employment choices that would probably not happen if they didn't participate in the hub's activities.

2.5 Conceptual Framework

The conceptual framework of this research is grounded in the notion that Innovation Hubs serve as vital spaces for individuals to develop local collaborative communities, as established by Schmidt et al. (2015). These IHs foster innovation (Bachmann, 2014) and facilitate localized approaches to entrepreneurial education (Nair et al., 2020). By tailoring educational programs and training to meet the specific needs of the local context, IHs ensure that individuals are equipped with relevant knowledge and skills that resonate with the challenges they face in their entrepreneurial journeys. This localized emphasis allows participants to engage with educational content that is directly applicable to their environments, fostering a more effective learning experience.

Building on these foundational services, our research explores how Innovation Hubs drive entrepreneurial behavior by cultivating key characteristics associated with entrepreneurship. Specifically, attributes such as risk-taking propensity, proactiveness, self-confidence, and effective resource management are integral components of entrepreneurial behavior that are enhanced within the hub environment (Lumpkin & Dess, 1996). These attributes, in turn, enhance individuals' access to resources and increase their likelihood of securing employment with various companies (Nair et al., 2020). Through this framework, we aim to examine the mechanisms by which Innovation Hubs contribute to developing youth's entrepreneurial skills and the overall entrepreneurial ecosystem in Upper Egypt. By highlighting the interplay between community collaboration, localized educational approaches, and the development of key entrepreneurial traits; this research seeks to show the transformative potential of Innovation Hubs in empowering individuals and communities within the region.

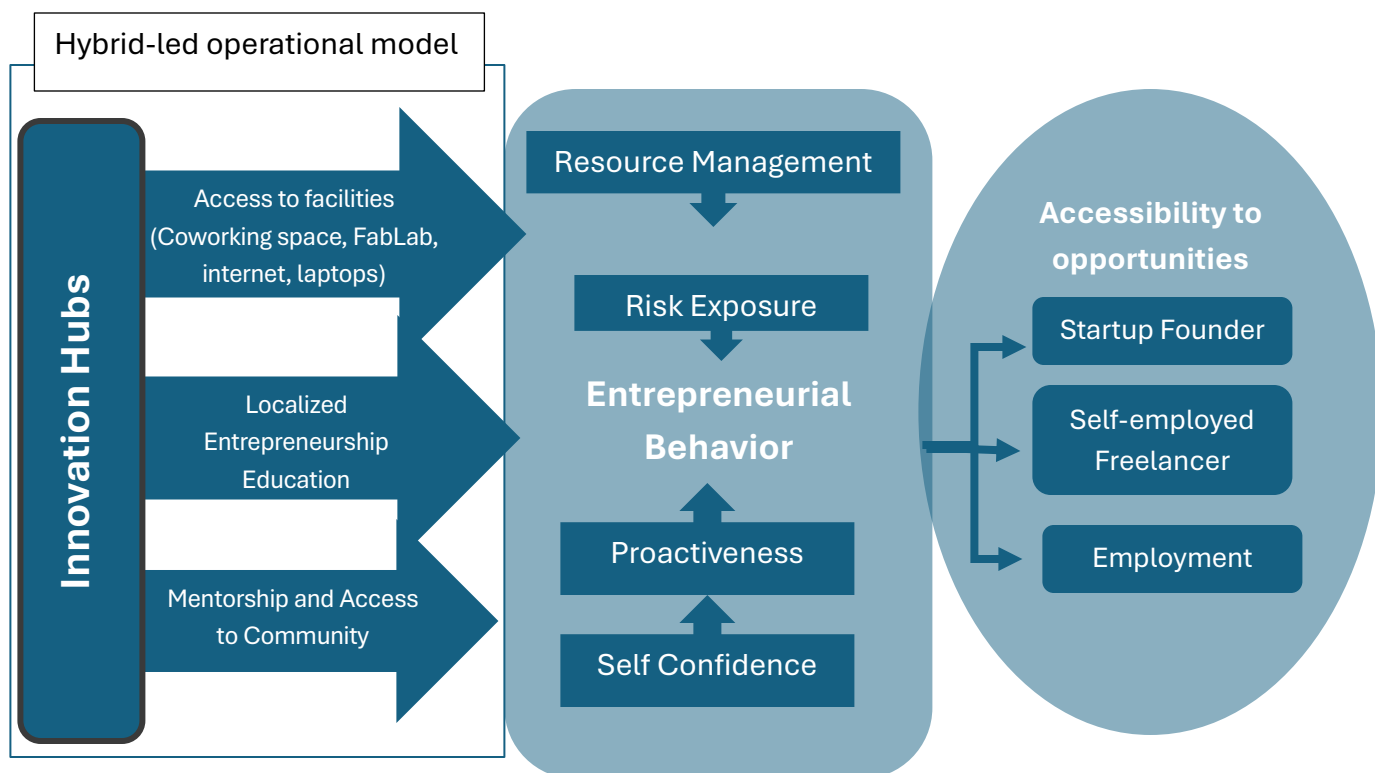


Figure 2: Conceptual Framework (Constructed by the author)

The conceptual framework visually represents the interconnected relationship between Innovation Hubs, Entrepreneurial Behavior, and Accessibility to Opportunities. It highlights how Innovation Hubs act as a catalyst, shaping entrepreneurial behavior and leading to better access to opportunities. The access to facilities like coworking spaces, FabLabs, internet, and laptops provides aspiring entrepreneurs with the necessary tools to develop and realize their business ideas. Localized entrepreneurship education tailored to the specific needs of the local community equips individuals with essential skills and knowledge. The mentorship and networking opportunities provided by the hub offer invaluable guidance and support, creating a strong sense of community that is crucial for entrepreneurial success. The development of entrepreneurial traits and behaviors directly leads to better accessibility to opportunities. The skills in resource management learned through the hub help individuals effectively manage their finances and allocate resources for their

ventures. The hub's focus on risk exposure, by encouraging experimentation and learning from experiences, makes individuals more adaptable to the uncertainties of entrepreneurship. Training programs in the hub equip individuals with the skills to identify opportunities proactively, develop their ideas, and launch their ventures. The supportive and collaborative environment of the hub fosters a strong sense of self-confidence in individuals, empowering them to pursue their entrepreneurial ambitions.

The arrows in the conceptual framework demonstrate a clear cause-and-effect relationship, showcasing the significant role of Innovation Hubs in driving entrepreneurial growth and success within communities. Innovation Hubs play a pivotal role in fostering entrepreneurial behavior by providing resources and services. Their services and resources act as a foundation for developing entrepreneurial traits and behaviors, leading to greater accessibility to opportunities. This framework underscores the dynamic interplay between these components, highlighting how innovation hubs are pivotal catalysts for entrepreneurial development and economic growth.

Chapter Three

Literature Review

This chapter will provide a literature review, starting with an introduction to Innovation Hubs, which will trace its development internationally. The literature review will then delve into the connection between innovation hubs and entrepreneurial behavior in local communities that leads to building collaborative ecosystems. In his online article “How the Hub Found Its Center,” Bachmann (2014) noted that if there’s one thread running through the history of Innovation Hub, it’s the organization’s fundamentally collaborative nature.

3.1 Innovation Hubs

Innovation Hubs have grown rapidly worldwide, building on a concept originating in Germany in the 1990s; subsequently, this idea was embraced by various other continents (Schwaab & Olthof, 2013). The most significant potential of hubs is found in their ability to foster an interactive, collaborative, and collective entrepreneurial ecosystem. Typically, innovation hubs offer a variety of services, including mentoring sessions and networking-focused pitch nights, alongside traditional offerings such as pre-incubation, incubation, and acceleration support. They also provide workspaces for entrepreneurs who cannot afford their own offices, serving as a source of inspiration and creating opportunities for collaboration and creativity (Schwaab & Olthof, 2013). International organizations, venture capitalists, and other key players have focused much attention on these hubs, trying to encourage people to launch their own startups and work toward their development by fostering "entrepreneurship" and "innovation" (Jiménez & Zheng, 2018). Many developed nations have well-established systems in place to aid in the transition from college to the workplace, the expansion of business clusters, and the fostering of relationships

between entrepreneurs and investors. However, there are not enough well-established mechanisms in many African nations to support young people in realizing their entrepreneurial potential and utilizing their technical talents (Schwaab & Olthof, 2013).

3.1.1 Why are IHs important in the development of local communities?

The goal of hubs is to establish a place that provides chances for networking, learning, and collaboration in addition to workspaces for individuals and small businesses. They provide a variety of multidisciplinary networks and long-lasting collaborations in addition to being creative spaces and instruments for promoting cooperation and knowledge transfer in eco-innovation and host a range of training sessions to enhance the capabilities of human resources (Radulescu, 2019). A recent case study of iHub, an IH established in Nairobi in 2010, found that innovation hubs also serve as links and incubators, providing entrepreneurs access to opportunities outside their regional locales and enabling blending into worldwide manufacturing systems (Hvas, 2015). iHub acts as a space for the tech community to develop networks of support systems. That explains how innovation hubs are further linked to incubators, accelerators, and labs (Sambuli & Whitt, 2017).

The idea of innovation hubs has gained traction outside of Europe and the United States throughout the past fifteen years. In Africa, the concept of innovation hub creation has gained significant traction, with hubs springing up everywhere from Cairo to Cape Town. An optimistic perspective has defined the conversation surrounding innovation hubs in Africa. Many academics have concluded that entrepreneurship and innovation are essential for long-term economic progress and poverty reduction (Atiase et al., 2020). This narrative of entrepreneurship and innovation driving development implies that people are viewed first as innovators and entrepreneurs who are perceived through the lenses of individualism and then second as citizens engaged in development processes (Jiménez & Zheng, 2017).

Hubs across Africa are bridging a gap in the academic and business communities needed for technological innovation to drive economic growth (Chirchietti, 2017). Since the founding of the “iHub” in Nairobi in 2010 and the “CoCreation Hub” in Lagos in 2011, hubs in Africa see themselves not as creators or implementers but as enablers of innovations emerging across the continent (Chirchietti, 2017). Africa has stood for poverty, corruption, famine, and disease. Today, some regions of the continent are undergoing profound economic changes through innovative solutions. Many African countries, like Ethiopia, Nigeria, and Mozambique, are among the world's fastest-growing economies due to innovative solutions by aspiring entrepreneurs (GIZ, 2013).

The emergence of hubs in Africa is a component of the continent's present digital and mobile growth. New markets and business opportunities are starting to develop due to the rapid increase in mobile penetration and the proliferation of smartphone-based mobile internet access, especially in urban centers (Schwaab & Olthof, 2013). In contrast to other innovation hubs that mainly concentrate on developing consumer applications, IT companies in Africa are tackling some of the most complex humanitarian problems on the continent (Hussey, 2015). While many developed countries have conventional systems in place to aid in the transition from college to the workplace, the expansion of business clusters, and the fostering of relationships between entrepreneurs and investors, there are not enough well-established mechanisms in many African nations to support young people in realizing their entrepreneurial potential and utilizing their technical talents (GIZ, 2013).

3.1.2 Are other terms used to describe Innovations Hubs?

According to the literature, innovation hubs, incubators, accelerators, tech labs, and maker spaces are interchangeable terms. Hubs can operate as a variety of spaces, but the majority function as some combination of a training facility, coffee shop, internet café, event space, incubator,

accelerator, and/or maker space (De Beer et al., 2017). Brooke et al. (2014) mentioned that incubators offer workspace intended to actively assist in developing start-ups or businesses in their infancy. Offering business support is one of an incubator's unique selling points, while accelerator spaces are usually reserved for newly established companies or those that have been around for a while and have the potential to grow quickly and profitably. Accelerator spaces cannot always be easily differentiated from incubator spaces. A key characteristic is that accelerators focus on start-ups that have the potential to achieve high growth, typically within products or services that have a national or international market. Another important space within the hubs is the co-working space. These locations offer a range of workspaces and auxiliary amenities co-working spaces provide desk access to computers, phones, power, and broadband internet (Brooke et al., 2014).

In addition, the new digital economy is giving rise to small businesses and freelancers who cannot afford to rent offices. Thus, the demand for and interest in co-working spaces is rising. Combining resources not only reduces expenses but also fosters creative thinking and collaborative opportunities on a project-based basis when numerous coworkers are housed in one location (Schwaab & Olthof, 2013). Local governments are becoming more conscious of the fact that innovation hubs that provide entrepreneurs with incubators, accelerators, and co-working spaces, which run focused social programs, can provide communities with socioeconomic advantages that go beyond financial or commercial gains. It may become more critical for the public sector to support and facilitate provider-led activities and hubs to ensure these societal benefits (Brooke et al., 2014).

3.2 The Entrepreneurial Behavior

Research has found that traits such as entrepreneurial spirit, adaptability, and a results-oriented mindset are crucial during a competitive job search (Kivinen et al., 2000). Furthermore,

Laguna and Ramos (2014) point out that employers tend to prefer graduates who possess entrepreneurial skills. This demonstrates the importance of entrepreneurship education in building communities' entrepreneurial behavior.

3.2.1 What is the significance of Entrepreneurship Education for individuals?

Although Entrepreneurship Education mainly targets aspiring entrepreneurs to support them in creating their own businesses, it's shown that this kind of education is also important for individuals and the community at large. For example, Career readiness and entrepreneurialism are shown to be linked and related abilities in literature, even though this may not be the aim or intent of entrepreneurial education. In a competitive job search, it was discovered that an entrepreneurial spirit, adaptability, and result orientation were essential (Kivinen et al., 2000). It frequently entails seeing opportunities and acting to bring about change (Davis et al., 1991). Employers prefer graduates with entrepreneurial skills (Laguador & Ramos, 2014). Also, graduates of entrepreneurship-focused courses were found to be more satisfied with their employment opportunities and to be employed full-time within organizations, according to a study that compared graduates from entrepreneurship-focused courses with graduates from non-focused courses (Charny & Libecap, 2000).

According to Nair et al. (2020) in their study "Role of Entrepreneurial Education in Nurturing Entrepreneurial Orientation among Engineering Students," they investigated 1,296 students enrolled in a two-year program focused on technology entrepreneurship to determine the relationship between a background in entrepreneurial training and the likelihood of landing a position at two huge Indian companies. The results of their study indicated that a higher chance of being hired by creative companies is linked to better entrepreneurial behavior. It was insightful that the sample investigated by the study focused on a group of semi-urban middle-class

backgrounds, and the program helped them develop an entrepreneurial mindset and boost their confidence, which helped them secure employment offers from respectable companies. The findings also emphasize how important it is to give youth entrepreneurship education.

In the United Kingdom, Levie's (1999) study highlights the methodologies involved in teaching entrepreneurship courses, emphasizing the importance of experiential learning through real-world situations, role-playing, project engagement, and developing business plans and presentations. The FIT Report (European Commission, 2000) presents a model for effective program delivery, recommending self-directed learning, flexibility, an understanding of the entrepreneurial lifestyle, valuable networking, and a holistic view of management. These recommendations are rooted in a review of expert insights (Klandt, 1994), however, the extent to which they are integrated within the FIT case studies remains unclear. Garavan and Cinneide (1994) outline a range of objectives for entrepreneurship education, which include acquiring relevant knowledge, developing skills in various techniques, identifying and nurturing entrepreneurial talent, addressing risk through analytical methods, fostering a supportive enterprise culture, promoting adaptability to change, and encouraging the establishment of new ventures.

3.2.2 How does Entrepreneurship Education lead to Entrepreneurial Behavior?

Obtaining entrepreneurial behavior is vital for those who want to pursue regular employment or self-employment. On the regular employment level, it is found that entrepreneurial behavior is crucial for university graduates to meet the needs of the unstable labor market. The discovery that participants who gained entrepreneurial education were better placed in jobs lends credence to current theories of entrepreneurship, which suggest that people who adopt entrepreneurial behavior manage uncertain conditions by making efficient use of available resources (Nair et al, 2020). Paula (2018) stated that companies empower employees who display

entrepreneurial behavior within an organization through intrapreneurial programs, indicating that they are more likely to succeed in their careers. These programs represent a valuable and cost-effective strategy for enhancing corporate innovation by identifying and nurturing internal entrepreneurs (Paula, 2018). In these intrapreneurship initiatives, internal entrepreneurs receive the necessary resources and organizational backing to drive innovation, leveraging their position within their organizations and in the job market in general.

On the self-employment level, the significance of entrepreneurial behavior for business owners is highlighted in various models that cultivate specific entrepreneurial attributes and actions (Bates, 1998). Although some models provide lists of desired traits and behaviors, there is often a lack of clarity regarding how programs are specifically designed to achieve these objectives or the criteria used to measure their success or failure. For instance, Ronstadt (1985) noted the emergence of a new approach to entrepreneurship education that emphasized enhanced pedagogical processes, proposing 14 skill sets for development. There is still much work to be done in connecting small, autonomous businesses and the larger idea of entrepreneurship. The continuance of the conventional economic narrative that presents the entrepreneur as a heroic character and the corresponding ideology seems to be the root cause of this problem (Kyro, 2000). Moreover, some argue that ownership is not a necessary component of entrepreneurship (Stevenson & Jarillo, 1990). This has resulted in the idea that entrepreneurs are mainly associated with expanding companies and technological developments involving outside funding (Klofsten & Jones-Evans, 2000). However, a lot of self-employed individuals work as "networkers" and "fixers," navigating highly complex and risky circumstances, and they must show entrepreneurial behavior even when they don't want their businesses to grow (Gibb, 2002). The degree of unpredictability and complexity in the context and task environment entrepreneurs face is a

significant missing piece in much of this discourse (Laukkane, 1997), underscoring the situational necessity of entrepreneurial action (Gibb & Scott, 1985).

3.3 Significance of IHs on Driving Entrepreneurial Behavior in Local Communities

According to Toivonen and Friederici (2015), entrepreneurial spaces and collectives are still emerging quickly and evolving into a wide range of sub-types and arrangements. They mentioned four aspects of the innovation hub concept in their article, which will help us understand and ultimately assess actual hubs' benefits and unavoidable drawbacks. The first is creating collaborative communities where aspiring entrepreneurs are the main focus. Secondly, hubs attract a diverse range of expertise. The third element is encouraging cooperation and innovation in physical and digital settings. The last element that identifies hubs is the ability to develop a local understanding of global entrepreneurial ecosystems. Discussing these aspects is essential to set the frame for analyzing Creativa Innovation Hubs later in the study.

3.3.1 How do IHs impact the creation of collaborative communities and expertise engagement?

Since university research has typically failed to produce results, the most sustainable approach to local development is now allowing people to actively participate in finding solutions to their own problems (Atiase et al., 2020). This is crucial because local communities possess indigenous creativity that can only be used by the community itself through a critical analysis of the existing local circumstances. Through IHs, leveraging the right technology for local enterprises becomes the pivot for community innovation (Sianpar et al., 2013). According to Salmi and Whitt (2017), IHs serve as a roadmap for innovation that illuminates a route for entrepreneurship; they

have significantly improved social inclusion, gender mainstreaming, capacity building, and the production of wealth and jobs.

IHs accomplish their objectives by offering communal areas where individuals with various viewpoints and varied degrees of experience and knowledge may work together to spark creativity and produce new kinds of information (Friederici, 2016). Among other methods, they promote skill development through workshops, training, and the utilization of online learning resources; this increases the number of highly qualified entrepreneurs, which is greatly needed (David-West et al., 2018). Compared to traditional colleges, IHs are more agile, flexible, and adaptable, equipping them to handle new opportunities and difficulties brought about by the rapid development of the knowledge economy (Akinyemi, 2015).

3.3.2 How do IHs impact the level of Cooperation and Innovation in Local Communities?

It is realized that innovation originating at the base of the pyramid may be less costly because local resources may be most effectively utilized to foster innovation at the grassroots (Adejuwon, 2018). Furthermore, it's critical to keep in mind that innovation hubs enable people to collaborate and exchange ideas in private settings (Loorbach et al., 2020). It acknowledges and appropriates people at the base of the pyramid as innovators, defining their own needs, creating their own novel methods, and allocating and overseeing their resources (Hicks & Ison, 2018). China and India have made considerable strides globally in changing the structure of knowledge creation to suit the requirements of people at the bottom of the pyramid. However, many developing nations, particularly those in Africa, are finding it difficult to seize the opportunities and challenges presented by a rapidly growing knowledge economy (Osabutey & Osabutey, 2019).

According to Atiase et al. (2020), innovation centers are transforming the nature of knowledge production by allowing non-academic actors to establish new venues for the

cooperative creation and exchange of information. Hooli et al. (2016) demonstrated that interactions between diverse actors in hubs promote open innovation by encouraging goods and services co-creation. Stated differently, research indicates that innovation hubs facilitate integrating local and non-local knowledge sources during the innovation process. Also, Ridler et al. (2020) and Mulas et al. (2017) mentioned that accessibility and information exchange among several actors seem to help create capacity and gain market acceptance. Creative thinking and developing novel socio-economic effects are impacted by the degree of involvement in the local communities (Nicolopoulou et al., 2015),

3.3.3 How do IHs participate in developing a local understanding of Entrepreneurship?

IHs bridge the gap between the academic and business markets by providing the technological innovation needed to drive economic progress. They are becoming more and more common platforms for transferring technology and information as well as catalysts for socioeconomic revolution (Friederici, 2016). According to Hooli et al. (2016), innovation centers proactively support positive change with local capacity building, employment creation, empowerment, and closing the gap between innovation and market developments. By fostering innovation, science, technology, and management development, these structures facilitate the transformation of current economies into knowledge-based (Hans-Dieter, 2008).

Additionally, interactive entrepreneurial value creation has been supported by IHs (Friederici, 2016). Noting that they have been crucial in fostering entrepreneurial activities, as shown in Jimenez and Zheng's (2017) recent study, they inspire individuals to launch and grow their own businesses, create jobs, and find new revenue streams. However, employment and market-based products are indirectly related to the development processes that IHs contribute to (Jiménez & Zheng, 2017). IHs assist in supplying communities with informal education in

entrepreneurship; specifically, the exchange of experiences and best practices fostered through interactions between individuals within the IHs spaces. It is important to note that innovation hubs function as enterprises that help entrepreneurs get off the ground, produce and promote pro-poor goods and services, and support startups to enhance community livelihoods (Hooli et al., 2016).

3.3.4 IHs' Role in Driving Entrepreneurial Behavior

“No one really cares about hubs per se”, as this was the opening statement of Tayo Akinyemi (2015) in his online article “Decoding Hub Sustainability: Confronting the Critically Important yet Painfully Obvious,” he discusses his interviews with hub managers in Zimbabwe about the real impact we should aim for when establishing hubs. The prominence of IHs cannot be overlooked, particularly as an increasing number of governments enact strategic national initiatives and frameworks designed to stimulate entrepreneurship and foster innovation. The activities undertaken by these hubs can be perceived as a roadmap for navigating the complexities of the modern economic landscape. Engaging IHs in the co-creation of such initiatives would not only enhance their relevance but also enable the strategic utilization of vital local innovation experts, thereby enriching the overall effectiveness of these initiatives (Sambuli & Whitt, 2017). That’s being boosted by an innovation-driven global economy that has emerged in recent decades, driven by a financially stable cluster of innovative enterprises that fuel long-term regional growth.

In addition, most African youth, especially recent graduates, seek work but cannot find positions in the public sector (Dzomonda & Fatoki, 2019). As a result, they rely on public-private employment while they wait to find employment. According to the Africa Development Bank's annual analysis (2016), employment is not increasing at the same rate as the population. The complexities associated with unemployment highlight the necessity of establishing a direct and dynamic partnership between industry and education. The partnership must be centered on

developing the capacity to offer novel ideas and workable solutions to address social and economic problems (Carter et al., 2021). Research on regional development initiatives has demonstrated that the success of regional innovation is significantly influenced by physical closeness. According to Krugman (1991), the concentration of business support organizations, in this case, innovation hubs, in one area not only increases the pooled market of individuals with specialized skills connected to the industry but can also accelerate the growth of a region by making its businesses more competitive. A decrease in the likelihood of both unemployment and labor shortages promotes a more efficient labor market (Wu & Lantz, 2017).

It was previously believed that the effectiveness of innovation hubs, particularly in accelerator areas, was primarily reliant on the management and business support provided by the hubs. Depending on the beneficiaries' demands, business support can take many forms. It can involve business administration support, networking, mentorship, help with office administration, training to enhance product development, or services like IT software (Brooke et al., 2014). It is evident now that a thriving innovation ecosystem is formed by dynamic, knowledge-based entrepreneurial activity (Mian & Hulsink, 2009). Furthermore, IHs have a fantastic chance to advance both the general economy and society. Because of their close ties to the industry and their active engagement with the public sector, they can tailor their actions and projects to meet specific industrial demands and societal objectives; they benefit society, boost the economy, and energize the entire entrepreneurship ecosystem (Atiase, 2020). Their influence extends beyond providing programs for startup assistance; they also foster cohesive communities wherein novice entrepreneurs can engage with more seasoned members (International Trade Center, 2019). Universities may significantly benefit their systems by working with IHs to achieve technological

advancements with a market-oriented approach (Kelly & Firestone, 2016). Universities may then be inspired to upgrade their infrastructure and update their courses to provide greater value.

In this study, we investigate how the model of Creativa Innovation Hubs significantly enhances their effectiveness in delivering these multifaceted support services to support our assumption that, unlike traditional public sector models, private operators often possess greater accessibility to industry expertise and resources, allowing them to draw on a network of professionals with the necessary skills and knowledge to address specific challenges faced by emerging businesses. This alignment with the private sector results in a more adept management structure and facilitates the infusion of best practices and innovative solutions that can directly benefit entrepreneurs.

Chapter Four

Contextual Framework

In this chapter, the author provides a conceptual framework that is based on the literature review and the understanding of the contextual background of the main areas surrounding the existence of Creativa Innovation Hubs, the operational model of similar establishments, and how this is leading local communities to act in a more entrepreneurial way. This chapter is divided into four points: the first explores the government's interest in supporting innovation, entrepreneurship, and self-employment; the second is understanding the current local entrepreneurship support ecosystem in the two governorates chosen for this study (Qena and Aswan)—the last two points explore the design of the operational model of Creativa Hubs and how this contributes to providing better opportunities for Youth in their local communities.

4.1 Egypt's Governmental Efforts in Promoting Innovation

According to the Egyptian Start-up Ecosystem Report (ITIDA, 2021), Egypt boasts one of the best entrepreneurship ecosystems in Africa in terms of both start-up activity levels and inbound investments. This is the output of a long support ecosystem the government has built for the last decade to promote self-employment and business creation among youth. This is also shown by the significant increase in interest from government ministries and agencies in promoting small and medium-sized enterprises (SMEs) and entrepreneurship over the past decade (Ismail, 2022). An example of these initiatives is the General Authority of Investment and Free Zones (GAFI), formerly the Ministry of Investment, which has launched Egypt Ventures to aid entrepreneurs through programs like Falak Startups.

Another example is the Ministry of Planning and Economic Development (MoPED), which is also active in developing entrepreneurial support by creating university-based incubators, providing training, and introducing entrepreneurship education in schools (Ismail, 2022). On the financial support side, the Central Bank of Egypt (CBE) mandates banks to direct 25% of their lending portfolios to SMEs while subsidizing interest rates to facilitate this process. Additionally, the Ministry of Trade and Industry (MoTI) supports SMEs in industrial sectors through the MSME Development Agency (MSMEDA), which develops strategies and funding to enhance the entrepreneurial landscape. Finally, the Ministry of Communications and Information Technology (MCIT) has taken a leading role with initiatives like the IT Industry Development Agency (ITIDA) and the Technology Innovation and Entrepreneurship Center (TIEC), which support technology startups and the establishment of innovation hubs with their cross-country initiative “CreaTiva Innovation Hubs” (ITIDA, 2021). These efforts reflect a comprehensive approach to fostering entrepreneurship and economic development in Egypt. This commitment is also shown in the Egyptian government's enhancement of its "Digital Egypt" initiative, which has resulted in advancements such as establishing an Ericsson digital hub in Cairo dedicated to developing cognitive software for international markets (Daily News Egypt, 2021).

As a result of these initiatives to promote innovation, entrepreneurship, and startups, Egypt ranks first in the Kearney Global Services Location Index regionally and on the continent (Kearney, 2021). The Global Services Location Index (GSLI) (2021) continues to examine the global landscape in 60 countries across four key categories: financial attractiveness, availability of skilled labor, business environment, and digital resonance. The GSLI evaluates each country's ability to provide services using 47 distinct metrics, and its findings further support the rise of certain countries as digital hubs. According to the report, Egypt has emerged as an appealing

financial location characterized by competitive compensation and infrastructure costs, a robust entrepreneurial culture, and a government that is eager to make strategic investments.

According to Ismail (2022), Egypt's emerging and rapidly evolving entrepreneurial ecosystem encompasses multiple service domains for entrepreneurs. In Egypt, various initiatives are designed to promote entrepreneurship among youth, especially those facing high unemployment rates. Awareness programs aim to present entrepreneurship as a viable career option, utilizing platforms like schools, universities, and mass media, although they primarily serve privileged socioeconomic segments (Ismail, 2022). In contrast to these findings, the realm of entrepreneurial education and training in Egypt is notably underdeveloped compared to other sectors (Ismail, 2022). Specifically in the formal education system, as very few private universities are beginning to integrate entrepreneurship education, including institutions like The American University in Cairo (AUC), The German University in Cairo (GUC), The British University in Egypt (BUE), Canadian Universities, and Nile University, with no clear efforts in the public universities' curricula. At the pre-university education level, entrepreneurship is only incorporated as a formal subject within technical and vocational education and training (TVET) schools, neglecting other types of schools. However, within public universities, the emphasis tends to be on introducing informal activities and events rather than implementing substantial reforms that would embed entrepreneurship content and foster an entrepreneurial culture. Also, there is an increase in activities occurring in the sphere of informal training and education. Several massive open online courses (MOOCs) are gaining popularity, including platforms like "Edraak" and "Nafham". While there is a burgeoning ecosystem for entrepreneurship, many of these initiatives face challenges in achieving scalability and ensuring long-term sustainability (Ismail, 2022).

4.2 Entrepreneurship Ecosystem Support in Upper Egypt

Upper Egypt is overlooked regarding ecosystem support, as most programs target governorates closer to the capital, emphasizing a privileged socioeconomic segment of the public (Ismail, 2022). This is particularly noticeable in startups that prioritize innovation. Very few businesses are concentrating on other markets and regions. This geographic concentration leaves the rest of Egypt out of this opportunity even though it helps Cairo reach a critical mass of businesses and support groups. Ismail (2022) mentioned that the problem with geographic differences is that it is difficult to establish a critical mass of organizations and activities in many places where there is a lack of fundamental awareness and infrastructure. Because of this, to get the best return on their investments, most organizations choose to expand upon Cairo's current basis, further widening the gaps. These organizations usually invite entrepreneurs from around Egypt to apply, but to benefit from such activities, entrepreneurs must travel to Cairo and handle the burden of travel and accommodation costs on their own.

A closer look at the Upper Egyptian entrepreneurship ecosystem reveals several supply-driven initiatives supporting entrepreneurship development, including competitions, workshops, and other events highlighting its need. Limited initiatives exist in Upper Egypt; as most support organizations implement short-term programs without long-term support. Among these organizations that are active outside of Cairo are the Egyptian Network for Integrated Development (ENID), which works in upper Egypt; CleanTech Arabia, which targets upper Egypt through initiatives like Nawwart and other programs; Dandara Cultural Center, which focuses on upper Egypt and other governorates outside of Cairo; and Tanmia Wa Tatweer Program, which supports incubation programs in Upper Egypt and the New Valley (Ismail, 2022). This stimulates entrepreneurs who are eager to learn and innovate on the demand side. Their most significant issue

is "what's next?" These programs help aspiring young entrepreneur who even starts their own business, but they don't provide mentorship to help them along the way or help them get back up after a setback (Halim, 2020). Another limitation is a lack of money. These limitations impact aspiring individuals in Upper Egypt and may fail fairly early on. Most entrepreneurs in Upper Egypt have personalities that greatly influence how they deal with Egypt's general dearth of employment prospects as well as the underdeveloped private sector, which is a significant engine of economic expansion and job creation. Entrepreneurs may be recent college graduates attempting to create possibilities for others and themselves. What they possess is a vision for change and desire. Above all, they are strongly dedicated to learning and expanding their startup.

4.3 Creativa Innovation Hubs Initiative

“Creativa Innovation Hubs” is a program initiated by the Egyptian government and the Ministry of Communications and Information Technology (MCIT), executed in collaboration with the Technology Innovation and Entrepreneurship Center (TIEC), Information Technology Institute (ITI), and National Telecommunication Institute (NTI). Creativa Innovation Hubs include all three entities in one establishment, and most buildings are inside public university campuses across 13 Egyptian governorates (such as Mansoura, Monufia, Menia, Sohag, Qena, and Aswan) and are growing in number, aiming to reach 26 hubs by the end of 2025. Creativa Innovation Hubs are designed to inspire and motivate local communities’ interest in pursuing entrepreneurship. The main objectives of the hubs are as follows: first, to support technology entrepreneurship as a viable career path and foster the entrepreneurial culture in the area; second, to connect innovative and entrepreneurial behavior to career pathways; and third, to give aspiring entrepreneurs the tools and environment they need to experiment in technology-based start-ups (ITIDA, 2022). That’s why understanding entrepreneurial behavior is essential for our research. The Ministry of

Communication's website description offers the essential role of Creativa hubs as learning and innovation centers in Egypt. Creativa aims to set a new standard for technological support for the country's youth.

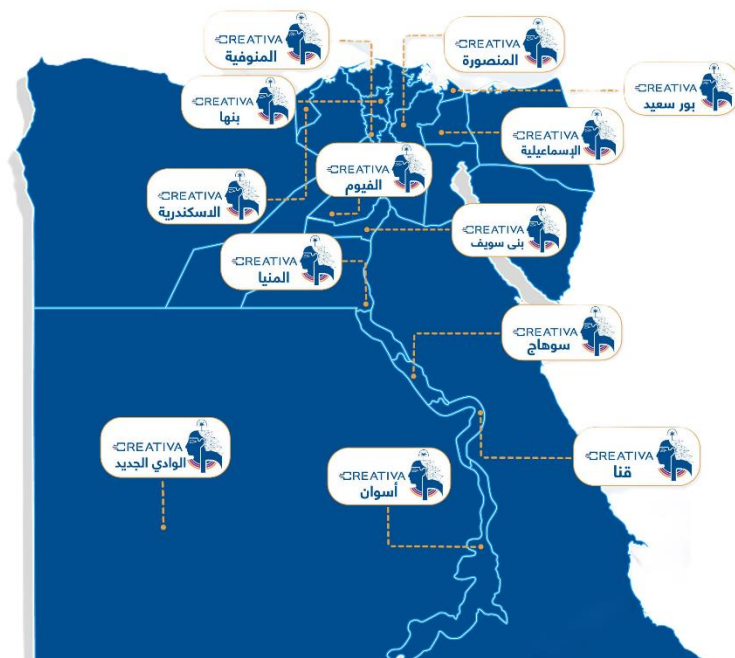


Figure 3: Creativa Innovation Hubs' branches map across Egypt in August 2024
(Source: constructed by the author)

The initiative is strategically designed to bridge the gap between technology skills and the practical requirements of the market, ensuring that youth are equipped with relevant capabilities that align with industry demands (ITIDA, 2022). Each Creativa hub is run by a private sector operator selected by TIEC through an open call for proposals; Creativa Hubs show a hybrid-led model (Kelly & Firestone, 2016) as both TIEC as a governmental entity and the private sector Operator are both engaged in managing and operating the hubs. This hybrid-led model helps to benefit from the private sector operator's agility to tailor its offerings to address the specific needs and demands of the local community (TIEC, 2024).

By providing an array of services based on local demand, this localized approach ensures that youth have the right skills and knowledge to thrive in various realms of the tech industry and beyond. Moreover, the collaborative effort between the Ministry of Communications and Information Technology (MCIT) and the Ministry of Higher Education & Scientific Research by existing in the different universities' campuses puts a concerted commitment to fostering innovation and technological advancement among the youth (ITIDA, 2022).

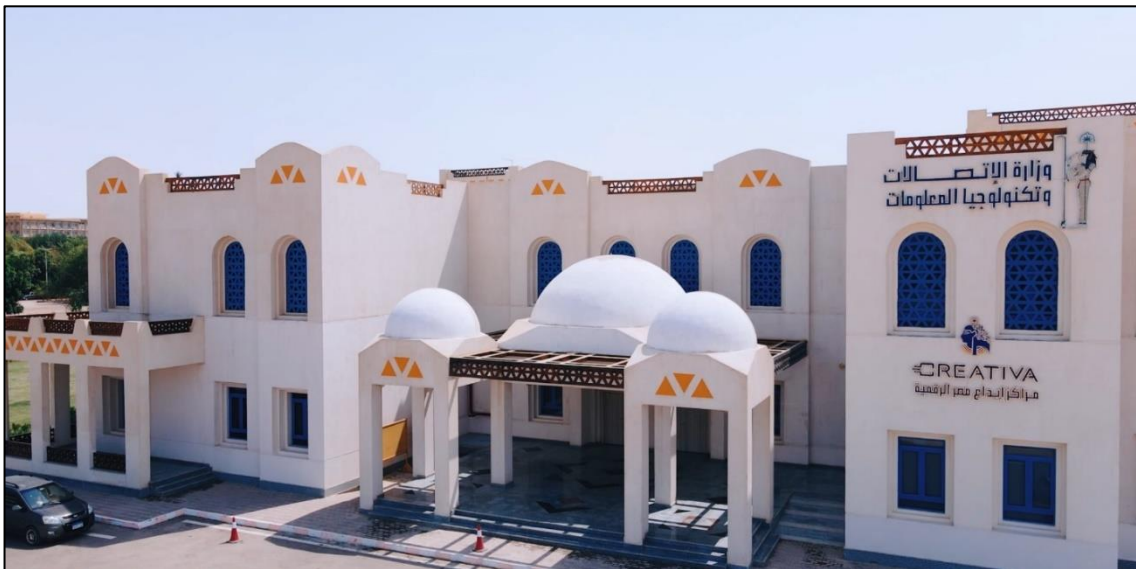


Figure 4: Creativa Innovation Hub in Qena (Captured by the Author)

The collective involvement of institutions such as ITI, TIEC, and NTI further enhances the initiative's impact by consolidating resources and expertise to provide comprehensive information and communication technology training and support innovation activities. This collaborative framework creates a unified platform for youth to access training, mentorship, and support, offering a holistic approach to skill development and entrepreneurial empowerment. According to TIEC's website (2024). Here are the main services provided by Creativa:

- **Innovation and Entrepreneurship support:** Facilitate access to training, funding, mentors, and business resources for startups, enabling them to grow and succeed, thereby fostering innovation, job creation, and economic development within communities.
- **Technical and applied training programs:** Through partnerships with national and international providers, we offer a wide range of technical courses to enhance know-how in technology fields. We benefit communities by equipping individuals with relevant and up-to-date skills for employment and entrepreneurship.
- **Job-based training:** Tailored training for highly demanded market roles and emerging technology positions, helping individuals acquire targeted skills for employment, contributing to workforce development, and meeting industry demands.
- **Freelancing support:** Empower learners to monetize their skills through freelancing tools, providing resources, job access, and training opportunities to enhance incomes and support economic independence within communities.
- **Career consultation services:** Provide insights and tools for youth to plan their career steps and navigate the job market effectively, benefiting communities by empowering individuals with career guidance and job market knowledge.
- **Fabrication lab:** provides aspiring entrepreneurs and freelancers with essential tools and equipment to prototype and manufacture their products, fostering innovation and creativity in product development processes.

- **Co-working space:** offer a collaborative environment for aspiring entrepreneurs and freelancers to network, share ideas, and work alongside like-minded individuals. They promote creativity, collaboration, and a sense of community among professionals.
- **Internet access:** free access for aspiring entrepreneurs and freelancers to conduct research, market their products or services online, connect with clients, and stay updated on industry trends, enabling them to operate effectively in the digital age.
- **High-tech laptops:** to support freelancers who don't have access to laptops with the mobility and computing power needed to work in the hub, collaborate with team members, access online resources, and stay productive, facilitating efficient and flexible work processes.

Creativa Hubs in Qena and Aswan

The research will focus on Creativa Hubs' role in the governorate of Qena and Aswan, both in south upper Egypt. They are both located in public universities, South Valley University Campus in the case of Qena, and Aswan University Campus in the case of Aswan. Both hubs, like the rest of Creativa hubs, were addressed in an open call for proposals by ITIDA- TIEC in 2021, and private sector organizations were asked to submit their proposals showcasing their plans to run the hub. This is how operators are responsible for managing Creativa Innovation Hubs, by winning the call for proposals and passing all the selection phases. Qena Hub is operated by Dandara AlEbdaa, a local young startup established in 2021 by two founders from Qena after involvement in similar development work, although the company's first activity was to apply for this proposal. Aswan's hub is managed by MQR, a well-established Egyptian company that manages coworking spaces and collaborative communities for startups across Egypt. MQR

managed two hubs, one in the Menoufia governorate and the other in Aswan. Each operator was contracted to manage the hub for three years, from April 2021 to August 2024, subject to renewal based on performance and achieving the Keys of Performance Indicators (KPIs). Dandara AlEbdaa's contract was renewed to manage Qena's hub, while MQR's contract was not. By the end of the study, Aswan's IH was put on an open call for proposals, moving the hub's management from MQR to Dandara AlEbdaa, who had won the proposal for operating Aswan's hub, and they will officially operate the innovation hub in September 2024.

Each Creativa Innovation Hubs in Qena and Aswan include the three entities ITI, NTI, and TIEC. Only TIEC provides entrepreneurship education, which is the focus of our study, the other two entities in the hub only provide technical training. The space in the hub is divided between the three entities. TIEC has dedicated spaces for its activities; a training room that can accommodate 70 people, a coworking space that can accommodate 10 to 15 people, a fab lab with 3D printing and laser cutting machines, and ten laptops for freelancers to borrow. Other shared resources between TIEC, ITI, and NTI are the conference room, which can accommodate up to 200 people, along with computer labs that can accommodate between 20 to 30 participants for the technology-based training. Creativa Innovation Hub is equipped with high-speed internet and an in-house technical support team to ensure the maintenance of the devices in the building.

4.4 Creativa Hubs in Promoting Entrepreneurial Behavior in Upper Egypt

Geographic differences in development in Egypt are too complicated to be tackled considering rural areas as a homogeneous unit (Adly, 2010). Upper Egypt has a compounding developmental gap in employment, health, and education. These services are also of low quality and are less readily available. The current situation indicates that this will not advance the development of the South. Despite these efforts, the poverty rate decreased by just 4% between 2015 and 2018 (CAPMAS, 2018); as a result, the outdated paradigm must give way to a more comprehensive development model built around the right to enjoy similar services nationwide (Roman, 2020). Beginning with the right to decent work, various approaches must holistically address Upper Egypt's poverty. One approach is giving equal opportunity for entrepreneurship education with the same quality as offered in Lower Egypt through Creativa Innovation Hubs to reduce the gap in the accessibility to opportunities.

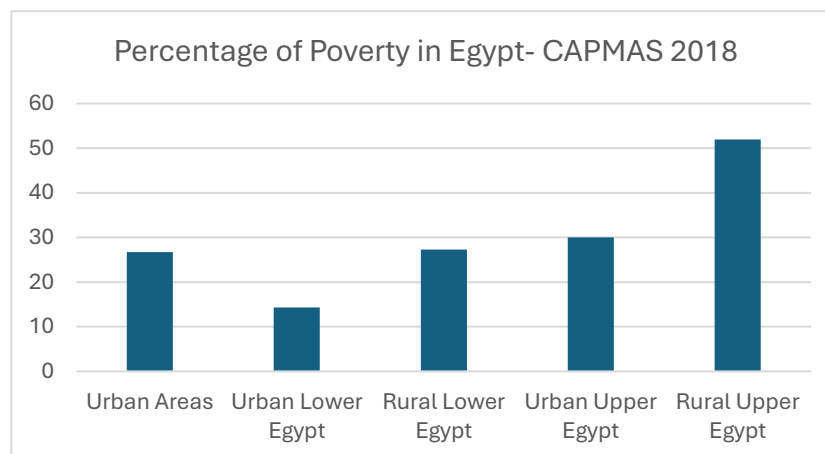


Figure 5: Percentage of Poverty in Egypt (Source: Constructed by the author using CAPMAS report, 2018)

According to MCIT's website (2021), CREATIVA Innovation Hubs catalyze collaboration between the government, private sector, and universities. Their mission involves managing the various elements of the innovation ecosystem while coordinating numerous programs and initiatives that arise from a strategy focused on innovation and entrepreneurship in partnership

with relevant stakeholders. Additionally, they emphasize the importance of profitability by marketing innovations and intellectual property licenses, addressing the country's current challenges, and positioning Egypt as a global competitor in value-added innovation (MCIT, 2021). This is shown in the number of jobs created through the hubs as published on Creativa website (ITIDA, 2022). According to TIEC’s report (2024), Creativa hubs managed to create 16,000 jobs over the last three years, focused on upper Egypt, with Qena’s hub coming in first place, then Sohag, and in fourth place is Aswan (ITIDA, 2022).

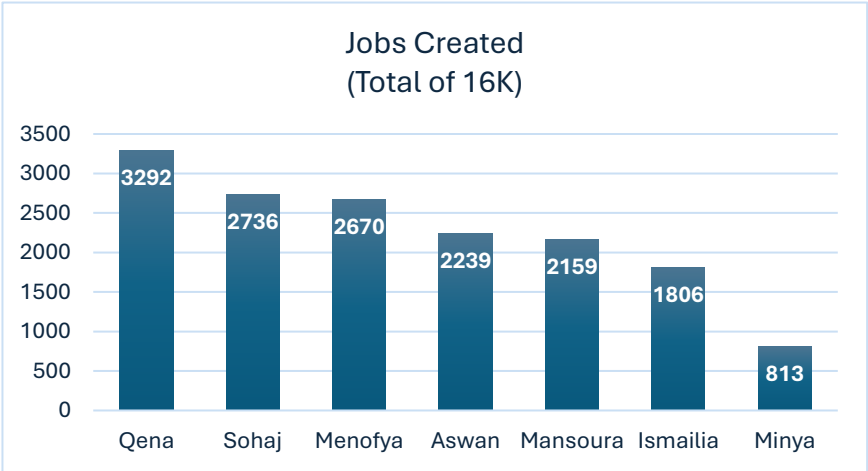


Figure 6: Numbers of jobs created in Creativa IHs across governorates from establishment till April 30th, 2024 (Source: constructed by the author using TIEC’s shared analysis, 2022)

These numbers show the vital role that these innovation hubs play in transforming the local economies of their regions and addressing the pressing need for job creation in an area where economic opportunities have historically been limited. Among the various hubs established under this initiative, the hubs located in Qena and then Aswan have emerged as standout performers, securing the top position in job creation statistics. By providing valuable resources such as access to training, mentorship, and networking opportunities, these hubs have effectively cultivated an environment conducive to innovation and job growth.

Chapter Five

Research Methodology

The research design that was applied to investigate the role of Innovation Hubs in driving entrepreneurial behavior is outlined in this chapter. Three main ideas make up the organization of this chapter: 1) a description of the methodology, highlighting the various paradigms that guided the analysis; 2) a discussion of the qualitative research approach, highlighting the data sources, participant characteristics, and data analysis techniques; and 3) exploring the ethical considerations and the limitations of the study.

5.1 Research Methodology

Given the breadth of the topic surrounding entrepreneurship support within innovation hubs, in-depth interviews with key stakeholders were conducted to gain a comprehensive understanding of the subject. Qualitative research design is particularly suited for this study as it is crucial to capture the nuances of the situation from the perspective of the hubs. As noted by (Punch, 2006), qualitative approaches are effective for "studying an issue or a situation in detail holistically and in context, focusing on interpretations and processes." Furthermore, qualitative research fosters meaningful human interactions and allows for exploratory insights through data collected from interviews, serving as a foundation for knowledge development (Marshall & Rossman, 2015). The research questions are exploratory in nature and aim to translate the hows and whys of participants' experiences, insights that can only be revealed through qualitative methods (Silverman, 2016).

This study employs a qualitative research design within a case study approach to examine the various interventions provided by Innovation Hubs to foster entrepreneurial behavior among youth in Upper Egypt, in the case of Creativa Innovation Hubs. The case study approach is pertinent as it provides an empirical examination of a phenomenon within its actual, real-world setting (Yin, 2009). The focus is on understanding how these hubs equip individuals with the necessary skills and resources that lead to better accessibility to resources including higher chances of being employed by companies. A key objective is to identify the accessibility of opportunities these hubs create in delivering their services and to explore the factors that influence the effectiveness of their programs. The information received from the interviews was triangulated using secondary sources found through online desk research to guarantee the quality and reliability of the data collected. This gave a more comprehensive understanding of the innovation hub phenomena. The author undertook this desk research to understand better how innovation hubs now conceptualize entrepreneurship and how their organizations approach opportunity creation for their communities. A study of the state of the literature on innovation hubs was conducted, with a focus on their impact, design, problems, and evolution.

This study is guided by a series of research questions that aim to investigate the influence of Creativa Innovation Hubs on youth entrepreneurial behavior in Upper Egypt. The first question seeks to explore these hubs' specific roles in shaping entrepreneurial attitudes and actions among young individuals. This inquiry is crucial in understanding how localized support mechanisms can foster entrepreneurship in the region. The second question examines how the operational model of Creativa, managed by private sector operators, interacts with the broader entrepreneurial ecosystem. This emphasizes the potential advantages of private management in enhancing hub operations. The third question focuses on identifying the key support structures and services

provided by Creativa Innovation Hubs and how they cater to the unique needs of the local communities. Collectively, these questions will guide the research in assessing the multifaceted impact of Creativa Innovation Hubs on fostering entrepreneurship and supporting local economic development.

5.2 Sample Selection

This study is based on the analysis of Creativa Innovation Hubs in two governorates in Upper Egypt, Qena and Aswan. The choice of these two governorates is because most research that provides the resources needed for support organizations to function, leading the development efforts by these organizations, are usually focused on urban Lower Egypt areas, deepening existing significant geographical disparities at the expense of more marginalized and remote communities in upper Egypt. As previously mentioned, the actions of the government and many NGOs emphasize extending social security programs and providing aid to those in need. The key informants for this study were selected using purposeful sampling for the first group (Creativa IHs managers) and snowballing for the second (Creativa beneficiaries in Qena and Aswan). The specificity of the topic regarding the services provided by Innovation Hubs—especially, Creativa Hubs in Upper Egypt—justifies the selection of this sampling framework. The key methods of research employed in this investigation are qualitative interviewing and case study research, including field observations. This methodology is used to collect primary data from two categories; the first is Hubs' managers: program managers, TIEC's coordinators, and hubs' operators. They were chosen primarily because they worked directly with Creativa hubs as part of their employment duties. They have extensive knowledge of the services provided and the results they anticipate due to their positions within the hubs. The selection of hubs' operators was connected to the second category (hubs' beneficiaries) in Qena and Aswan. Beneficiaries from Qena and

Aswan's hubs were selected based on their engagement in their activities for at least six months. The sampling criteria for this group could create a positive bias from interviewees towards their experience, as they probably participated for six months or longer due to their positive experience. The researcher triangulated the responses with secondary data collected in desk research and through the researcher's observations during the fieldwork, with one visit to Aswan's hub and one visit to Qena's hub between April to July 2024.

Semi-structured in-depth interviews were done offline at the hubs' locations and via Zoom to collect qualitative data. Each interview was conducted for forty-five minutes and one hour throughout the four months of the data collection period, from April to July 2024. It was simpler to compare, evaluate, and pinpoint important themes within the study due to a structured set of interview questions that promoted consistency and clarified the nature of the hubs. The purpose of the inquiries was to learn more about the services offered by the hub and how these hubs operate.

Creativa Hubs Managers, Coordinators, and Innovation Experts	
1	E. N., Creativa Innovation Hubs Program Manager, TIEC, Cairo
2	M. K., TIEC Ambassadors Program Manager, TIEC, Cairo
3	N. M., Innovation Support Manager, TIEC, Cairo
4	M. A., Innovation and Entrepreneurship Expert, Nile University, Cairo
5	H. H., Creativa Hub coordinator, TIEC, Qena
6	H. M., Creativa Hub Coordinator, TIEC, Aswan
7	E. S., Program Manager, Dandara AlEbdaa, Qena
8	E. H., Program Manager, MQR, Aswan

Table 1: Respondents' demographic characteristics- Hubs' managers

Aswan Beneficiaries		Qena Beneficiaries	
1	M. M., Male, Entrepreneur, Aswan	1	A. F., Male, Freelancer, Qena
2	A. A., Female, Freelancer, Aswan	2	D. E., Female, Freelancer, Qena
3	S. R., Female, Employee, Software Developer, Aswan	3	H. H., Female, Employee, Qena
4	H. A., Male, Freelancer, Aswan	4	N. A., Female, Entrepreneur, Qena
5	M. B., Male, Entrepreneur, Aswan	5	R. Z., Female, Enpreneur, Qena
6	A. A., Male, Employee, Project Coordinator, Aswan	6	Y. S., Male, Entrepreneur, Qena

Table 2: Respondents' demographic characteristics - Hubs' beneficiaries

5.3 Data Analysis

Every interview was audio recorded and then transcribed. Insights and information collected through interviews were methodically coded by creating data units, assigning codes to each unit, and then comparing the codes to cluster into themes. The literature review tracked the body of knowledge pertinent to this study, which was available and focused on innovation hubs and driving entrepreneurial behavior for local communities, particularly in Upper Egypt, to keep track of the corpus of research that is pertinent to this topic. Software was not used in the analysis of the data. Since Arabic is the majority language spoken in Egypt, interviews were conducted in Arabic. NGOs' personnel in Egypt speak Arabic, so the researcher translated the findings into English as for the analysis and research were completed in English.

5.4 Ethical Considerations

On March 15th, 2024, the IRB's approval was received before starting data collection. Additionally, their consent was secured before any of the selected interview subjects participated. Every piece of information is safeguarded in terms of privacy, and the identity of study participants was anonymous for beneficiaries and not for managers. Every attempt was taken to guarantee that the interview subjects felt at ease during the process and that the investigator was transparent about the goals of collecting the data. To guarantee that all of the data they submitted would only be utilized for study and analysis, verbal consent was guaranteed from interviewees. Interviews were audio recorded with participants' permission.

5.5 Study Limitations

The availability of data that only applies to a restricted number of individuals and a different geographical and socioeconomic population limits the study. More fieldwork in other

governorates in Upper Egypt is required to validate these initial results and qualitatively check the underlying mechanisms. Comprehensive surveys will enable the accurate implementation of the services hubs offer that enhance entrepreneurial behavior. Also, more research is needed on participants who participated in the hub for less than six months and who know about the hubs but choose not to participate in the hub activities to understand their perception. The inadequacies of the current study also highlight the need for future research to incorporate more socio-cultural elements, as this may impact how entrepreneurship education affects innovation hubs and entrepreneurial behavior.

Chapter Six

Analysis

The interviews yielded profound insights into how innovation hubs bolster entrepreneurial activities within their local communities by generating job opportunities and fostering business initiatives. Interviewees articulated diverse services provided to youth throughout the data collection process, including training, access to coworking spaces, mentorship, and facilities. They also identified the challenges this hybrid management model faces in delivering their services and effectively overseeing hub operations. Participants elaborated on the specific offerings of the Creativa hubs, the activities they engaged in, and the methods through which they cultivated networks and relationships. Discussions among hub managers centered on the operational framework of the hubs, strategies for targeting beneficiaries, and the intended impact on the community. Additionally, the conversations included a critical examination of the approaches employed by the Technology Innovation and Entrepreneurship Center (TIEC) in recruiting, managing, and evaluating operators, significantly influencing the overall success of the Creativa hubs. The strategies they implemented to address these challenges were also discussed, providing a comprehensive understanding of the dynamics of effectively running innovation hubs.

Creativa Hubs exemplify the evolving landscape of entrepreneurial spaces, as analyzed by Toivonen and Friederici (2015). Their framework identifies essential aspects of innovation hubs that illuminate these initiatives' inherent benefits and drawbacks. Building on their analysis, this section is organized into four parts that represent the main pillars of the conceptual framework while addressing the research questions. The first section focuses on understanding the objectives of the hubs from the interviewees' perspectives, examining the services these hubs offer, and

investigating how those services address the needs of local communities. The second section delves into the operational model of Creativa Innovation Hubs, which aligns with the hybrid-led model described by Kelly and Firestone (2016), managed by two primary stakeholders: TIEC as a governmental entity and private sector operators. The third section provides a deeper insight into the hubs' impact on the community and how they serve as tools for driving entrepreneurial behavior, such as resource management, proactiveness, risk-taking, and self-confidence. Finally, the last section explores how beneficiaries who have engaged with these services have gained better access to opportunities, whether for employment with a company, freelance work, or starting their own businesses.

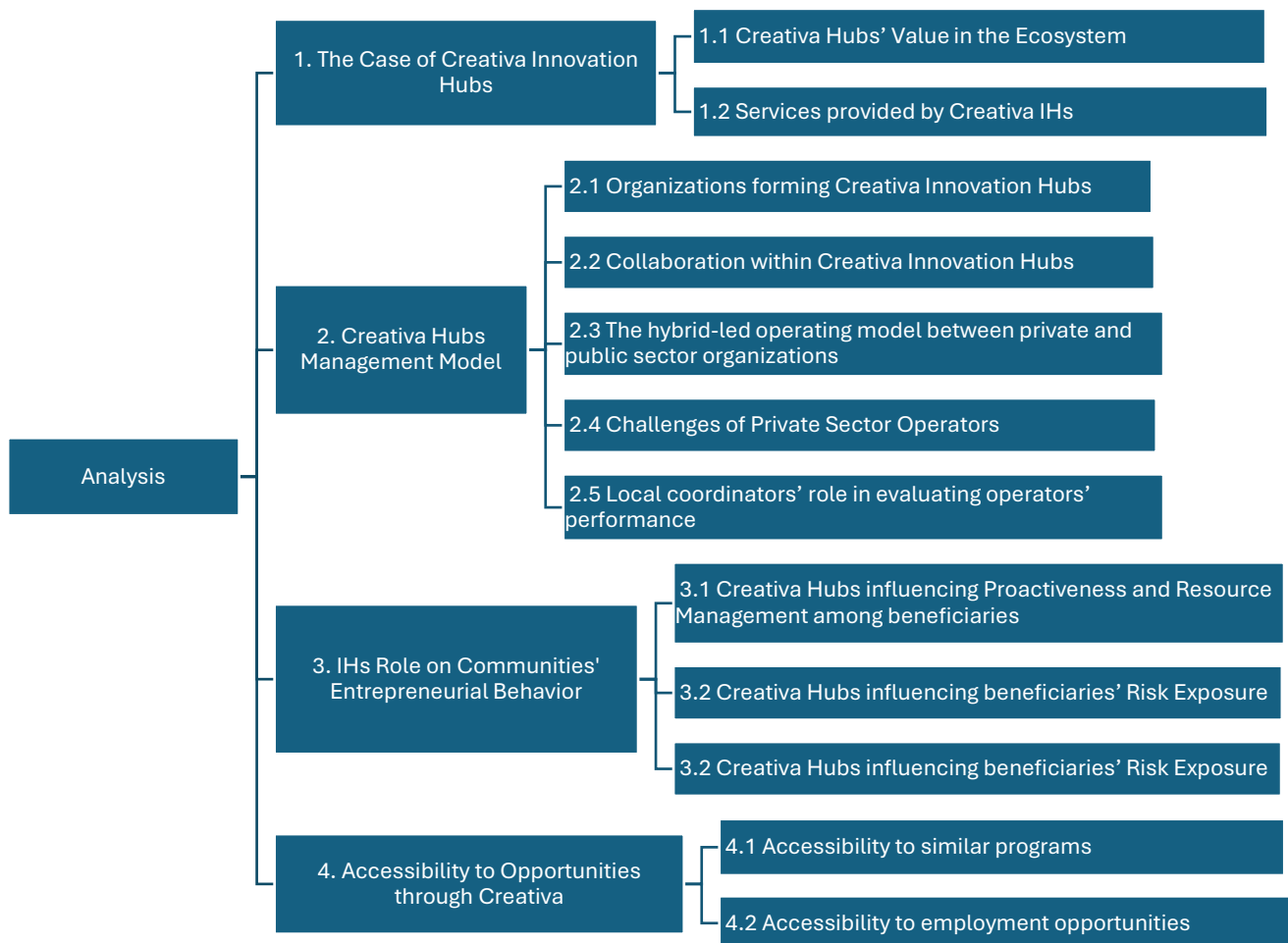


Figure 7: Analysis Chapter Breakdown (Constructed by the Author)

6.1 The Community Perception of Creativa Innovation Hubs' Role

The researcher investigated the dissemination and understanding of Creativa Hubs' goals and objectives among operators' leaders and TIEC's different program managers. The managers' insights confirmed a nuanced understanding of the rationale behind establishing Creativa, highlighting a range of strategic objectives to enrich the local entrepreneurial ecosystem. One manager underscored the hub's pivotal role in bolstering the technology and entrepreneurship sectors within the community, demonstrating a steadfast commitment to driving innovation and fostering growth. This emphasis on cultivating a vibrant ecosystem reflects Creativa's proactive stance as a catalyst for technological advancement and entrepreneurial excellence within the region.

“Creativa Hubs are established to empower local communities through innovation and entrepreneurship. We support youth in creating technology-based startups or being self-employed (freelancers) to enable youth to generate income through local or global remote work. The second objective is the localization of the opportunities to the marginalized communities, as before they would travel to Cairo or Alexandria to benefit from such spaces.” (E. N., Creativa Innovation Hubs Program Manager, TIEC, Cairo)

The emphasis on supporting youth in creating technology-based startups or engaging in self-employment reflects a commitment to fostering economic independence and enhancing job creation within these communities. This governmental focus on entrepreneurship gives young people the skills and resources they need to thrive in a rapidly changing job market. It shows a dedication to encouraging them to leverage technology to explore new local and global opportunities.

Another interviewee articulated a compelling vision for Creativa Hubs centered on capacity building, particularly focusing on nurturing the entrepreneurial acumen of local youth while emphasizing proficiency in cutting-edge technologies such as Internet of Things (IoT), application software, and hardware. By championing the development of youth skills in these critical domains, Creativa Hubs are dedicated to empowering the next generation of entrepreneurs and freelancers, equipping them with the expertise and resources essential for navigating the dynamic landscape of the digital economy. Furthermore, the overarching objective of empowering local communities through innovation and entrepreneurship encapsulates Creativa's mission.

“To enhance the ecosystem by building the capacity of the local youth in entrepreneurship and freelancing with a big focus on technologies like (IOT, Application software, hardware, ...)” (E. H., Program Manager, MQR, Aswan)

These perceived goals align clearly with Creativa Hubs' planned goals and confirm the hub's commitment to supporting youth in establishing technology-driven startups or embarking on freelance ventures. This symbolizes a dedication to fostering economic independence and self-sufficiency among emerging talents. Additionally, the strategic focus on expanding opportunities to marginalized communities shows a core value of inclusivity and community empowerment, ensuring that aspiring entrepreneurs from all walks of life have equitable access to the resources and guidance needed for success in today's competitive business environment.

Through a harmonious alignment of these diverse objectives, Creativa Hubs emerge as a tool for driving innovation and opportunity, strategically poised to cultivate talent, spark creativity, and drive economic transformation at the grassroots level. Compared to other national and international IHs' goals, Creativa Hubs' has a holistic approach to entrepreneurship development and ecosystem enhancement, underscoring its pivotal role in reshaping the entrepreneurial

landscape, bridging gaps in knowledge and access, and catalyzing sustainable growth and prosperity within the local community.

6.1.1 Creativa Hubs' perceived value in the local ecosystem

The strategic coordination and collective efforts of TIEC, ITI, and NTI within Creativa Innovation Hubs demonstrate a coordinated approach to addressing the fragmentation within the entrepreneurial ecosystem. By leveraging dedicated spaces for innovation and social entrepreneurship, these entities provide a centralized platform where entrepreneurs, innovators, and social enterprises can converge, collaborate, and access resources essential for their growth and development that otherwise would have been scattered among different ecosystem players. This collaborative ecosystem fosters synergy and knowledge-sharing among stakeholders and establishes Creativa as a prominent destination for innovation within each governorate, consolidating its position as a catalyst for entrepreneurial behavior and economic growth across the region.

Engaging local ecosystem support organizations in one space was pivotal in stimulating and nurturing local communities' appetite for innovation and entrepreneurship. These organizations acted as catalysts for driving growth, fostering creativity, and instilling an entrepreneurial mindset within the community. Resources, programs, and networking opportunities created an environment conducive to innovation and entrepreneurial endeavors.

The responses provided by TIEC's central team and Creativa Hubs' managers shed light on the pivotal role of the innovation hub, Creativa, in addressing the challenges of a fragmented entrepreneurial ecosystem by fostering innovation and social entrepreneurship across governorates. The acknowledgment that TIEC is the first organization in Egypt to establish dedicated spaces for innovation and social entrepreneurship in each governorate showed the

pioneering efforts made by these entities in promoting innovation at a grassroots level. By collaborating with the Institute of Technological Innovation (ITI) and the National Telecommunication Institute (NTI) to form a unified presence within Creativa Innovation Hub, these organizations collectively create a hub that serves as a focal point for innovation and entrepreneurship activities in each governorate.

“TIEC is the first organization in Egypt to have dedicated spaces for Innovation and social entrepreneurship in each governorate. Along with ITI and NTI, the three entities represented in Creativa Innovation Hub form a destination for innovation in each governorate” (M. K., TIEC Ambassadors Program Manager, TIEC, Cairo)

These responses demonstrated the pivotal role of Creativa Innovation Hub in bridging the gaps within the entrepreneurial ecosystem by providing a conducive environment for innovation, collaboration, and entrepreneurship. The hub created a cohesive and thriving entrepreneurial landscape through strategic partnerships and dedicated spaces for innovation, empowering individuals and organizations to harness their creative potential and drive entrepreneurial behavior within their communities.

6.1.2 How does local community see the services provided by Creativa Innovation Hubs?

Creativa Hubs offer a diverse range of services tailored to empower and support individuals in their career aspirations and entrepreneurial endeavors by seamlessly integrating various elements that address the multifaceted needs of aspiring professionals. This design prioritizes the interconnectedness of skills development, career guidance, and industry engagement, ensuring that participants can build a comprehensive foundation for success. Creativa, like other innovation hubs, offers innovation and entrepreneurship support services, which are prevalent in different innovation hubs, offering training, funding opportunities, mentorship, and networking to support

startups in achieving their goals and fostering business success. What is more unique in the case of Creativa Hubs is the technical and digital training programs, enhancing participants' knowledge and skills in technology fields through partnerships with national and international providers. Additionally, Creativa Hubs provide job-based training designed to address market demands by offering specific training for sought-after roles and emerging technology fields. Another type of capacity building is supporting freelancers by empowering learners who seek to monetize their skills through freelancing tools, offering resources, job access, and training opportunities. Finally, career consultation services assist beneficiaries in identifying career paths and navigating the employment landscape effectively.

By creating an environment that encourages collaboration, innovation, and mentorship, Creativa Hub fosters a culture where individuals gain technical expertise and develop critical professional skills essential for navigating today's dynamic job market. The thoughtful architecture of this approach facilitates a supportive network that unites diverse stakeholders, enhancing the learning experience and encouraging participants to share resources and knowledge. Creativa Hubs prepare individuals for immediate employment opportunities and cultivate a sustainable ecosystem that nurtures long-term career growth and entrepreneurial ventures. This design reflects an understanding that the challenges faced by today's youth require a multifaceted strategy to inspire and equip them to pursue their ambitions confidently.

a. Access to facilities and space

Evidently, having a space for the local ecosystem to thrive and learn without charges further reinforces the impact of innovation hubs like Creativa in consolidating fragmented entrepreneurial landscapes into cohesive and vibrant ecosystems. Creativa Hubs offer an accessible and free space, the innovation hub plays a crucial role in democratizing access to

resources, knowledge, and opportunities essential for nurturing innovation and entrepreneurship within the community. Moreover, Creativa Hubs has become a central destination for technology, innovation, and entrepreneurship in their areas. This consolidation of stakeholders and resources under one roof fostered a sense of community and cohesion and accelerated the exchange of ideas, expertise, and knowledge, propelling the local ecosystem toward greater innovation and economic development. Ultimately, with its sustainable and accessible space for growth and learning, Creativa Hubs play a pivotal role in uniting fragmented entrepreneurial entities and catalyzing a collective drive toward technological advancement and entrepreneurial success within the region.

“Having a space where the local ecosystem can grow and learn free of charge is extremely important for the sustainability of the local ecosystem” (N. M., Innovation Support Manager, TIEC, Cairo)

This shows the hub's commitment to inclusivity and sustainability. By eliminating cost as a barrier to entry, Creativa hubs ensure that aspiring entrepreneurs, startups, and innovators from diverse backgrounds have equal access to the support and facilities necessary to cultivate their ideas and drive innovation forward. This inclusive approach fosters diversity, creativity, and collaboration within the local ecosystem, enriching the entrepreneurial landscape and promoting a shared learning and growth culture.

One beneficiary in Qena highlighted a compelling narrative of empowerment and resilience through the hub's free access to resources and space. Initially facing a barrier due to the lack of a personal laptop, she turned to the hub that offered a solution to her. By diligently utilizing the hub's available laptops, she seized the opportunity to delve into freelancing work, demonstrating a proactive approach to leveraging the resources at her disposal. This persistence and drive ultimately paid off, as the income generated from her freelancing gigs enabled her to purchase her

own laptop and a new phone—a significant milestone symbolizing her growth, self-reliance, and commitment to enhancing her professional capabilities.

“At the beginning of my freelancing journey, I didn't have a laptop, so I would commute from my village to the hub daily to work on one of the provided laptops and use the free internet. After getting some income from these freelancing jobs, I was able to buy myself a laptop and a new phone to be able to better communicate with clients” (D. E., Female, Freelance graphic designer. Qena)

The number of laptops available for personal use within the hub is limited to eight laptops only across all Creatiava Hubs no matter the size of the governorate, even though the individual impact on those who get to use these laptops is huge. The story highlighted the hub's role in providing a platform for aspiring entrepreneurs and freelancers to access essential resources and the transformative impact of such accessibility on individual trajectories. Her journey from relying on the hub's resources to investing in her own tools reflects a significant transition towards independence and self-sufficiency, showcasing the tangible benefits of free accessibility to the space and the resources and its pivotal role in fostering entrepreneurial success and personal development within the hub's community. As there is no other alternative spaces to go to for those who cannot afford a laptop, the number of free resources needs to be increased and to be based on the hubs traffic and community needs.

b. Access to localized entrepreneurship education

All beneficiaries in the sample have participated in training and workshops at the hub for a minimum duration of six months. Each individual has completed at least one entrepreneurship training session, alongside additional training focused on either technical skills, such as ICT training or freelancing. Most participants engaged in three to six different training workshops,

indicating a robust level of involvement in the hub's educational offerings. Notably, six out of the twelve participants took part in at least one startup competition, which provided valuable experience and exposure to entrepreneurial initiatives.

In addition to entrepreneurship and technical training, the beneficiaries also attended a variety of workshops aimed at career development and enhancing professional skills. These included specialized sessions in social media marketing, graphic design, and motion graphics, equipping participants with essential competencies that are increasingly demanded in today's competitive job market. This diverse training experience not only facilitates skill development but also fosters a sense of community and collaboration among participants, ultimately enhancing their prospects for successful careers and entrepreneurial ventures.

Innovation hubs effectively foster localized entrepreneurship education by actively involving participants in the program design process. Respondents indicated that the operators are responsive to their needs and requirements regarding training, demonstrating a commitment to tailoring educational offerings to meet the specific demands of the community. For instance, participants noted that they frequently approached the hub's team whenever they identified a need for training, and the operators were consistently cooperative, providing access to experienced trainers. One participant remarked that their suggestions for additional programs were implemented within two months, illustrating the hub's agility in adapting to feedback. Furthermore, requests for more advanced training were met with enthusiasm, as the operators' welcomed suggestions for workshops that would supply essential tools for participants' businesses. This collaborative approach not only enhances the relevance of the training programs but also empowers participants, fostering a sense of ownership and engagement in their educational journey, ultimately strengthening the entrepreneurial capacity within the local community.

The operators of the innovation hubs demonstrate a proactive approach to seeking participant feedback to ensure that their programs are responsive to the community's needs. Respondents highlighted various methods through which they were encouraged to share their experiences. For example, participants mentioned completing feedback forms after each training session, which facilitated the collection of opinions on the training quality and overall experience. Moreover, operators actively engaged with individuals by asking for direct feedback regarding their experiences at the hub and how improvements could be made.

In one instance, participants expressed dissatisfaction with a trainer's approach during a program, prompting them to raise their concerns directly with the management team. The operators were quick to address the issue, resolving it the very next day, which underscores their commitment to creating a positive and effective learning environment. Additionally, participants emphasized the friendliness and openness of the hubs team, noting that their feedback was welcomed and taken seriously. While some respondents were uncertain about whether their feedback through forms was always considered, the overall responsiveness demonstrated by the management indicates a willingness to incorporate participant insights into future program decisions. This continuous feedback loop not only enhances the training offerings but also fosters a culture of collaboration and engagement within the hub, ultimately leading to a more tailored and effective entrepreneurial education experience.

On another level, entrepreneurs indicated how the hub supported the establishment of their enterprises. The mention of the hub being the "first to use our service" illustrates a significant aspect of the innovation process: validation. Participants were able to gather critical feedback and fine-tune their offerings in real-time by enabling entrepreneurs to pilot their ideas within the hub's environment. This initial testing allowed entrepreneurs to refine their services and build confidence

in their business models and themselves. Having the hub as an early user serves dual purposes: it acts as a trusted partner in the entrepreneurial journey. It provides essential market validation, that is otherwise very costly for aspiring entrepreneurs to implement outside.

c. Access to Community

Based on the responses received from the interviewees, it is evident that the innovation hub plays a significant role in enhancing social capital for its participants. The interviewees unanimously highlighted the profound impact that the innovation hub has had on their ability to build and leverage their network, showcasing several key dimensions through which the hub facilitates this process. Firstly, collaboration emerged as a central theme across most responses. Many participants noted the opportunities to partner with peers and mentors within the hub. For instance, one interviewee emphasized the relationship formed with a teacher assistant member from his university, resulting in collaborative efforts on a business idea, this connection is highly rare to be formed in the normal university setup. Such partnerships not only foster individual growth but also contribute to the broader ecosystem by bringing diverse skills and perspectives together.

“I have established a valuable network that is highly supportive whenever I require assistance. When one of us secures a freelance opportunity that cannot be managed alone, they reach out to the network, which has given me exposure to more job opportunities than I would have had to work alone. Additionally, some individuals have formed a small team of five and applied to projects together. Without being connected to this network, this collaboration may have never taken place”. (S.R., Female, Employee, Software Developer, Aswan)

It is clear that by building a supportive network within these hubs, participants can leverage the collective expertise and resources of the community to navigate opportunities that may be challenging to pursue alone. The interconnected relationships fostered within these hubs enhance access to diverse job opportunities and enable collaborative efforts that lead to joint projects and ventures. One respondent specifically noted how connections forged within the hub enabled them to collaborate with technical individuals to develop their app, illustrating the tangible outcomes derived from the network.

Also, the networking possibilities presented by the hub were frequently mentioned. Respondents noted how participating in various training sessions and events allowed them to connect with fellow entrepreneurs and industry professionals. These connections were not merely social; they became instrumental in advancing their careers. One individual highlighted the formation of small teams that applied for projects together, exemplifying how the network cultivated by the hub created opportunities for collective success that would be nearly impossible in isolation.

“It provided me with the chance to collaborate with a Teaching Assistant from my university on a business idea, as well as other individuals I met through the training sessions we shared.” (M.M., Male, Entrepreneur, Aswan)

The responses reflected a strong sense of belonging to a vibrant ecosystem. Participants spoke about gaining insight into the local landscape. By being exposed to key players and organizations in their field, they were better prepared to engage with these entities and seize opportunities as they arose. One interviewee noted that the anticipation of interacting with industry stakeholders before going to the market was a strategic advantage. This preparation enabled them to navigate the ecosystem more effectively, enhancing their chances of success.

Mentorship was another critical element highlighted by the interviewees. The presence of experienced entrepreneurs, industry experts, and mentors within the hub provided invaluable guidance and support. This aspect of mentorship demonstrates how the hub not only facilitates connections but also actively invests in the professional development of its participants. The diverse range of mentorship experiences shared by the participants underscores the multifaceted nature of mentorship within these hubs.

One common theme among the responses is the blend of informal and formal mentorship received by the respondents. For instance, one respondent mentioned receiving informal guidance from trainers, indicating that mentorship relationships can form organically within the hub environment. This informal guidance likely offers a more personalized and hands-on approach to learning and skill development.

"I received mentorship from an employee of the operator who works in my field as a graphic designer. I was recommended to be an intern at the hub, and that gave me the exposure to the operator's team and the experts they hire" (D. E., Female, Freelance graphic designer. Qena)

This informal mentorship not only led to valuable guidance but also resulted in an internship recommendation that exposed them to the hub's operational dynamics and the expertise within the team. Such mentorship interactions not only offer learning opportunities but can also open doors to further professional engagement.

In contrast, another respondent highlighted experiencing structured mentorship sessions, where an expert in the entrepreneurship field mentored them. This structured mentorship suggests a more organized and intentional approach to supporting individuals' professional growth and development. Structured mentorship sessions provided a framework for mentor-mentee

interactions, allowing for a more focused transfer of knowledge, skills, and insights. The mentor's expertise in entrepreneurship enabled the respondent to gain specialized advice, industry-specific strategies, and practical know-how crucial for navigating the entrepreneurial landscape effectively.

Furthermore, the intentional design of these structured mentorship sessions suggested a purposeful investment in the mentee's professional advancement. Through a series of planned sessions and targeted mentorship goals, individuals made significant progress in their entrepreneurial journey, capitalized on their mentor's expertise, and addressed specific challenges or opportunities with guidance from a seasoned professional. Overall, this respondent's experience of structured mentorship underscores the importance of organized and intentional support mechanisms within innovation hubs. Such structured mentorship enhances the quality of learning and development and fosters a conducive environment for individuals to thrive, grow, and succeed in their entrepreneurial endeavors.

Another approach to creating impactful mentorship is matchmaking events. These events catalyze mentorship relationships by bringing together individuals seeking guidance and mentors willing to share their expertise and insights. The matchmaking process aims to pair mentees with mentors based on compatibility, shared interests, and professional goals, thereby fostering meaningful and productive mentorship connections.

“I got introduced to experts in the field; I have a mentor in marketing and a mentor in business modeling through a matchmaking event that aimed to connect us with the right experts” (R. Z., Female, Entrepreneur, Qena)

Through such events, the respondent was introduced to experts in the field and now benefits from mentors in marketing and business. This demonstrates how networking events can serve as catalysts for establishing mentorship relationships and expanding one's professional network.

What distinguishes this pathway to mentorship is the element of networking inherent in matchmaking events. Participants are exposed to various industry professionals, experts, and potential mentors they may have yet to encounter. This serendipitous exposure broadens mentees' horizons, introduces them to new perspectives, and enables them to access a wealth of knowledge and experience from mentors across various fields.

Moreover, the structured nature of matchmaking events ensures that mentorship relationships are initiated in a purposeful and targeted manner. Mentees have the opportunity to interact with multiple mentors, assess compatibility, and identify individuals whose expertise aligns with their professional aspirations. This deliberate matching process enhances the likelihood of establishing mentorship connections that are relevant, valuable, and conducive to personal and professional growth. The rich tapestry of mentorship experiences shared by the respondents underscores the critical role that mentorship plays in fostering growth, learning, and innovation within the innovation hubs of Upper Egypt. The combination of formal programs, informal interactions, industry connections, and networking events collectively contribute to the holistic mentorship ecosystem within these hubs, enhancing the overall professional development of participants.

d. Access to Legal Support

In the discussion of legal support provided by Creativa Innovation Hubs, it is evident that TIEC plays a pivotal role in facilitating the bureaucratic processes that can often be daunting for startups and freelancers. By collaborating with the Ministry of Investment, the hub can assist entrepreneurs in obtaining essential legal documentation such as trade registrations and tax identification numbers. This partnership not only streamlines the process, making it more

accessible but also empowers businesses to formalize their operations and gain legitimacy in the market.

“One initiative that we have been working on and has already been implemented is our strategic partnership with the Ministry of Investment. This collaboration allows us to help businesses obtain their trade registration and tax ID using Creativa's addresses instead of being obligated to rent a place of their own to be able to register as a company. We provide them with an official letter stamped with the government seal, which can serve as an equivalent to rental contracts. This enables them to formalize their businesses and register their companies at our addresses.” (E. N., Creativa Innovation Hubs Program Manager, TIEC, Cairo)

Providing an official letter stamped with the government seal is a vital resource, allowing entrepreneurs to bypass some of the complexities associated with traditional rental contracts. This service is particularly beneficial for those looking to establish their presence without the immediate need for physical office space. Furthermore, Creativa Innovation Hubs recognizes that many startups and freelancers may not require a full-fledged office but still need a registered address for their legal and operational activities.

Additionally, the hub engages with organizations such as the Micro, Small, and Medium Enterprises Development Agency (MSMEDA) to educate startups on their businesses' classification and the potential for tax exemptions. While legal frameworks exist to support small enterprises, the respondent highlighted a significant challenge: Many entrepreneurs lack awareness of these benefits and the necessary steps to obtain them.

“We currently aim to engage locally by MSMEDA regional offices in different governorates to raise awareness and carry out educational campaigns. As a government, we must support our startups and help them take advantage of the existing laws that favor

new businesses. While great laws are in place to support startups, the mechanisms for implementing them are often weak, preventing us from fully benefiting from these regulations.” (E. N., Creativa Innovation Hubs Program Manager, TIEC, Cairo)

By addressing this knowledge gap, the Creativa Innovation Hubs facilitate startups' legal compliance and advocate for better understanding and utilization of existing laws. The hub aims to empower entrepreneurs through targeted awareness campaigns to take advantage of tax incentives and other supportive measures, which can significantly enhance their chances of success in a competitive market. The legal support that the Creativa Innovation Hub provides is a critical component of its mission to foster entrepreneurship. By simplifying the process of legal registration, offering virtual solutions, and educating startups about their rights and benefits, the hub ensures that entrepreneurs are well-equipped to navigate the complexities of starting and running a business. This comprehensive legal support system not only strengthens individual startups but also contributes to the overall growth of the entrepreneurial ecosystem in the region.

6.2 Creativa Innovation Hubs Management Model

In this section, we investigate the model of Creativa as a hybrid-led hub managed by a governmental entity and a private sector operator. Also, having multiple stakeholders, such as the Ministry of Higher Education, as most of the hubs exist in public universities, along with the Ministry of Communication and Information Technology as the leading partner.

6.2.1 Organizations Forming Creativa Innovation Hubs

The testimonies from the operators and managers state the strategic positioning of the three entities within Creativa Innovation Hubs—ITI, NTI, and TIEC—each playing a pivotal role in delivering a comprehensive and multifaceted experience for the hub's beneficiaries. The responses highlight a synergistic collaboration among the three key entities, each playing a distinct yet

complementary role in equipping individuals with the necessary skills for success. ITI focuses on imparting ICT job-specific skills to prepare individuals for employment opportunities in the technology sector. On the other hand, NTI is dedicated to developing technology infrastructure skills and enhancing participants' telecommunication capabilities. Building upon the foundations laid by ITI and NTI, TIEC emerges as the entity that empowers individuals to transition into entrepreneurship or freelancing roles, leveraging the skills acquired from the preceding entities to facilitate a pathway toward self-employment and innovative ventures.

"The existence of the three entities in one place aims to provide all the relevant digital and entrepreneurial skills in the sector for students and academic staff, rather than being limited to the capital in the smart village in Cairo. Creativa is inside the university campuses in rural governorates like Qena to provide the most accessibility to local communities." (E. S., Program Manager, Dandara AlEbdaa, Qena)

This holistic approach aims to equip beneficiaries with a diverse skill set encompassing technical and entrepreneurial competencies, thus preparing them for the dynamic demands of the digital and entrepreneurial sectors.

Furthermore, the deliberate placement of Creativa Innovation Hubs within universities in rural governorates such as Qena highlights a commitment to accessibility and inclusivity in skills development. The initiative aims to bridge the gap between urban and rural regions by situating the hub within the university environment, ensuring that students and academic staff outside traditional tech hubs like Cairo's Smart Village have equal access to cutting-edge digital and entrepreneurial training. This decentralized approach democratizes opportunities for skills enhancement. It fosters a culture of innovation and entrepreneurship in regions that may have historically been underserved regarding technological and entrepreneurial resources. This

collaborative approach enforces a holistic strategy in skills development, where each entity contributes to a seamless skills progression that ultimately fosters a culture of entrepreneurship and self-reliance among individuals within the sector.

6.2.2 Collaboration within Creativa Hubs' governmental entities

The collaboration between the three entities—ITI, NTI, and TIEC—within Creativa Innovation Hubs was a topic of inquiry during the researcher's discussions with interviewees. Insights from the Creativa Innovation Hubs Manager shed light on a structured approach to collaboration. It was revealed that an annual ministerial meeting convenes representatives from the three entities to craft a cohesive plan, focusing on areas of mutual interest and ensuring alignment in the delivery of skills to prevent duplication and fragmentation of objectives within the hub. This annual meeting plays a crucial role in setting the direction and desired impact of the Innovation Hubs, providing a clear roadmap for the future. Creativa Program Manager reinforced this notion, highlighting the importance of the annual ministerial meeting in ensuring the effectiveness and success of the Innovation Hubs. Following the meeting, each entity manager communicates the strategic plan with their respective teams, fostering alignment and enabling effective coordination with local hub coordinators.

“A ministerial meeting is held annually with the managers of the three entities to agree on the direction and the impact we hope to achieve through the Innovation Hubs, then each manager shares and directs his team to the plan to communicate it with local hub's coordinators” (E. N., Creativa Innovation Hubs Program Manager, TIEC)

These insights show the significance of structured strategic planning and inter-entity collaboration in optimizing the impact and effectiveness of Creativa Innovation Hubs. By establishing a platform for annual ministerial meetings and coordinated decision-making, the entities can work towards a

shared vision, harmonize their efforts, and streamline the delivery of skills and services to beneficiaries.

Despite this approach, the beneficiaries' responses indicated a perceived lack of clarity and effectiveness in the collaboration, with participants observing that the entities appeared to work in isolation rather than in a coordinated manner.

“I will give the cohesion of activities between them 7.5 out of 10, as governmental employees manage the ITI and NTI, but Tiec is the only one managed by the private sector operator. They run the activities with the government employee mindset and don't invest much effort in collaboration.” (A. A., Male, Entrepreneur, Aswan)

This collaborative approach between the governmental entities in the hub should foster a more cohesive and integrated ecosystem. Although this impression from beneficiaries, it is shown that this collaboration enhances the overall coherence and impact of entrepreneurship and skills development initiatives, ultimately contributing to achieving the hub's broader objectives and outcomes.

6.2.3 The perception of Creativa Hubs' operating model between private and public sector organizations

The model of utilizing private sector operators to manage governmental innovation hubs has gained traction globally. It demonstrates a successful approach to fostering innovation, entrepreneurship, and economic development. This strategy harnesses the agility and expertise of the private sector while maintaining the supportive and strategic framework of public institutions. The responses gathered from program managers and local coordinators from TIEC provided valuable insights into the perceived advantages of the private sector operator model in managing the Creativa Innovation Hub. The government program manager articulated a noteworthy

observation regarding the agility of the private sector compared to the public sector. She emphasized that the pace at which changes can be implemented is considerably quicker in the private sector, highlighting a fundamental disparity in operational flexibility and responsiveness.

“Because the private sector is more agile than us as a public sector. The speed of creating a change is much lower compared to the private sector” (E. N., Creativa Innovation Hubs Program Manager, TIEC)

This perspective underlines the importance of adaptability in fostering innovation and ensuring that the hub can meet the rapidly evolving needs of entrepreneurs and the local ecosystem. The ability to make swift adjustments and implement changes is crucial, particularly in a sector where technological advancements and market demands constantly evolve. Another government program manager reinforced the notion that entrusting the hub's management to a private sector operator was one of the best decisions made during the planning phase by the Ministry of Communications and Information Technology (MCIT). He pointed out that managing the hub through government employees would have presented substantial challenges typical of bureaucratic processes, which could impede the hub's effectiveness and sustainability.

“It was one of the best decisions by MCIT to go to a private sector operator when planning for this hub. Management of the hub by TIEC’s employees would have faced several challenges as they would be running fully with governmental rules and regulations. That's not the case with private sector operators. This model is more sustainable as this operator is keen to ensure the continuity of the grant and achieve the KPIs to renew their contract. When we give this kind of program to the local private sector, we invest in them as we invest in the direct beneficiaries to develop the local ecosystem.” (M. K., TIEC Ambassadors Program Manager, TIEC, Cairo)

The private sector's commitment to achieving the hub's objectives and ensuring continuity of funding is seen as a significant advantage, contributing to a more sustainable model for the hub. By partnering with a local private sector operator, Creativa hubs benefit from operational efficiency and foster investment in the local ecosystem—thus creating a symbiotic relationship that enhances the capacity of local businesses and stakeholders.

Moreover, the mention of TIEC's approach to engaging private sector operators reflects an understanding of scaling operations. Given the extensive coverage required across 26 governorates, the necessity of relying on private-sector partnerships becomes evident. The capacity limitations within governmental institutions necessitate collaboration with private operators who can efficiently manage and implement programs, thereby broadening the reach and impact of the Creativa Innovation Hubs.

6.2.4 The perceived challenges of private sector operators

In contrast, important caveats exist regarding different private sector operators running the hub. The insights shared by the Creativa Hubs Program manager revealed a nuanced understanding of the complexities of managing governmental innovation hubs through private sector operators. One is that the variability in dedication among different operators led to varying levels of success. The example of "Dandara Al Ebdaa," a startup that effectively demonstrated its capability and dedication despite being relatively young, showcases the potential of capable operators to drive success in the hub environment. This highlights the significance of selecting the right operators who possess the necessary qualifications and are committed to delivering high-quality activities and managing resources effectively.

“The effectiveness of the hub management relies on the individual operator, as not all operators demonstrate the same level of dedication. For instance, Dandra Al Ebdaa started

as a startup that applied for a grant to run the hub, and it stands out as a successful model. They have proven their qualifications despite being a young company. In contrast, other operators have faced challenges and struggled to deliver activities effectively while managing their budgets and financial reporting. We cannot rely solely on hiring internal employees because TIEC oversees more beneficiaries than ITI or NTI. The number of personnel required to operate the hub across the 26 governorates is beyond the capacity of this governmental institution.” (E. N., Creativa Innovation Hubs Program Manager, TIEC, Cairo)

Dandara AL Ebdaa has proven its capacity and qualifications, demonstrating that even though it is a relatively new business, it can deliver quality services and engage effectively with the community. Their performance highlights the potential for young companies to excel and contribute meaningfully to the hub's objectives when they possess the right vision and determination.

Conversely, the performance of other operators may not have reached the same level of success. Some have struggled with the critical aspects of running the hub, particularly in maintaining the consistent delivery of activities and managing their budgets and financial reporting effectively. This discrepancy in outcomes among different operators raises essential questions about the support structures in place, the training provided to these operators, and the enforced accountability standards. It is vital that all operators, regardless of their experience level, are equipped with the necessary resources and expertise to uphold the hub's mission and achieve desired outcomes.

Another challenge identified is the tendency for operators to excel in specific areas while lacking expertise in others. This area of focus can lead to inconsistencies in service delivery across

the hub, particularly when the scope of the hub encompasses diverse domains such as innovation, acceleration, and digital fabrication. As the manager noted, operators like “Athar” in Minya are well-versed in certain areas, demonstrating their strengths in innovation and acceleration. However, this focus area means gaps in other essential services, such as operating the fabrication lab. Recognizing these disparities, TIEC’s central team has actively sought to enhance operators’ capacity in areas where they may not have had prior expertise. Partnerships with organizations like Orange Digital Center and GIZ exemplified a proactive approach to bridging these gaps. Investing in targeted training and skill development programs for operators, the Creativa initiative helped operators’ teams obtain critical competencies in designing and managing digital fabrication programs and cultivates a more holistic service offering within the hub.

Acknowledging the challenges posed by the hub's broad scope indicates a deeper understanding of the inherent complexities of managing such multifaceted initiatives. It highlighted the reality that no single operator can possess expertise across all areas, making collaboration and continuous learning essential strategies for overcoming operational limitations. When the operators were queried about the challenges they encountered while managing the hubs, their responses illuminated a range of issues that confirmed the observations made by the Creativa Hubs Program Manager. This diversity of problems highlighted reflects the varying levels of expertise among the operators, suggesting that everyone brings a unique skill set and background to the table. This disparity in expertise not only shapes how effectively they can manage specific hub components but also indicates areas where they may require additional support or training. For instance, some operators may excel in project management or community engagement, while others may have specialized knowledge in technological innovation or financial oversight. This variation leads to a scenario where certain critical functions within the hub may not receive the

attention or proficiency necessary for optimal operation. Consequently, this can create inconsistencies in service delivery, as specific operators may struggle with aspects of hub management that fall outside their core competencies. By acknowledging the degree of variability in expertise, the management team can better design training programs and support mechanisms that address identified gaps, thereby fostering a more coherent and effective operational environment across the hubs.

6.2.5 Local coordinators' role in evaluating operators' performance

TIEC appointed one coordinator in each hub to ensure the seamless implementation of services. TIEC's local coordinators are crucial in effectively operating the Creativa Innovation Hub, serving as a linchpin between various stakeholders. This role entails supervising the services the private sector operator delivers, ensuring that TIEC's strategic plan is executed as intended. The coordinator is a vital communication bridge with the university president, representing government interests within the hub and facilitating collaboration between ITI, NTI, and TIEC. Additionally, the coordinator provides comprehensive monthly reports that evaluate the operator's performance by comparing delivered outcomes with expected metrics.

"My role enhances the model of Creativa, which is run by a private sector operator and supervised by a coordinator from TIEC. My role helps ensure the operator's effective implementation of goals. Also, I can support the operator with my own background and experience. The central team allows me to make decisions based on my experience with the operator and understanding of the local community." (H. M., Creativa Hub Coordinator, TIEC, Aswan)

By diligently overseeing and leveraging their background and experience, the coordinator enhances the efficacy of the private sector operator model. The coordinator ensures adherence to

operational standards and contributes to making informed decisions that align with local community needs. The autonomy granted to the coordinator by the central team underscores the importance of local insights and expertise in driving the hub's success, empowering them to adapt strategies that best serve participants and stakeholders alike.

Local coordinators in Qena further emphasized the strengths of the private sector operator model. One coordinator pointed out that the operator's expertise and experience heavily influenced the hub's success in the technology sector. This expertise translates into higher quality services and more effective program delivery, illustrating that the operator's skills and background significantly impact the hub's outcomes. The responses show a clear alignment between the operational model of private sector management and the goals of the Creativa Innovation Hub initiative. Leveraging the strengths of the private sector not only enhances the hub's ability to adapt and respond to market needs but also fosters sustainable development in the local ecosystem by empowering capable operators to excel in their roles.

On another note, TIEC's approach to evaluating the success of the Creativa Innovation Hubs' KPIs is marked by a systematic and thorough oversight mechanism established through the coordinators' active involvement. According to the coordinators, they play an essential role in this evaluation process, acting as the liaison between the hub and the central team at TIEC. As "TIEC's eye in the hub," coordinators provide their independent reports, which serve to crosscheck the data provided by the operators. This dual-layered reporting structure ensures that the information received is accurate and reflects the true state of operations within the hub.

Coordinators also observe training sessions and participant engagement directly, allowing them to assess the quality of deliverables firsthand. By monitoring these activities, they can ensure that the training meets the expected standards, thus directly influencing the hub's performance

against its KPIs. This not only fosters accountability among the operators but also enables TIEC to obtain a comprehensive view of how well the hub functions in relation to its strategic objectives.

Additionally, the coordinators are responsible for offering insights regarding the quality of activities undertaken at the hub, reinforcing the importance of qualitative metrics in evaluating success. Their regular reviews of the operators' implementation of the six-month plan and the monthly assessment of reported figures facilitate an ongoing evaluation cycle. By reviewing KPIs, ensuring financial compliance, and validating the alignment of training agreements with budgetary guidelines, coordinators help to maintain a clear connection between the operational activities and the strategic goals set forth by TIEC.

“I provide the central team with insights on the quality of the activities and ensure that the operator implements the 6-month plan effectively, as I conduct a monthly review of the reported numbers. Also, I get to review the KPIs and the financial agreements with the trainers to ensure they fit the allocated budget and the guidelines.” (H. M., Creativa Hub Coordinator, TIEC, Aswan)

This rigorous evaluation framework enables TIEC to monitor the effectiveness of the hub's initiatives and empowers coordinators to address challenges and implement improvements proactively. This active engagement in both qualitative and quantitative assessments reinforces the Creativa Innovation Hub's overall integrity and success, ultimately contributing to TIEC's mission of fostering innovation and entrepreneurship within the community.

6.3 IHs Role on Influencing Communities' Entrepreneurial Behavior

Creativa Hubs have played a transformative role in empowering beneficiaries to develop entrepreneurial behaviors, fundamentally enhancing attributes such as proactiveness, resource management, risk-taking, and self-confidence among participants. Many beneficiaries arrived at

Creativa with little to no entrepreneurial skills, but through the hub's focused training programs, they gained a profound understanding of entrepreneurship. The collective insights from the interviewees underscore that the innovation hub is a catalyst for building entrepreneurial abilities among beneficiaries. Through collaborations, networking, ecosystem exposure, mentorship, and practical support, the hub empowers participants to enhance their professional capabilities and expand their opportunities for success. This multifaceted approach to fostering entrepreneurial behavior is essential in today's interconnected entrepreneurial landscape, enabling individuals to thrive collectively within their respective fields.

6.3.1 Creativa Hubs influencing Proactiveness and Resource Management among beneficiaries

The responses gathered from the participants offered valuable insights into how they showed characteristics of entrepreneurial behavior. Proactivity and resource management were some traits identified by several authors who had mentioned entrepreneurial behavior earlier (Gibb, 2002; Miller, 1983; Veciana, 1999). These skills are shown in various situations mentioned by the interviewees. Participants started forming teams through the activities facilitated by innovation hubs. Respondents mentioned building their teams through attending training workshops and emphasized how these workshops seized the opportunity for them to spot team members to be part of their enterprises. This association between training activities and team formation underscores the significance of structured learning experiences in fostering collaboration and team building within innovation hubs.

Conversely, two respondents out of twelve expressed challenges in forming teams. One respondent pointed out the difficulty in team formation, citing the diverse skill levels and teamwork capabilities among participants as a hindrance. This perspective sheds light on the

complexities of teamwork dynamics within the hub environment. It stresses the individual skills of beneficiaries to be proactive and search for the right team members.

“I find it hard because not all participants know how to work in teams; we need more guidance from the experts to learn how to build the right team.” (Y. S., Male, Entrepreneur, Qena)

The contrasting experiences shared by the respondents regarding team formation within innovation hubs demonstrate the varied encounters individuals have when engaging in collaborative activities. While some respondents benefitted significantly from training opportunities in building their teams, showing their ability to optimize resources and initiate collaborations, others faced obstacles related to teamwork dynamics and interpersonal skills. The diversity of responses underscores the multifaceted nature of adopting proactivity and resource management within individuals to support their entrepreneurial endeavors.

The findings underscore that the majority of the beneficiaries gain proactiveness and resource management skills through innovation hubs that create the space for team building, address challenges, and enhance teamwork capabilities among individuals. One individual mentioned being able to hire colleagues to assist with projects, showcasing effective resource management and an ability to scale their efforts in response to increased demand.

“I was able to get more clients to the extent that I hired some of my colleagues to work with me on different projects because I didn't have the capacity to cover all my work.” (S.R., Female, Employee, Software Developer, Aswan)

This highlights a significant development in the individual's proactiveness and resource management skills due to their experience at Creativa Hubs. The assertion that they now possess the necessary tools to conduct market research and effectively price their services signifies a

proactive approach to entrepreneurship. By actively seeking and utilizing these tools, the individual demonstrates an initiative in understanding market dynamics and making informed decisions, which are crucial traits for successful entrepreneurship.

“I have the tools now to research the market, price my services, and acquire customers. I'm more equipped as an entrepreneur than before Creativa” (H. A., Male, Freelancer, Aswan)

This assertion exemplifies a clear shift towards a more entrepreneurial mindset, where the individual is not just reacting to opportunities but actively engaging with the market to optimize their approach. By leveraging the knowledge and skills gained through their involvement with Creativa, they are positioned to navigate the challenges of entrepreneurship with greater confidence and efficiency. These actions exemplify a willingness to take risks and embrace uncertainty, traits that are essential for any entrepreneur.

6.3.2 Creativa Hubs influencing beneficiaries' Risk Exposure

Creativa Hubs create a supportive environment that encourages experimentation and innovation. The hubs enable aspiring entrepreneurs to confront uncertainties and take calculated risks in their business endeavors. The training programs and workshops offered at Creativa provide participants with opportunities to engage in real-world scenarios, navigate potential challenges, and make risky decisions, aligning with entrepreneurship education's successful approaches in the literature. Respondents mentioned how the hub helped them develop their own businesses. The statement that the hub was the "first to use our service" highlights validation, a crucial step in the innovation process. By letting entrepreneurs test their ideas in the hub's setting, participants were able to get valuable feedback and improve their offers in real time. Beneficiaries highlighted how Creativa Hubs influenced the beta testing process of their business idea within the supportive ecosystem of the innovation hub.

“The hub helped us pilot our idea even before we finished the application. We provided food delivery services through a mobile application, and Qena hub’s team was the first to use our service for catering during the events. This gave us a huge push to continue as we found a community that took the risk with us” (Y. S., Male, Entrepreneur, Qena)

Having the hub as a pilot partner enhances community engagement. When local hubs actively participate as early adopters, they help foster a sense of ownership among the entrepreneurs. This dynamic can strengthen local networks and encourage other community members to engage with the hub, whether as potential clients, collaborators, or advocates for the services being developed. The affiliation to the hub enhances participants' credibility when approaching other potential users or investors. As the endorsement from Creativa hubs can be a powerful signal in the marketplace, indicating that the service has been thoroughly tested. Furthermore, the ability to iterate based on real user feedback allows for a more agile development process, ensuring that the final product resonates with its intended audience.

In this dynamic setting, beneficiaries learned to embrace risk as a natural component of the entrepreneurial journey. The hub's collaborative atmosphere allowed participants to share experiences and insights, reinforcing the understanding that taking risks can lead to valuable learning experiences and breakthroughs. For instance, by encouraging individuals to pitch their ideas and seek feedback from peers and mentors, the hubs promote an iterative process of trial and error, where participants can test their concepts' viability without fearing failure. It is evident that Creativa Hubs empowered participants to develop resilience and self-confidence in their entrepreneurial abilities by fostering an environment that normalizes risk exposure.

6.3.3 Creativa Hubs influencing beneficiaries' Self-Confidence

Creativa Hubs actively promote entrepreneurial skills among beneficiaries, significantly enhancing their self-confidence. By fostering an environment that encourages effective communication, participants develop essential presentation skills and the ability to interact with diverse individuals. For instance, beneficiaries noted that they learned how to effectively brand themselves and their work and negotiate with customers and managers. This improvement in communication not only helps them articulate their ideas more clearly but also instills a sense of self-assuredness in their abilities. Others expressed that before their involvement with Creativa, they would have lacked the courage to approach professors or conceive of starting a business without apprehension. Now, armed with leadership skills, team management techniques, and a clearer understanding of how businesses operate, they feel well-prepared to navigate the entrepreneurial landscape.

“Being able to present in public was very challenging to me, but through the activities in the training and the competitions we participated in, I can now present my ideas confidently. Also, I’ve learned how to work in teams and listen to their needs as we went through difficult situations during the competitions. These moments gave me self-confidence, resilience, and persistence.” (S.R., Female, Software Developer, Aswan)

It is shown that the transformative experiences at Creativa Hubs have instilled critical entrepreneurial skills and significantly empowered individuals to pursue their entrepreneurial goals confidently.

Most respondents indicated that the training provided at Creativa enables beneficiaries to present confidently in front of large audiences. One participant emphasized that they can now freely present their ideas after overcoming the initial public speaking challenges. This newfound

confidence is reinforced through experiences requiring them to showcase their work, such as presenting in front of high-profile individuals, including the Minister of Communications and Information Technology, Dr. Amr Mahfouz.

“I had the chance to present Aswan’s hub in front of the MCIT minister, Dr. Amr Mahfouz; I think before Creativa, I wouldn’t have been able to present my ideas with confidence” (H. A., Male, Freelancer, Aswan)

Such opportunities validated their skills and enhanced their resilience in difficult situations. Moreover, the collaborative activities and competitions organized by the hubs encouraged teamwork and active listening, allowing individuals to adapt to the needs of their peers. As participants navigated challenges during these competitions, they developed essential qualities such as persistence and resilience, further boosting their self-confidence. Through these experiences, beneficiaries emerge with a greater sense of self-efficacy, feeling equipped to handle entrepreneurial endeavors, regardless of whether they are engaged in a formal enterprise. Ultimately, Creativa Hubs cultivated an atmosphere where developing essential entrepreneurial skills increases self-confidence and prepares participants to navigate the entrepreneurial landscape effectively.

6.4 Accessibility to Opportunities through Creativa

This study investigates if these entrepreneurial attributes lead to better accessibility to opportunities. With a focus on whether beneficiaries could start their own business idea through the hub’s activities, work as freelancers by gaining skills from the hub or using the hub’s network or find an employment opportunity they were qualified for because of their participation in the hub. Also, the researcher investigated the chance of finding similar programs within their governorates. The responses gathered from beneficiaries of the Creativa innovation hubs provide

insights into their accessibility to opportunities before Creativa existed in their respective governorates.

6.4.1 Accessibility to similar programs

As highlighted in the contextual framework, Upper Egypt lacks ecosystem support organizations compared to Cairo (Ismail, 2022). Some organizations implemented short-term programs in the area but lack the cohesiveness and sustainability that Creativa has. The participants' feedback confirmed this by showcasing a range of perspectives on the availability of entrepreneurship-focused resources and the unique value proposition of Creativa in driving entrepreneurial behavior within the region. A common sentiment emerged among the respondents regarding the scarcity of comparable resources and opportunities outside of Creativa. Participants from Aswan expressed challenges in finding alternative spaces that provide the same comprehensive benefits as Creativa. One respondent emphasized the distinctiveness of Creativa, viewing it as a beacon of opportunity amid a lack of similar training and experienced mentors within the governorate. This highlighted the pivotal role of Creativa in bridging a crucial gap in entrepreneurial support and knowledge dissemination within the local entrepreneurial ecosystem, particularly in regions with limited offerings.

"The governorate of Aswan doesn't have that level of training, nor experienced trainers with similar experiences. That's why I see Creativa as the light amid pure darkness" (S.R., Female, Software Developer, Aswan)

Similarly, beneficiaries from Qena underscored the unparalleled networking opportunities and professional environment cultivated within Creativa. Respondents noted the difficulty in finding comparable spaces that provide a holistic entrepreneurial experience, emphasizing the uniqueness of Creativa in fostering connections and collaborations among individuals with shared interests.

The challenges of limited access to similar resources and the inability to afford alternative paid services further accentuate the significance of Creativa as a catalyst for entrepreneurial development in the region.

“In Qena, I can't find other places that provide the same experience. I can find a coworking space or a training center; each one will provide one service only from the various services that all exist in the hub, but also these places would be paid, and I wouldn't be able to afford it now as a student” (N. A., Female, Entrepreneur, Qena)

Another respondent is located in Luxor but travels to the Qena hub, which is the nearest hub for her. She highlighted the lack of entrepreneurship-focused hubs in the area, underscoring the obstacles faced in accessing practical resources and testing entrepreneurial concepts on the ground. The insights from individuals traveling from Luxor to Qena to engage with Creativa underscore the widespread recognition of the hub as a central hub for entrepreneurial learning and networking, filling a crucial void in entrepreneurial education and support in underserved areas. Concerning geographical disparities such as the case of the two Upper Egypt governorates we have studied, the respondents' testimonials show the hubs' irreplaceable value in fostering entrepreneurial growth and serving as a vital hub for entrepreneurial development amidst limited alternatives in their local ecosystem.

6.4.2 Accessibility to Employment Opportunities

All respondents had access to opportunities, either as entrepreneurs by starting their own business idea through the hub's activities, as freelancers by gaining skills from the hub or using the hub's network, or as regular employment they were qualified for because of the skills they built participating in the hub. Three respondents were able to secure a full-time job through their

participation in the hub, four were active freelancers with local or offshore companies, and the last five were aspiring entrepreneurs actively working on their business ideas.

a. Starting a new Enterprise

As Creativa Hubs' primary goal is to foster entrepreneurship through comprehensive entrepreneurial education, equipping individuals with the necessary knowledge and skills to embark on their entrepreneurial journeys, almost half of our beneficiaries' sample decided to start their own businesses. This mission is particularly impactful for respondents who are exploring entrepreneurship for the first time due to their engagement with the hub. One respondent shared,

"I had no idea about entrepreneurship; I only knew about small businesses. Understanding the community needs is crucial for building a business." (M. B., Male, Entrepreneur, Aswan)

This statement highlighted the transformative educational experience of Creativa, where participants are introduced to essential concepts such as market differentiation and competitive strategies. This foundational knowledge is vital in helping aspiring entrepreneurs recognize community needs and identify opportunities within the market.

Another respondent, currently at a more advanced stage in her entrepreneurial journey than the stage Creativa typically targets, reflected on the hub's role in her development. She stated,

"Creativa was the basis for my beginning as an entrepreneur. Although I am now in the accelerator stage, I still utilize Creativa's services for support, such as accessing coworking space for team meetings." (R. Z., Female, Entrepreneur, Qena)

Her experience underscored the lasting impact of Creativa beyond initial training; it continues to serve as a valuable resource as her business matures. Accessing coworking spaces enabled her to foster collaboration, maintain flexible operations, and create an innovative environment. These

responses illustrated how Creativa Hub initiates individuals into entrepreneurship and provided ongoing support that facilitates growth and development.

One important observation is that although these entrepreneurs did not participate in training programs specifically focused on social entrepreneurship, they all aimed to create businesses that address local community issues and challenges. One entrepreneur is actively working on initiatives to enhance local tourism in the Aswan governorate by incorporating technology, promoting the region's rich cultural heritage, and creating new economic opportunities for local stakeholders. Another entrepreneur is developing an innovative platform that connects local handymen with customers, streamlining the process of finding reliable services within the community. This initiative facilitates convenience for residents and empowers skilled tradespeople by providing them with a dedicated space to showcase their services and reach a wider audience. Furthermore, one of the businesses aims to promote mental health awareness by establishing a platform that links individuals with local therapists. This initiative is particularly significant in Upper Egypt, where societal stigma surrounding mental health can prevent individuals from seeking the professional help they need. By ensuring high levels of privacy, this platform aims to create a safe space for individuals to access psychological support without fear of judgment, thereby contributing to the community's overall well-being.

These ventures illustrated a strong commitment to addressing local challenges while simultaneously fostering community resilience and development. Through entrepreneurial efforts that focus on social impact, these individuals are not only seeking to establish successful businesses. Still, they are also dedicated to making a positive difference in the lives of their fellow community members. This alignment of entrepreneurial goals with social responsibility

underscores the potential of entrepreneurship as a powerful tool for community transformation and empowerment.

Regarding legal support for startups, a vital part of the Creativa Innovation Hubs' objective to promote entrepreneurship is the legal support it offers. Many of our sample of aspiring entrepreneurs haven't yet registered their enterprises because they fear the usual legal complications. However, the hub provides entrepreneurs with legal support to handle the challenges of launching and operating a firm by streamlining the legal registration procedure, providing virtual solutions, and informing startups about their rights and advantages. Although it's not fully active yet, this legal assistance network should help build the region's entrepreneurial environment and reduce the number of informal businesses. By promoting entrepreneurial education, Creativa empowered participants to understand the complexities of starting and managing a business while also offering essential resources that help sustain their ventures as they progress through different stages of business development. This dual approach cultivated a thriving entrepreneurial ecosystem and contributed to the broader economic landscape by nurturing new businesses and encouraging entrepreneurial mindsets within the community.

b. Self-employment as Freelancers

One respondent highlighted the transformative impact that Creativa Hubs have had on her freelancing journey, illustrating how the targeted training provided by the hub has directly contributed to her ability to secure freelancing opportunities. By participating in the freelancing training programs, she gained valuable insights into the intricacies of the market, which enabled her to understand the dynamics of freelancing work and the strategies necessary to position herself effectively as a competitive candidate.

“Attending freelancing training helped me understand the market and how to get a freelancing opportunity. Now, I have my own clients, and I'm getting jobs outside Egypt. I learned to brand myself and my work personally, talk to customers and managers, and negotiate my rate.” (A. A., Female, Freelancer, Aswan)

Creativa Hubs has provided her with a comprehensive skill set that has significantly enhanced her capacity to navigate the freelancing landscape successfully. The training has opened doors for her to develop her client base and expand her market reach, allowing her to secure jobs outside Egypt. This statement exemplifies how targeted support and education can fundamentally change an individual's prospects, enabling them to thrive in the competitive world of freelancing.

Additionally, there were direct connections between the training programs beneficiaries attended and the freelancing track they chose to work on. Some explored different skills, trying to find the right skill that provides good freelancing opportunities. In contrast, others targeted learning a specific skill as they thought it was the most relevant to the current job market.

“I gained a great network from participating in the hub; people recommended me for a lot of opportunities, which got me freelancing jobs” (D. E., Female, Freelance graphic designer, Qena)

The response highlighted the invaluable networking benefits that the individual experienced while working at the hub, illustrating how these connections played a pivotal role in securing various freelancing opportunities. Being part of an innovation hub like Creativa provided a unique platform for individuals to engage with a diverse pool of professionals, including fellow entrepreneurs, industry experts, mentors, and potential clients. This environment fosters collaboration and knowledge exchange, making it easier for participants to form relationships that can lead to new opportunities.

By establishing a solid network within the hub, the individual has tapped into a resource beyond mere contacts; it encompasses a community that actively supports each other's endeavors. Receiving recommendations from peers indicates a level of trust and recognition of their skills, which is essential in the freelancing world, where personal referrals often carry significant weight. This endorsement from others enhances credibility and opens doors to job leads and projects that may not be publicly advertised.

Moreover, the collaborative atmosphere of the hub allowed for informal interactions that can lead to business collaborations and partnerships. As individuals discuss their work and objectives, they may discover mutual interests or complementary skills, further amplifying the potential for freelance gigs. This strong sense of community also provided encouragement and morale support, motivating individuals to pursue opportunities they might have otherwise hesitated to chase. The individual's statement reflects how the network cultivated while working in the hub has been instrumental in expanding their career opportunities. The recommendations from trusted contacts served as a testament to the effectiveness of networking within innovation hubs, emphasizing that such connections are both advantageous and critical to entrepreneurial success in the freelancing landscape. These interactions created pathways to new projects and clients, ultimately contributing to their professional growth and success, fueling their ambition and drive.

c. Full-time Employment

An essential aspect of our study is to explore the impact of the hubs on beneficiaries who did not initially aspire to become entrepreneurs or freelancers. Our purposive sampling model specifically targeted participants who engaged in the hub's activities—particularly those related to entrepreneurship or freelancing support—for a minimum of six months, regardless of whether they pursued careers in entrepreneurship or freelancing. It was particularly enlightening to discover that

beneficiaries who chose not to embark on entrepreneurial or freelance paths could leverage the skills they acquired from the hub to secure regular employment. One respondent noted that her entrepreneurship education broadened her perspective, enabling her to become more proactive and innovative in her new job. She stated,

"I was able to understand the job requirements because I have business experience from the entrepreneurship activities I attended, and I even suggested ideas to other departments to enhance the business." (S.R., Female, Software Developer, Aswan)

This statement illustrates how the knowledge and skills gained through hub participation can extend beyond the realm of entrepreneurship, equipping individuals with valuable tools that enhance their employability and performance in traditional roles. The respondent's ability to apply entrepreneurial concepts, such as identifying job requirements and proposing improvements to operational processes, highlighted how the hub's training fosters a mindset of innovation and initiative, regardless of the career path chosen. Ultimately, this insight reinforces the notion that the benefits of engagement with innovation hubs can permeate various aspects of professional development, thereby contributing positively to the broader workforce and enhancing individual career prospects.

Overall, the analysis chapter showed the multifaceted role of Creativa Hubs in nurturing entrepreneurial behavior in the two governorates, Qena and Aswan. It highlighted how they empowered individuals by providing access to resources, education, and a supportive community. Through the experiences shared by respondents, it is clear that Creativa Hubs significantly contributed to local development by cultivating a new generation of confident and capable entrepreneurs.

Chapter Seven

Recommendations and Conclusion

7.1 Recommendations

The outcomes generated by innovation hubs and the individuals they engage are central concerns for investing organizations supporting these hubs. These organizations typically seek evidence of tangible results and measurable impact, as these factors are critical indicators of the hub's effectiveness and potential for return on investment. That's why it's vital to consider evidence-based recommendations for the sustainability of this model.

The recommendations will be divided into two sections: the first for hubs funding organizations, in our case, the governmental entities responsible for Creativa Innovation Hubs, and the second section directed to hubs' operators to ensure the highest effectiveness of services. The analysis showed that the hybrid-led model of Creativa Hubs, a governmental organization led by private sector operators, was adequate when we considered several factors:

- **Local hub operators for localized experiences:** Assigning hubs' management to private sector organizations based in the same governorates has a significant impact as they bring invaluable insights and contextual awareness that significantly enhance the effectiveness of these initiatives. Local operators possess an in-depth understanding of the community's unique challenges, opportunities, and cultural dynamics, allowing them to tailor the hub's offerings to meet the specific needs of local entrepreneurs. This familiarity facilitates the development of programs and services that resonate more deeply with community members, fostering greater participation and engagement. Moreover, local operators have

established networks and connections within the community, which are crucial for building relationships with key stakeholders, including businesses, educational institutions, and government entities. These collaborative relationships enable the hub to leverage resources, share knowledge, and create partnerships to amplify its impact (Sambuli & Whitt, 2017). Additionally, having operators rooted in the community encourages trust and rapport among participants, making it easier for aspiring entrepreneurs to seek guidance and support. This approach should mitigate non-local operators' challenges, specifically regarding the lack of understanding of local needs and resources, as demonstrated in the analysis.

- **Focus on driving youth entrepreneurial behavior rather than startup generation:** The analysis recognized that not everyone will become a startup founder, but nurturing entrepreneurial traits and skills can benefit individuals in diverse career paths (Kivinen et al., 2000). This broader approach fosters a growth mindset that encourages innovation, problem-solving, and risk-taking, regardless of the individual's future career choice. It emphasizes developing vital transferable skills, such as communication, critical thinking, teamwork, leadership, and negotiation, which are valuable in various professional settings. Ultimately, this strategy aims to empower youth to take ownership of their careers and pursue their passions, whether that involves launching a business, finding a fulfilling job, or exploring freelance work, leading to a more robust and sustainable entrepreneurial ecosystem within the community.
- **Continuous learning and development for operators by the funding organization:** Not every operator will have all the expertise needed to manage such a holistic IH model. Fostering a culture of ongoing education and capacity building empowers operators to

adapt and excel in areas where they may initially lack proficiency. This commitment to continuous learning and development not only addresses immediate challenges but also strengthens the overall effectiveness of the hub. By enhancing operators' skills, hubs are better positioned to meet the diverse needs of their beneficiaries and ensure a consistent quality of service across all offerings. Ultimately, overcoming different challenges hubs face in their local communities through strategic partnerships and ongoing training initiatives paves the way for a more robust and effective innovation ecosystem that can better support entrepreneurs and promote economic growth in the region.

- **Advocate for Policy Support:** Hubs funding organizations should engage with policymakers to advocate for supportive policies that enable the ecosystem. This may include startup tax incentives, entrepreneurship program funding, and initiatives promoting collaboration between innovation hubs and educational institutions. Engaging with policymakers can help establish a framework for ongoing dialogue between stakeholders in the innovation ecosystem, ensuring that the voices of entrepreneurs and hub managers are heard in the legislative process. This can lead to developing more responsive and effective policies considering the unique challenges startups and innovation hubs face, ultimately enhancing the ecosystem's capacity to drive economic growth and job creation.
- **Implementing performance measurement and evaluation frameworks:** TIEC measures the success of Creativa Hubs mainly by the achieved KPIs, which are entirely focused on quantitative measures. By collaborating with hub managers to develop clear performance metrics, funding organizations can create a structured approach to assessing the various aspects of the hub's operations. These metrics should encompass quantitative and qualitative indicators, allowing for a comprehensive evaluation of the hub's impact on

its beneficiaries and the broader community. These metrics should not just include metrics related to the number of startups launched, job placements attained by beneficiaries, or the frequency and quality of networking events organized but also include qualitative assessments, such as participant satisfaction surveys or testimonials, which can provide valuable insights into the personal experiences of beneficiaries and the perceived value of the services offered. This will allow innovation hubs to effectively communicate their successes and impacts to stakeholders, including investors, government agencies, and the community at large. By presenting data-driven evidence of the hub's contributions to local economic development and entrepreneurship, hub managers can build credibility and garner further support for their initiatives. This transparency fosters trust and encourages ongoing collaboration among all stakeholders involved.

- **Supportive Legal Frameworks:** Establishing supportive legal frameworks that outline the necessary processes for business registration and compliance. These frameworks help streamline the bureaucratic procedures, making it easier for new ventures to obtain the legal documents required to operate officially, such as trade licenses and tax identification numbers. By simplifying these processes, the government lowers the barriers to entry, enabling entrepreneurs to focus more on innovation and growth rather than getting bogged down by administrative hurdles. Additionally, to capitalize on the existing efforts, ongoing outreach should raise awareness of the supporting legal structures available to aspiring entrepreneurs. Local government representatives can better understand the specific challenges startups and freelancers face by engaging directly with the entrepreneurial community. This understanding allows for developing targeted policies that address these

challenges, ensuring that legal support and registration processes are responsive to the market's needs.

On the other hand, it is important to illuminate different factors that could enhance hubs' development of local ecosystems. These factors should be considered to improve the success of entrepreneurship education activities.

- **Focusing on local content and solutions:** By prioritizing the development of innovations that specifically address local populations' unique needs and challenges, hubs can ensure that their activities are relevant but also practical and effective. This localized approach encourages entrepreneurs to tap into their community knowledge, creating products, services, and solutions that resonate with residents and meet their specific demands. Furthermore, activities tailored to local contexts are more likely to gain acceptance and utilization among community members as they reflect the real-life experiences and cultural distinctions of those they aim to serve. This alignment enhances the sustainability of the hubs, as community members are more inclined to support and engage with initiatives that they perceive as directly beneficial to their lives.
- **Leverage local resources:** Leveraging local resources, talent, and knowledge can lead to job creation and income generation, thereby strengthening the local economy. This contributes to the hub's objectives of fostering entrepreneurship and aligns with broader developmental goals, such as reducing poverty and inequality within the community. Focusing on local resources can help communities become more adaptable and resilient to external changes. By building an economy rooted in local capabilities and assets, communities are better equipped to respond to economic shifts, market demands, and other

challenges. This self-sufficiency is invaluable, particularly in uncertain times when global supply chains may be disrupted.

- **Providing holistic support:** By nurturing well-rounded entrepreneurs who can effectively navigate the complexities of starting and running a business. Comprehensive support should include not just entrepreneurship training but also various services that address the multifaceted needs of participants. This approach recognizes that the journey of entrepreneurship can be overwhelming, and factors beyond mere business acumen influence that success. Personal skills development is crucial in equipping entrepreneurs to handle uncertainties effectively. Entrepreneurship is inherently fraught with risks and unpredictability, necessitating cultivating skills promoting adaptability, critical thinking, and problem-solving. Innovation hubs can facilitate this by implementing workshops focused on developing emotional intelligence, which is vital for managing stress, understanding others' perspectives, and fostering resilient relationships within business contexts. Also, access to legal and financial support must be promoted through Creativa Hubs as it shows the government's role in assisting startups, suggesting a collaborative relationship between Creativa and government entities. This alignment is crucial in creating a favorable environment for entrepreneurship, especially for new and emerging businesses.

7.2 Concluding Remarks

Innovation Hubs provide space for individuals to cultivate local collaborative communities (Schmidt et al., 2015), promote innovation (Bachmann, 2014), and create localized approaches for entrepreneurial education (Nair et al., 2020). This research aimed to examine how IHs drive entrepreneurial behavior through the influence of building some of the main characteristics that

represent entrepreneurial behavior as mentioned in the literature, such as risk-taking tendency, proactiveness, self-confidence, and effective resource management (Lumpkin & Dess, 1996). These attributes lead to better accessibility to resources, not just limited to pursuing entrepreneurship or freelancing but also include higher chances of being employed by companies (Nair et al., 2020).

The case of Creativa Innovation Hubs showed the crucial efforts the government is investing in enhancing Egypt's entrepreneurial ecosystem through its "Digital Egypt" initiative, which focuses on the development of technology and entrepreneurship to compete in international markets (Daily News Egypt, 2021). These hubs provided essential training in emerging technologies by empowering youth to establish technology-based startups and pursue freelance opportunities, especially in marginalized communities. The Creativa model is interesting on different levels. First, the collaboration within the hubs' establishments among TIEC, ITI, and NTI facilitates a unified platform for innovation and knowledge sharing, stimulating interest in entrepreneurship and nurturing social enterprise. Creating that dynamic innovation ecosystem that the government aids in the form of subsidized buildings and other services allows the innovators in the innovation ecosystem to concentrate their capital resources more efficiently (Sharma & Meyer, 2019). Secondly, the hybrid-led operational model leverages private sector operators' agility while benefiting from the infrastructure government support.

This study employs a qualitative research design with a case study approach to examine how the various interventions provided by Innovation Hubs foster entrepreneurial behavior among youth in Upper Egypt. In-depth interviews with key stakeholders were conducted to capture the complexities of the hub environment and to glean insights into how these institutions equip individuals with essential skills and resources. The research questions aimed to explore the specific

roles of Creativa Innovation Hubs in shaping entrepreneurial attitudes, examine the interaction between the hub's operational model—managed by private sector operators—and the broader entrepreneurial ecosystem, and identify key support structures and services tailored to local community needs.

The investigation revealed how innovation hubs significantly enhance entrepreneurial activities in local communities by creating job opportunities and fostering business initiatives. Respondents highlighted the diverse range of services provided by the hubs, including training, coworking spaces, mentorship, and access to facilities, while also noting the advantages and challenges of the hybrid management model. Participants shared insights into the specific offerings of the hubs and the strategies used to build networks. Discussions among IHs' managers emphasized the operational structure and the anticipated community impact. Insights from program managers and local coordinators within TIEC highlighted the advantages and challenges of the hybrid-led operational model. The enhanced operational flexibility and responsiveness of private sector operators compared to their public counterparts were evident as it leveraged the agility and expertise of the private sector while preserving the supportive framework of public institutions. Also, the need for extensive coverage across 26 governorates underscores the importance of relying on private sector expertise to effectively manage and implement programs, thereby increasing the reach and impact of the Creativa Innovation Hubs. The challenges mentioned with this model could be mitigated through a higher focus on local operators and providing comprehensive capacity-building activities when needed.

Innovation Hubs' beneficiaries attributed their access to various opportunities to their involvement with Creativa Hubs, which provided a supportive environment for developing essential entrepreneurial skills. Many participants secured employment or freelance work by

leveraging the knowledge gained through the hub's training programs. It was evident that IHs profoundly impact the development of key characteristics of entrepreneurial behavior among participants, significantly enhancing their self-confidence, risk exposure, proactiveness, and resource management (Lumpkin & Dess, 1996). By providing a supportive environment focused on effective communication and practical skills, IHs empower individuals to master presentation techniques, personal branding, and negotiation with clients. To achieve the objectives of innovation hubs, people with diverse skills must be enabled to collaborate and commercialize ideas and enable industrial diversification by stimulating demand for additional professional and commercial services and jobs (UNIDO, 2015). Many beneficiaries shared that their experiences at Creativa transformed their hesitation into confidence, enabling them to access a network of experts within the community, access localized entrepreneurship education activities, and finally access facilities such as the coworking space, FabLab, and freelancers space. Through engagement in training programs and competitive activities, beneficiaries cultivate a proactive mindset and effective resource management, crucial to entrepreneurial behavior. Overall, Creativa Hubs catalyze enhancing these characteristics, equipping individuals to navigate entrepreneurial challenges with greater assurance and ultimately driving the growth of their entrepreneurial endeavors.

Creativa Hubs exemplified the evolving nature of entrepreneurial spaces as outlined by Toivonen and Friederici (2015), who identified key aspects that reveal both the benefits and challenges of such initiatives. The study's framework addressed the objectives of the hubs, examining how their services meet community needs, the operational model involving collaboration between public and private sectors, and the impact on fostering essential entrepreneurial behaviors like resource management and self-confidence. Ultimately, beneficiaries

gain improved access to opportunities for employment, freelancing, or starting their own businesses, demonstrating the hubs' role in driving local economic development. Through IHs, effectively leveraging the right skills for local enterprises becomes the pivot for community innovation (Sianpar et al., 2013). IHs have significantly improved social inclusion, gender mainstreaming, capacity building, and the production of wealth and jobs. According to Salmi and Whitt (2017), they serve as a roadmap for innovation that illuminates a route for entrepreneurship.

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