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Assessing Technological Neocolonialism: Experiences of Early-Stage Tech Entrepreneurs in Bangladesh

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Abstract

This thesis examines how early-stage tech entrepreneurs in Bangladesh experience and navigate the structural and symbolic asymmetries associated with technological neocolonialism in the global digital landscape. Based on semi-structured interviews with eight startup founders and a theory-informed thematic analysis, the study explores how reliance on foreign digital infrastructures, limited data sovereignty, infrastructural gaps, and externally imposed regulations shape entrepreneurial choices and constraints.

The analysis identifies seven interrelated themes: platform dependency, infrastructural gaps, data control beyond borders, regulatory voids, cultural and linguistic exclusion, localized innovation strategies, and navigating fragmented support ecosystems. These are interpreted through a typology of technological neocolonialism, using the dual lenses of epistemic and ontological domination. Together, they reveal how digital infrastructures and global knowledge systems reinforce inequality and sideline locally rooted innovation. In response, many entrepreneurs turn to context-sensitive strategies. They develop culturally grounded technologies, adopt open-source tools, and rely on peer networks. These practices reflect efforts not just to adapt but also to assert greater digital self-determination within a system they do not control.

By combining postcolonial theory with grounded empirical insights, this research contributes to current debates on digital inequality, platform governance, and innovation ecosystems in digitally dependent contexts. It emphasizes the need for more inclusive and locally relevant approaches to digital development—ones that value diverse knowledge systems and lived realities.

Keywords Technological Neocolonialism, Early-Stage Entrepreneurship, Global Platforms, Epistemic and Ontological Domination, Digital Inequality

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Preface and acknowledgements

This thesis began with a simple question: How do local tech entrepreneurs in Bangladesh find their place in a digital world shaped by powerful global platforms? What started as a research project soon became a meaningful journey of listening, reflecting, and learning from those working to build something valuable despite many challenges.

My goal was to explore and present their lived experiences and to better understand how they navigate both the opportunities and constraints of the global digital landscape. I hope this work adds to ongoing discussions about digital inequality, local innovation, and the future of technology in less represented contexts.

I would like to express my sincere gratitude to everyone who supported me throughout this journey. I am especially thankful to my supervisor, **Johanna Ahola-Launonen**, for your continuous guidance and thoughtful feedback. Even during your vacation, you kindly made time to support me and helped ensure I could complete the thesis within a tight deadline. Your encouragement meant a great deal.

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Abbreviations

AI	Artificial Intelligence
AWS	Amazon Web Services
BCC	Bangladesh Computer Council
CV	Curriculum Vitae
DPI	Digital Public Infrastructure
GDPR	General Data Protection Regulation
GNI	Gross National Income
IP	Intellectual Property
ISP	Internet Service Provider
MFS	Mobile Financial Services
NGO	Non-Governmental Organization
OCR	Optical Character Recognition
SBL	Systemic Barriers to Localization
SME	Small and Medium-sized Enterprises
UNDP	United Nations Development Programme
USAID	United States Agency for International Development
WIPO	World Intellectual Property Organization

1 Introduction

1.1 Research background

In today's interconnected world, digital technology is a major driver of economic growth, innovation, and social change. For developing countries like Bangladesh, it is seen as a way to bypass traditional development barriers and unlock new opportunities in education, entrepreneurship, and governance. Policy programs such as Digital Bangladesh and Smart Bangladesh reflect national efforts to modernize and create inclusive innovation (Sultana, 2025; ESCAP, 2022).

Global technology platforms have contributed to this transformation by making cloud services, digital marketing, and online payment tools more accessible (World Bank, 2021). These platforms help startups reach new markets, reduce technical barriers, and tap into knowledge networks (Graham & Dutton, 2014, pp. 162–180). For instance, cloud hosting and APIs have lowered infrastructure costs and improved product scalability (UNCTAD, 2019, pp. 35–42). Open-source software and global knowledge forums also enable entrepreneurs to learn, experiment, and collaborate in new ways (Kleine, 2013).

However, these benefits come with deep structural challenges. Many local startups remain heavily dependent on foreign-owned platforms not only for core infrastructure but also for data storage, advertising, payments, and user analytics (Sultana, 2025, pp. 13–15; UNCTAD, 2019). This dependence introduces vulnerabilities such as pricing shocks, service suspensions, or lack of local customization that limit their autonomy (Kwet, 2019, pp. 3–8; Khanal, Zhang and Taeihagh, 2025, pp. 56–60).

These issues are part of a broader pattern that scholars describe as technological neocolonialism where global digital tools, platforms, and standards subtly shape the direction of innovation and control in less powerful regions (Couldry and Mejias, 2019, pp. 336–343). Unlike traditional colonialism, this form of power is exercised through cloud platforms, proprietary software, and algorithmic systems that prioritize the needs and rules of actors in the Global North (Zuboff, 2019, pp. 8–25; Madianou, 2019, pp. 1–4).

Donor-led digital development initiatives, typically funded or directed by international aid agencies or foreign governments, also influence the local landscape. While often well-meaning,

these programs may introduce models and metrics designed for foreign contexts, which may not fit the cultural or infrastructural realities in Bangladesh (Alami and Dixon, 2020, p. 6). As a result, startups sometimes find themselves aligning with donor priorities rather than grassroots needs, reinforcing external control over local innovation pathways.

This research seeks to understand how early-stage tech entrepreneurs in Bangladesh navigate these global dynamics. Drawing on my professional experience in Bangladesh's tech sector, together with the formal interviews conducted for this thesis, it became clear that many innovators are caught between the desire to build locally relevant solutions and the pressure to comply with foreign digital norms. This study explores their lived experiences and strategies highlighting both the challenges and possibilities of building resilient, sovereign digital futures in a globally asymmetrical system.

By grounding the analysis in real narratives, this thesis contributes to discussions about platform governance, digital dependency, and innovation inequality. It also offers insights for policymakers, donors, and ecosystem builders committed to inclusive and locally anchored digital development.

1.2 Literature, Research Gap, Problem and Research Questions

A lot of research has looked at the struggles of entrepreneurs in developing countries such as weak infrastructure, limited funding, and policy gaps (Chaminade & Vang, 2008, p. 1687; Cuervo-Cazurra, 2016, pp. 1963–1964). At the same time, scholars have developed concepts like data colonialism, platform dependency, and infrastructure lock-in to explain how big tech companies shape global digital systems (Couldry & Mejias, 2019, pp. 3–15; Zuboff, 2019, pp. 8–10; Kwet, 2019, pp. 4–6).

However, there is still a missing link between these two areas. While we know that digital platforms create dependencies, we don't yet fully understand how these global structures affect the day-to-day lives of entrepreneurs in countries like Bangladesh. Very few studies specifically focus on how local startup founders experience and respond to these global pressures especially in the Bangladesh context. This context is particularly interesting due to its rapid digital adoption rates, large youth population, and unique blend of local innovation efforts operating

within significant historical and contemporary global dependencies, making it a rich ground for examining the nuances of technological neocolonialism at the grassroots level.

This thesis fills that gap by empirically investigating how global-level theories of technological power (such as technological neocolonialism and platform dependency) manifest in the day-to-day lived realities and strategic adaptations of early-stage entrepreneurship in Bangladesh. It looks at how platform rules, data restrictions, infrastructure control, and donor influence show up in the everyday challenges of tech entrepreneurs. If this gap remains unaddressed, we risk missing the deeper reasons why many local innovations struggle to grow and continue to depend on systems they don't control (Khanal, Zhang, & Taeihagh, 2024; Hovenkamp, 2024).

Based on the discussion above, the main problem explored in this thesis is: *How do early-stage tech entrepreneurs in Bangladesh experience technological neocolonialism in their business environment?* This question is grounded in the idea that *tech entrepreneurs* are not just affected by local challenges but also by global systems of control that limit what they can build, how they grow, and who sets the rules (UNCTAD, 2021; Alami & Dixon, 2020).

To explore this problem, the study is guided by one main research question and three sub-questions. The main research question asks:

How do early-stage tech entrepreneurs in Bangladesh experience technological neocolonialism in their business environment?

To support this inquiry, the following sub-questions were developed:

(*1) What forms of technological neocolonialism do early-stage tech entrepreneurs encounter in their day-to-day operations?*

(2) *How do these experiences affect their ability to innovate, access markets, or make independent business decisions?*

(3) *How do early-stage tech entrepreneurs adapt their business practices in response to technological constraints imposed by foreign platforms or systems?*

These questions aim to uncover both the structural barriers and the local strategies that shape entrepreneurial experiences in the context of global digital power dynamics.

1.3 The Structure of the Thesis

This thesis is organized into six chapters:

- **Chapter 1: Introduction** Introduces the research problem, background, objectives, research questions, and scope of the study.
- **Chapter 2: Literature Review** Reviews existing academic and policy literature on technological neocolonialism, early-stage entrepreneurship in Bangladesh, and the structural barriers embedded in digital governance and innovation systems. It outlines the conceptual framework used in this study.
- **Chapter 3: Research Design and Methods** Describes the qualitative methodology used in the research, including the sampling process, data collection techniques, and the analytical approach based on thematic analysis.
- **Chapter 4: Empirical Findings** Presents the findings from interviews with early-stage entrepreneurs, structured around key themes. This chapter focuses on presenting the empirical data without extensive interpretation.
- **Chapter 5: Discussion** Provides a critical analysis and interpretation of the empirical findings through the lens of the literature and theoretical framework. This chapter performs the "neocolonial reading" of the data, addressing the research questions directly by connecting the findings with academic discourse.
- **Chapter 6: Conclusion** Summarizes the key findings, discusses their theoretical and practical implications, and offers recommendations for policy and future research .

1.4 Definition

Although a separate definitions section is not customary in qualitative research, a few core concepts are clarified here for conceptual precision:

- **Technological Neocolonialism**: The reproduction of colonial power relations through digital infrastructures, platforms, and governance mechanisms that enable developed countries' dominance over developing countries' digital economies (Couldry & Mejias, 2019; Kwet, 2019).

- **Platform Colonialism**: Entrepreneurial dependency on dominant foreign-owned platforms and tools for essential business functions, which limits local autonomy and constrains innovation (Zuboff, 2019; van Dijck et al., 2018).
- **Digital Sovereignty**: The ability of a country or community to govern its digital infrastructure, data, and innovation policies without undue external interference (Graham & Dutton, 2014; Yasmin, 2019).
- **Early-Stage Tech Entrepreneur**: A founder or decision-maker within a startup (typically under five years old) involved in digital or technology-based innovation.

These definitions emerge from the literature reviewed in Chapter 2 and form the analytical lens through which empirical data are interpreted in Chapters 4 and 5.

2 Literature Review

This chapter lays the theoretical and contextual foundation for understanding how technological neocolonialism shapes the experiences of early-stage tech entrepreneurs in Bangladesh. Drawing on postcolonial and decolonial thought, it brings together scholarly perspectives that critique global power asymmetries in the digital age particularly as they relate to data extraction, platform dependency, and regulatory imposition. While the literature reviewed spans multiple conceptual domains, this study synthesizes them into a coherent analytical lens grounded in a typology of technological neocolonialism. This typology includes seven dimensions: data colonialism, surveillance capitalism, platform colonialism, infrastructure colonialism, legal/regulatory colonialism, narrative domination, and linguistic/cultural imperialism. These dimensions are interpreted through the overarching lenses of epistemic and ontological control, which structure the framework used to analyze empirical findings.

Section 2.1 introduces the concept of technological neocolonialism and traces its evolution alongside related ideas such as data colonialism and digital colonialism. It outlines a conceptual map by organizing mechanisms of control into two thematic clusters: structural dimensions including data infrastructure, platforms, and legal regimes whereas symbolic dimension includes epistemic exclusion and narrative domination. These clusters correspond to the organizing lenses of epistemic and ontological control and form the basis for the typology described in Section 2.4.

Section 2.2 shifts focus to the national context of Bangladesh. It reviews the country's digital policy landscape, infrastructural and legal challenges, and the role of international donors. While national initiatives such as Digital Bangladesh and Startup Bangladesh aim to foster innovation, their implementation is shaped by structural dependencies and external influences that limit their effectiveness for local entrepreneurs. These contextual dynamics illustrate how multiple dimensions of the typology such as platform dependency, regulatory colonialism, and infrastructure gaps are present in Bangladesh’s digital ecosystem.

Section 2.3 bridges theory and context by exploring how symbolic and cultural inequalities reinforce technocolonial structures. It examines the ways in which global intellectual property regimes, donor-defined innovation narratives, language barriers, and brain drain marginalize local forms of knowledge and innovation. These sections correspond to the typology dimensions of narrative domination, epistemic exclusion, and linguistic and cultural imperialism. At

the same time, it highlights acts of everyday resistance, including the development of Bengali-language platforms, use of open-source tools, and informal networks of support. These are analyzed in light of both epistemic and ontological resistance.

Finally, Section 2.4 synthesizes insights from the previous sections into a theoretical framework used in the empirical analysis. It reiterates the two overarching lenses- epistemic control and ontological control and details the typology of technocolonialism that guides the study's coding and interpretation of interview data. This framework supports a nuanced reading of how control and resistance co-exist in Bangladesh's digital entrepreneurship landscape.

By organizing a diverse range of critical theories under a coherent typology and interpretive structure, this literature review moves beyond simple mapping and provides a focused analytical tool for empirical investigation. It prepares the reader to understand the thematic findings not just as descriptive observations, but as expressions of broader theoretical tensions and dynamics that shape innovation in postcolonial digital contexts.

2.1 Conceptual and Empirical Map of Technocolonialism

This section lays the theoretical groundwork for the study by unpacking how global power dynamics manifest in the digital environment particularly in the context of early-stage tech entrepreneurship in Bangladesh. Rather than relying on a single theory, this section draws from multiple critical perspectives to create a conceptual map of technological neocolonialism, which is used as the guiding lens for the empirical chapters. These perspectives are integrated into the broader analytical structure of epistemic and ontological control, which organize how control and resistance are interpreted throughout the study.

The section unfolds in two parts. First, it introduces how the term technological neocolonialism has emerged and evolved, connecting it with related concepts such as digital colonialism and data colonialism. Second, it groups the key mechanisms of technocolonial control into two thematic clusters: structural dimensions (including platforms, data, infrastructure, and regulation) and symbolic dimensions (including epistemic and cultural exclusion). These form a layered conceptual framework used to interpret the experiences of tech entrepreneurs in Bangladesh. This approach avoids abstract theorizing for its own sake, instead emphasizing grounded connections to the realities on the ground. By organizing the concepts thematically and under the

epistemic and ontological lenses, this structure helps to bridge theory with lived realities in Bangladesh and prepares the reader to move from abstract definitions to analytical categories.

2.1.1 Understanding Technological Neocolonialism

To begin this analysis, it is essential to outline the foundational concepts that constitute the broader framework of technological neocolonialism. This section introduces the core components like; data colonialism, platform control, and infrastructural dependency that will later be systematized under the typology presented in Section 2.4.

The term technological neocolonialism captures the evolving ways in which power is exercised through digital tools, platforms, and infrastructures. Building on postcolonial critiques, it describes how inequalities once enforced through colonial conquest are now reconfigured through technological systems, including data extraction, platform control, and infrastructure dependency.

Multiple interconnected ideas underpin this comprehension. Couldry and Mejias (2019) use the concept of data colonialism to describe how significant corporations collect behavioral and personal data, frequently without users' informed consent or awareness. The process is comparable to how resources were taken historically, now the extraction involves only personal data from individuals' daily routines

Digital colonialism as described by Kwet (2019), denotes the domination of essential digital infrastructure like cloud storage, mobile operating system, and AI technologies by corporations and governments predominantly located in the Global North. These monopolies provide minimal opportunities for nations such as Bangladesh to develop independent digital systems.

Madianou (2019, pp. 3–4) provides ethnographic evidence from humanitarian initiatives to illustrate the notion of “technocolonialism.” In refugee camps, high-tech tools like blockchain IDs, fingerprint scanning, and automated decision systems are often used to manage aid. But these are usually brought in without involving the local communities or making sure anyone takes responsibility for how they're used (Madianou, 2019, p. 5). These technologies are framed as being able to solve pressing problems yet often reinforce existing structural inequalities and systems of surveillance (Madianou, 2019, pp. 6-7).

The following section organizes them thematically, emphasizing their coexistence and the way they mutually influence digital power dynamics. Through algorithms, standards, or data regimes, digital systems determine who gains access to visibility, mobility, and legitimacy. The phrase "technological neocolonialism" incorporates these mechanisms, effectively representing both the material and symbolic aspects of control that influence digital existence in postcolonial societies. Instead of viewing these concepts as independent theories, the section emphasizes their coexistence and the way they mutually influence digital power dynamics.

While the concepts introduced above span different theoretical traditions, they are not treated as separate or competing frameworks. Instead, this study organizes them into a coherent typology interpreted through the dual lenses of epistemic and ontological control. These overarching lenses, grounded in postcolonial and decolonial thought (e.g., Santos, 2014; Mignolo, 2011; Mbembe, 2019), guide how symbolic and structural mechanisms of control are analyzed in later chapters. Each concept discussed whether platform colonialism or data extraction is linked to specific dimensions within this typology, which functions as the central theoretical tool in this thesis.

2.1.2 Dimensions and Framework of Technological Neocolonialism

To better understand how technological neocolonialism plays out in practice, this section identifies the key dimensions through which it operates. These are grouped into two broad categories: structural dimensions, which govern access to tools, infrastructure, and regulatory frameworks; and symbolic dimensions, which shape whose knowledge is valued, whose voices are heard, and whose innovation is recognized (Couldry and Mejias, 2019, pp. 337- 340; Madianou, 2019, pp. 5- 6). These elements are not isolated rather; they interact dynamically to shape the constraints and possibilities for digital entrepreneurship in Bangladesh.

This typology demonstrates two main areas of control—epistemic/ontological (symbolic) and material/structural. These illustrate wider theoretical insights from decolonial scholars like Mbembe (2019), Mignolo (2011), and Santos (2014), whose research emphasizes the necessity of viewing digital power not solely through infrastructure or legal frameworks, but also via culture, cognition, and narrative construction.

A) Structural Dimensions of Technocolonial Control

These dimensions focus on material systems of control for example, data infrastructures, platforms, connectivity, and legal frameworks through which external actors exercise influence over local innovation environments.

Data Colonialism: Refers to the extraction and monetization of user-generated data by global tech firms. As Couldry and Mejias (2019, p. 338) argue, this mirrors older colonial patterns of resource extraction, except the resource now is behavioral and biometric data. Local startups often rely on this data to tailor services, but they rarely own or control it, it is often stored in offshore cloud systems governed by foreign jurisdictions.

Surveillance Capitalism: Introduced by Zuboff (2019, pp. 10- 13), this term describes the monetization of human behavior through predictive algorithms. Entrepreneurs in Bangladesh use platforms like Meta or Google to reach customers, but in doing so, They find themselves stuck in value systems they cannot influence. The asymmetry in power leaves local firms dependent on opaque algorithms that may not align with their goals or ethics.

Platform Dependency: Bangladeshi startups heavily rely on global platforms for advertising, hosting, analytics, and payments. Van Dijck et al. (2018) refer to this as platform colonialism, wherein core digital infrastructures are privately owned and governed from abroad. These dependencies are maintained by a few powerful companies headquartered in the Global North, and changes in platform rules can disrupt entire business models overnight.

Infrastructure Colonialism: This includes undersea cables, data centers, and satellite networks controlled by corporations based in the Global North. Graham and Dutton (2014, pp. 88- 89) describe how this physical infrastructure reinforces geopolitical hierarchies. For Bangladeshi entrepreneurs, it results in latency issues, cost burdens, and limited local alternatives.

Regulatory Colonialism: Legal systems shaped by external pressures often from donors or global standards create barriers for local startups. Taylor and Broeders (2015, p. 230) and Yasmin (2019, pp. 322- 324) show how policies like data protection laws or fintech regulations often reflect Western models that ignore local conditions. Conditional funding, technical assistance, and cross-border compliance extend these pressures.

B) Symbolic Dimensions of Technocolonial Control

Symbolic dimensions influence who is seen as credible, innovative, or legitimate. These exclusions are subtler but shape access to resources and legitimacy.

Epistemic and Cultural Exclusion: Technocolonialism manifests through epistemic power who defines problems and solutions. Sadowski (2019, p. 3) and Santos (2014) argue that dominant Euro-American systems shape programming, UX design, and funding expectations. Products rooted in local knowledge are often dismissed as unscalable or unviable, while Western-framed innovations are promoted as superior.

These exclusions are amplified by accelerators, donors, and global media that reward certain narratives. Entrepreneurs often adapt pitches and platforms not to serve users, but to align with external expectations.

Synthesizing a Conceptual Map

Taken together, these structural and symbolic dimensions form a conceptual map of technological neocolonialism. By map, this study refers to a layered understanding of how control is exercised through platforms, policies, infrastructures, and ideas often simultaneously. This framework does not impose a single theoretical model but instead creates space to interpret how power is distributed and experienced. It integrates symbolic, structural, epistemic, and regulatory categories under a broader umbrella of critical postcolonial theory.

For this thesis, the framework is used to guide both the design of interview questions and the analysis of responses. When entrepreneurs speak about their struggles with Facebook visibility, cloud pricing, or donor skepticism, these aren't treated as isolated complaints but as reflections of broader structural and symbolic dynamics. Similarly, when they describe creative adaptations like using open-source platforms, building Bengali-language tools, or operating outside formal systems, these are seen as tactics of resilience and partial resistance.

Thus, the framework serves as both diagnostic and generative. It sheds light on the functioning of neocolonial systems in digital entrepreneurship, while also highlighting the subtle yet significant methods through which these systems are being challenged, adapted, or reinvented. Each of these mechanisms, whether infrastructural or symbolic correspond to specific

dimensions of the typology that this thesis adopts as its analytical tool. The next sections illustrate how these concepts appear in the specific context of Bangladesh.

2.2 Bangladesh's Digital Development: Between Ambition and Asymmetry

Having established the conceptual map of technocolonialism, this section applies its structural and symbolic dimensions to the national context of Bangladesh. The typology is used to analyze how systemic dependencies, regulatory impositions, and infrastructural gaps shape the digital environment in which entrepreneurs operate.

Drawing from my own experience in the nation's startup ecosystem, I find Bangladesh's digital transformation both inspiring and filled with contradictions. The country's ambition to achieve global digital competitiveness often collides with structural dependencies, legal constraints, and uneven implementation. This section explores those tensions. It takes a closer look at three key areas that shape how early-stage entrepreneurs in Bangladesh experience the digital world. First, it walks through the national strategies and public initiatives such as Digital Bangladesh, Smart Bangladesh, and Startup Bangladesh Limited (SBL) designed to support innovation and entrepreneurship. Next, it examines the persistent gaps that hinder progress, from infrastructural limitations to outdated regulatory frameworks and a fragile startup ecosystem. Finally, it explores the complex role of international donors who, despite positive intentions, sometimes reinforce dependency rather than enabling locally grounded innovation.

Together, these three components provide a clearer picture of the real-world conditions within which Bangladeshi tech entrepreneurs operate. This is not merely about abstract policy it is about the systems, contradictions, and daily struggles that shape the lived experiences of those I interviewed.

2.2.1 National Digital Strategies and Institutional Frameworks

The vision of "Digital Bangladesh," launched in 2009, has been central to the country's development discourse (Sultana, 2025, p. 22). Its core promise is to democratize access to technology, improve governance, and support innovation-led economic growth. Over time, this agenda has evolved into the more future-oriented "Smart Bangladesh 2041," which envisions a

data-driven society empowered by artificial intelligence (AI), robotics, and digital inclusion (Sultana, 2025, p. 22).

These policy ambitions are backed by a growing web of institutions. The ICT Division, the Bangladesh Computer Council (BCC), and the a2i Program under the Prime Minister's Office have driven the rollout of digital public services, including biometric national ID systems, e-portals, and land digitization programs. More than 5,000 Union Digital Centers (UDCs) now serve as local hubs for digital access (ICT Division, 2022).

Entrepreneurship support has also grown in recent years. Startup Bangladesh Limited (SBL), launched in 2020, is the country's first state-backed venture capital initiative. It has funded high-potential startups with over USD 65 million, focusing on scalable tech ventures. Similarly, the iDEA project supports youth entrepreneurship through grants, accelerator programs, and university partnerships (ESCAP, 2022).

Yet despite these institutional gains, the ecosystem remains uneven. Dhaka-based initiatives dominate, leaving regions like Khulna, Rangpur, and Barisal underserved. There is also fragmentation and overlap between agencies, leading to inefficiencies and lack of coordinated action (ESCAP, 2022; Startup Bangladesh, 2024). From the ground level, entrepreneurs often experience the policy landscape as bureaucratic and inaccessible.

While Bangladesh's digital policy architecture is rich in ambition, its ability to foster equitable and long-term entrepreneurial growth remains in question. The frameworks often appear impressive on paper, but for many early-stage founders, the support system is experienced as patchy, centralized, and difficult to navigate.

2.2.2 Infrastructure, Legal Gaps, and Ecosystem Challenges

Bangladesh's digital infrastructure is improving but still marked by glaring gaps. Official figures cite a 70% internet penetration rate in 2023, but this masks stark disparities in speed, reliability, and affordability (GSMA-BCG, 2025). Entrepreneurs outside urban hubs struggle with slow connections and power outages that disrupt even basic operations.

Cloud infrastructure is a major pain point. Most startups rely on foreign cloud providers like AWS, Google Cloud, or Azure often paying in USD through complex billing setups that don't

always align with local banking regulations (Islam et al., 2015). Although the government has established a Tier IV national data center at Bangabandhu Hi-Tech City, its reach is still limited.

Legal and regulatory systems also lag behind. Many relevant laws such as the Foreign Exchange Regulation Act of 1947 are outdated and incompatible with modern startup needs, especially in areas like equity financing and cross-border capital flows. The absence of clear legislation on convertible notes, venture capital taxation, or startup exits creates uncertainty and deters both local and foreign investors (Startup Bangladesh, 2024).

Telecom infrastructure, the backbone of digital connectivity through mobile networks, internet bandwidth, and spectrum remains a major bottleneck for local entrepreneurs in Bangladesh. High taxation on internet services and bureaucratic delays in spectrum allocation continue to slow down the rollout of 5G and fiber-optic networks, limiting access to reliable digital infrastructure (GSMA, 2025; The Financial Express, 2025). At the same time, while mobile financial services like bKash have expanded basic inclusion, the broader fintech ecosystem remains weak. Small firms still struggle to access online payment gateways, merchant banking tools, or affordable cross-border transaction systems, which restrict their ability to scale or enter global markets (World Economic Forum, 2025).

To put it plainly, the country's legal and infrastructural environment is not keeping pace with its policy vision. The gap between ambition and execution leaves entrepreneurs stranded, caught between exciting opportunities and systemic barriers that limit their ability to innovate, scale, or raise capital.

2.2.3 Donor Influence and Policy Alignment

International donors such as the World Bank, UNDP, and USAID have played a pivotal role in Bangladesh's digital journey. Their funding and expertise have supported everything from e-governance systems to smart city pilots and data protection frameworks. Yet these interventions are not neutral. They often come with strings attached modelled on best practices or regulatory standards (like GDPR) developed in Western contexts.

This creates friction. For instance, donor-inspired data privacy laws have faced criticism for being poorly adapted to local enforcement realities (Weymouth, 2023, p. 1). Similarly, entrepreneurship programs modeled after Silicon Valley norms tend to promote rapid scaling,

venture capital, and investor-readiness frameworks that may not align with Bangladesh's relationship-based business culture (Khan & Hassan, 2021, p. 11).

In this context, entrepreneurs frequently feel compelled to conform to global donor expectations by adopting the language and aesthetics of "impact," "scalability," and "digital transformation." These terms are widely used in international funding and policy circles to denote social value and growth potential. However, research suggests that such discursive alignment often masks more basic challenges faced by early-stage founders, including limited access to seed funding, lack of mentorship, and difficulties navigating opaque regulatory systems (Weymouth, 2023). As a result, startup pitches may be rich in buzzwords but disconnected from the material constraints of operating in a fragmented ecosystem.

Moreover, many of the digital development projects in Bangladesh are donor-led, meaning they are designed and funded by international organizations like the World Bank or UNDP, often with limited involvement from local stakeholders. These projects are usually managed by external consultants who may not fully understand the local context. As a result, platforms and tools are introduced without clear plans for long-term sustainability or efforts to build local skills and ownership (Mahmud, 2006). This ends up reinforcing a cycle of dependency where the country relies on foreign-designed infrastructure, policy models, and startup support systems that are implemented and maintained from outside, rather than developed from within (Weymouth, 2023). Donor influence on Bangladesh's digital policy presents a double-edged dynamic. While it provides essential funding and enhances global visibility, it simultaneously risks marginalizing local voices, needs, and indigenous knowledge systems.

In sum, Bangladesh's digital development is unfolding at a crossroads of ambition and dependency. The policies are forward-looking and well-funded yet unevenly grounded in the realities of the local entrepreneurial landscape. Infrastructure gaps, regulatory inertia, and donor-driven agendas all interact to shape the opportunities and limits faced by early-stage tech entrepreneurs. This context is not just a backdrop but a central part of the story, and understanding it is vital before we can interpret the lived experiences presented in the following chapters. These intersecting challenges, particularly those stemming from external donor influence can be read through the typology's lenses of regulatory colonialism and narrative domination. These theoretical dimensions help explain how policy priorities are shaped, which

entrepreneurial models are legitimized, and why certain forms of innovation gain traction while others remain peripheral

2.3 Bridging Theory and Context: How Knowledge, Culture, and Innovation Inequality Reinforce Technological Neocolonialism

This section builds directly on the typology by illustrating how epistemic and ontological control manifest through cultural, narrative, and linguistic exclusions. These symbolic dimensions are essential to understanding how control operates not only materially, but also through meaning-making, recognition, and validation.

Building on the structural and symbolic forces outlined in Section 2.1, and the real-world challenges discussed in Section 2.2, this part of the chapter examines how these broader dynamics are experienced in the everyday lives of tech entrepreneurs in Bangladesh. Here, the focus shifts from infrastructure and policy to something more personal how people's ideas, skills, and cultural knowledge are either valued or overlooked within global systems of innovation.

Specifically, this section explores how global intellectual property regimes often disregard or disadvantage informal, community-rooted innovation that is common in contexts like Bangladesh. It also considers how dominant innovation narratives typically shaped in Western tech hubs define what counts as "real" innovation, frequently sidelining local efforts that do not fit the established mold. Language barriers, unequal access to global talent networks, and embedded cultural biases further complicate this picture. Yet amid these challenges, there are also stories of resilience entrepreneurs finding creative ways to adapt, work around dominant systems, or push back in subtle but powerful ways.

These are not abstract issues; they directly affect which businesses receive recognition, who gains access to funding, and whose ideas are seen as legitimate. By unpacking these layers, this section connects the earlier structural analysis to the lived experiences of those navigating unequal conditions in the pursuit of innovation.

2.3.1 Intellectual Property and the Ownership of Knowledge

Intellectual property (IP) systems are usually seen as fair and universal ways to protect innovation. But research shows they often lean toward Western-style laws and formal inventions, leaving out the kinds of informal, community-driven knowledge that are common in postcolonial societies (de Beer et al., 2013; Narayan et al., 2021). As outlined in Section 2.2, Bangladesh's formal IP institutions remain underdeveloped and inaccessible to most tech entrepreneurs. This structural inaccessibility compounds existing inequities: procedures are expensive, time-consuming, and legally obscure. As ESCAP (2022) notes, only a small proportion of startups seek legal protection, and those that do often face delays and uncertain outcomes.

This imbalance is not incidental but systemic. As Santos (2014) argues, the global IP regime enables epistemic extraction- whereby knowledge and innovation from the Global South are appropriated, rebranded, and commercialized without attribution or benefit to their originators. This dynamic is particularly visible in Bangladesh's outsourcing economy, where local developers frequently operate under white-label agreements contracts in which one firm produces a software product that another firm rebrands and sells as its own, effectively masking the original creators (Gabison, 2022). In such setups, Bangladeshi teams build entire platforms or applications, but the final product carries the client's brand and logo, erasing any trace of its Bangladeshi origin. For instance, a fintech app developed in Dhaka might end up on the market under a European company's identity, with no visible recognition of the local developers behind it. These arrangements reinforce knowledge asymmetry like what is produced locally is often recognized only when filtered through foreign systems of validation (Gabison, 2022).

Language reinforces this epistemic hierarchy. English dominates global IP law, startup resources, and education, forming a structural barrier for those without advanced proficiency. As Phillipson (1992) points out, this linguistic dominance deepens cultural and professional exclusion. Many innovators in Bangladesh are locked out of legal and financial recognition not because of lack of skill, but because they cannot operate fluently in English-centric ecosystems. Without localized legal support, simplified documentation, or language-inclusive patenting mechanisms, informal creators remain vulnerable to appropriation and invisibility (Golubev et al., 2020; Monroy-Hernández et al., 2011).

As shown in 2.2.2, weak IP enforcement in Bangladesh is part of a broader governance gap—but viewed through the lens of technological neocolonialism, it also signals how legal infrastructures themselves become tools of exclusion. Rather than supporting indigenous innovation, they often mirror global priorities, reinforcing a system where Global South knowledge is either ignored or extracted without recognition.

2.3.2 Narrative Domination: Whose Innovation Matters?

Another subtle but powerful mechanism of technocolonialism lies in the dominance of certain narratives about what constitutes "real" innovation. As previously outlined in 2.2.3, donor programs and global incubators shape national priorities. This section now deepens that discussion by showing how narrative frameworks, built on Silicon Valley ideals of scalability, venture capital, and disruption, override locally meaningful forms of innovation.

Madianou (2019) and Pieterse (2010) note that these dominant narratives often marginalize social, incremental, or community-based innovations. In Bangladesh, many early-stage entrepreneurs adjust their pitches and business models to meet the expectations of foreign investors, donors, and mentors. This often means adopting technical jargon, impact metrics, and investor-focused storytelling—even when these don't align with their original goals or social context (Khan & Hassan, 2021).

This process creates both subtle and explicit distortions. Startups that focus on women's health, rural education, or vernacular technologies often find themselves excluded from high-profile funding opportunities or media attention. As Schot and Steinmueller (2018) argue, the global innovation policy landscape tends to prioritize market value and novelty over cultural relevance and social utility. In other words, what "counts" as innovation is not defined locally but externally—by funders, rankings, and global tech media.

This narrative domination links back to 2.1.3's discussion on "instrumentarian power" and the shaping of knowledge systems. Just as Big Tech shapes user behavior through algorithms, global institutions shape local innovation through funding criteria, policy conditionalities, and symbolic validations. Entrepreneurs in Bangladesh thus experience a form of discursive dependency: success is measured by standards that may neither fit the local reality nor serve community needs.

2.3.3 Language, Talent, and the Cultural Logic of Exclusion

As previously discussed in 2.1.2 and 2.2.2, infrastructure and platform access remain uneven across Bangladesh. However, beyond physical infrastructure, technocolonial exclusion also operates through language and culture. This section consolidates earlier references to English dominance and expands the analysis to broader cultural and regional exclusions.

English continues to be the default language of code, business templates, legal agreements, and tech forums (Sadowski, 2019). This creates dual barriers: one for rural and non-elite entrepreneurs within Bangladesh, and another for local ideas trying to gain visibility globally. Public universities and rural incubators rarely have the resources to offer English-medium, industry-aligned training. As a result, the tech ecosystem becomes dominated by urban, English-speaking elites—mirroring the center-periphery divide of classic colonial systems (Adnan & Priyo, 2023).

This linguistic exclusion feeds into regional and gendered inequalities. Entrepreneurs outside Dhaka, and particularly women, face limited access to networks, mentorship, and capital. As Madianou (2019) and de Sousa Santos (2014) suggest, these exclusions are not accidental. They are part of a larger system where certain ways of speaking, thinking, and building are privileged, while others are rendered invisible.

Talent migration (brain drain) adds another layer. The most skilled tech professionals often leave for better infrastructure, higher wages, and greater freedom abroad—ironically because the same systems that marginalize them at home offer opportunities elsewhere (GSMA-BCG, 2025). As discussed in 2.2.2, domestic education systems also struggle to meet startup skill demands, creating a mismatch between local capacity and innovation aspirations (Startup Bangladesh, 2024). Thus, language and cultural exclusion are not mere side effects of underdevelopment—they are core mechanisms of technocolonialism, shaping who gets to participate, who gets to lead, and who gets left behind.

2.3.4 Resisting Technocolonial Scripts Through Localized Innovation

Despite the pervasive structures of dependency described in previous sections, early-stage tech entrepreneurs in Bangladesh are not passive recipients of global digital influence. Instead, many of them engage in subtle and strategic acts of resistance that challenge the dominant frameworks

of technological neocolonialism. As discussed in Section 2.1.2, neocolonial control often operates through infrastructures, platforms, and epistemologies. However, these mechanisms also generate conditions in which localized innovation can emerge as a counter-response. Resistance is not always oppositional in a confrontational sense—it can also take the form of adaptation, appropriation, or redirection of dominant tools and systems toward locally defined purposes (Rahman, Haque & Sultana, 2025; OECD, 2021).

A significant form of resistance among early-stage tech entrepreneurs in Bangladesh involves developing platforms that are culturally and linguistically tailored to local needs. Research indicates that many startups prioritize building services in Bengali, designing for infrastructural constraints such as limited internet connectivity, and deliberately distancing themselves from Western-centric growth models that emphasize rapid scaling and investor appeal (Rahman, Haque & Sultana, 2025; Khan & Hassan, 2021). This approach reflects a broader trend of contextual adaptation, where entrepreneurs consciously favor user accessibility and relevance over purely technical sophistication or alignment with global investor expectations (OECD, 2021; Schot & Steinmueller, 2018). Such strategies highlight how local actors resist dominant narratives by centering dialect and infrastructural realities in their innovation processes (Madianou, 2019, p. 7; Santos, 2014, p. 155).

Open-source technologies serve as another key avenue through which entrepreneurs circumvent platform dependency. Tech entrepreneurs can use Linux, community-developed APIs, and publicly available code repositories to reduce costs and maintain control. These choices reflect both economic necessity and a broader orientation toward autonomy, knowledge sharing, and peer collaboration values often sidelined in investor-centric innovation narratives (OECD, 2021).

Peer support networks and informal mentorships also function as structural alternatives to formal ecosystem gaps. In the absence of consistent institutional support, many participants reported relying on their own social capital to bootstrap, solve problems, and share technical resources. These practices represent relational forms of innovation and resistance that emerge from community solidarity rather than external incentives (OECD, 2021)

As described in Section 2.2.1, national entrepreneurship programs exist but often overlook grassroots efforts that do not conform to global success criteria. By working outside donor funded ecosystems, these entrepreneurs assert alternative definitions of value and success, ones

grounded in community relevance, frugality, and linguistic accessibility. Platforms like Maya Apa, which deliver culturally sensitive health advice in Bengali, exemplify this localization (Mayalogy, 2025). While such initiatives may not receive the same global media visibility as AI or blockchain ventures, they directly serve populations otherwise excluded by dominant innovation models.

In this way, resistance operates both symbolically and practically. It reclaims narrative space by challenging what "real" innovation looks like and creates functional workarounds that enable entrepreneurs to survive and thrive despite systemic disadvantages. These local strategies do not eliminate technocolonial structures, but they expose their limits and carve out space for pluralistic, culturally rooted, and community-driven technological futures.

2.4 Summary and Theoretical Framework to Be Used in Analysis

Building on the preceding conceptual and contextual discussions, this section consolidates the key dimensions of technological neocolonialism into a typology that guides this study's analysis. The typology in the figure 1, is structured under two interpretive lenses epistemic control and ontological control which serve as the central analytical tools for understanding how digital power operates in the lived experiences of tech entrepreneurs in Bangladesh.

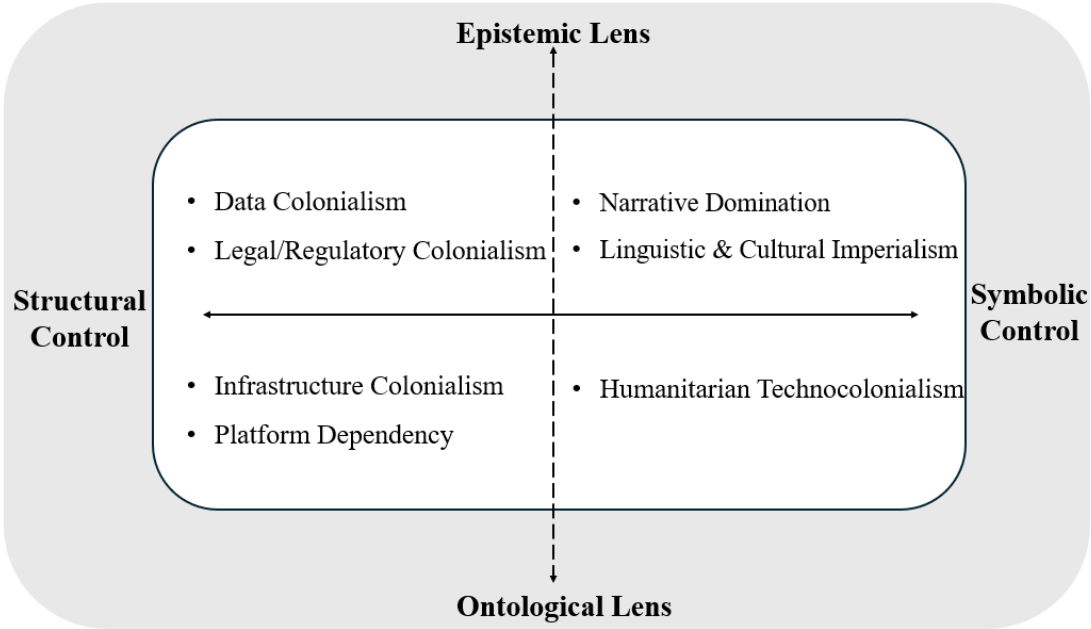

Figure 1: Typology of Technological Neocolonialism

Epistemic control refers to control over what counts as valid knowledge, innovation, and language, while ontological control involves the erasure or marginalization of alternative ways of being, designing, and organizing in the digital realm. Together, these lenses offer a consistent structure for identifying how various forms of domination and resistance co-exist across material, regulatory, cultural, and symbolic domains.

Although scholars have increasingly examined concepts such as data colonialism, digital dependency, and platform capitalism, much of this literature remains largely conceptual and lacks grounded empirical insights into how these dynamics affect early-stage entrepreneurs in Bangladesh. Existing studies often highlight global structures of domination, yet few explore how these forces are experienced on the ground particularly in countries like Bangladesh, where digital transformation is rapid but deeply entangled with donor logic, platform reliance, and legal asymmetries. Related work in contexts like Kenya (Graham et al., 2017), India (Arora, 2016), or Brazil (Pérez & Cannella, 2022) tends to be fragmented and highly context-specific. Therefore, a systematic and theory-informed study that connects entrepreneurial lived realities with critical theories of digital power remains underdeveloped.

This study addresses that gap by applying a critical theoretical lens to analyze the empirical experiences of tech entrepreneurs in Bangladesh. It draws upon postcolonial and decolonial theories, particularly the concepts of:

- **Epistemic Domination** – domination over what is considered valid knowledge, language, and innovation norms (de Sousa Santos, 2014; Tuhiwai Smith, 2012).
- **Ontological Domination** – denial of alternative ways of being, creating, and organizing in the digital realm (Mbembe, 2017; Mignolo, 2018).

These two umbrella lenses organize the analysis of technocolonialism not as a singular or abstract problem, but as a set of overlapping, lived realities. The table 1 below summarizes the seven dimensions of technocolonialism identified through literature and applied in this study, showing their definitions, theoretical anchoring, and citations:

Table 1: Definitions and Theoretical Anchoring of Technocolonialism Dimensions

Type of Technocolonialism	Domain	Definition, Theoretical Lens, and Source
Data Colonialism	Epistemic + Structural	Involves the extraction and commodification of user data from the Global South without consent or reciprocity. Although rooted in epistemic domination—framing data as a resource—its mechanism depends on structural infrastructures like cloud services governed by foreign jurisdictions. (Couldry and Mejias, 2019, pp. 337–340; Sadowski, 2019, p. 3)
Surveillance Capitalism	Ontological + Structural	Refers to the predictive extraction of behavioral surplus through opaque algorithms operated by dominant tech firms. It represents ontological domination through algorithmic governance and structural dependency on opaque systems. (Zuboff, 2019, pp. 10–13)
Platform Colonialism	Ontological + Structural	Describes reliance on foreign-owned platforms (e.g., Google, Meta) for infrastructure, payments, analytics, and reach. These platforms embed external logics, reinforcing both material dependence and symbolic control. (van Dijck et al., 2018, pp. 9–12; Zuboff, 2019, pp. 8–10)
Infrastructure Colonialism	Structural / Material	Refers to control over critical infrastructures like cables, satellites, and cloud servers—by Global North corporations, reinforcing geopolitical hierarchies and digital dependency. (Graham and Dutton, 2014, p. 89; UNCTAD, 2021, p. 27)
Legal / Regulatory Colonialism	Epistemic + Structural	Involves the importation of foreign legal frameworks and donor-driven regulations, which often ignore local context. It reflects epistemic domination (legal norms)

		and structural control (policy enforcement). (Yasmin, 2019, pp. 322–325; Taylor and Broeders, 2015, p. 230)
Humanitarian Technocolonialism	Ontological + Structural	Refers to the use of advanced tech (e.g., biometrics, blockchain) in aid settings without local input or accountability. This reflects ontological domination and material asymmetries in humanitarian innovation. (Madianou, 2019, pp. 5–6; Latonero, 2019, p. 8)
Narrative Domination	Epistemic / Symbolic	Concerns the global privilege of Silicon Valley innovation ideals over local, community-based models. This reflects epistemic control over legitimacy and vision. (Madianou, 2019, p. 7; Khan and Hassan, 2021, p. 10; Schot and Steinmueller, 2018, p. 1555)
Linguistic and Cultural Imperialism	Epistemic / Symbolic	Refers to the marginalization of non-English speakers and vernacular knowledge in coding, platform design, and participation. Enacts epistemic exclusion and narrows the cognitive scope of innovation. (Sadowski, 2019, pp. 6–7; Phillipson, 1992, p. 47; Adnan and Priyo, 2023, p. 8)

This theoretical model not only synthesizes diverse strands of technocolonialism but also provides a clear framework for analyzing the interview data. It serves as both an interpretive lens and a coding scheme tracing forms of control and strategies of resistance that emerge in the lived practices of early-stage entrepreneurs. Rather than treating these entrepreneurs as passive recipients of digital dependency, the study explores how they adapt, negotiate, and sometimes resist global pressures- highlighting forms of localized innovation, creative workaround, and ecosystem-building. These responses are not framed as binary opposites to domination but as part of a complex field of power, agency, and constraint.

By maintaining consistency across these dimensions and clarifying how each concept fits within a coherent theoretical framework, the literature review enables a more rigorous and theory-informed interpretation of empirical data. It also provides a foundation for evaluating

how the findings may confirm, complicate, or extend existing theories of digital power and postcolonial critique. The next chapter outlines how this framework informs the study's research design and analysis.

In this way, the contribution of this framework is not only empirical but also theoretical. By organizing diverse strands of digital and postcolonial critique into a structured typology, the study offers a way to move beyond fragmented mappings and apply these ideas within a grounded, context-sensitive analysis. Through the dual lenses of epistemic and ontological control, the typology enables a layered understanding of how technological neocolonialism operates across material and symbolic domains. At the same time, it provides an operational tool that captures the lived experiences of entrepreneurs in Bangladesh particularly their negotiations, adaptations, and resistances within global systems of digital power. In doing so, the framework extends existing theories by showing how they manifest and interact in practice and offers a foundation for future research in other postcolonial or digitally dependent contexts.

By grounding the study in both empirical narratives and critical theory, this framework aims to contribute to a more cohesive, comparative, and multidimensional understanding of technological neocolonialism in the digital Global South.

3 Research Design and Methods

This chapter explains the research design and methodology used to address the research problem and answer the research questions. It follows a qualitative approach and outlines the sampling strategy, data collection methods, and analysis techniques. Ethical considerations that guide the study are discussed, along with the steps taken to ensure the credibility of findings and the researcher's positionality in promoting transparency. This chapter also explains how the conceptual framework developed in Chapter 2 informs the design of the interview guide and the overall research strategy.

3.1 Research Approach

This study adopts a qualitative research approach grounded in interpretivism to explore the experiences of early-stage tech entrepreneurs in Bangladesh, particularly in relation to technological neocolonialism. A qualitative approach is preferred over quantitative methods because it provides a deeper understanding of individual perspectives, motivations, and the context shaping them. These are areas that quantitative research, which focuses on statistical generalizations, may overlook (Denzin & Lincoln, 2018, p. 10).

While the initial orientation included both interpretivism and phenomenology, the actual analysis aligns more closely with a theory-informed thematic analysis. Interpretivism enables exploration of how participants make sense of their experiences (Schwandt, 2000, p. 191), while the theoretical frameworks from Chapter 2 provide guiding lenses for coding and theme development. These frameworks such as data colonialism and platform dependency help interpret the empirical realities within structural contexts.

Although the analysis includes early inductive coding of participant narratives, the overall process is shaped primarily by theoretical concepts. As such, the study employs an abductive reasoning approach, moving iteratively between data and theory to refine understanding (Timmermans & Tavory, 2012, pp. 169- 171). The goal is not to impose theory, but to explore how the lived experiences of entrepreneurs reflect, challenge, or localize broader theoretical claims.

Although the study initially aimed for a more experiential and phenomenological approach, this turned out to be impractical given the structure and nature of the data. Thus, the research design

was refined to better reflect a theory-driven approach. This shift ensures transparency and consistency, and enables the thesis to directly address how theoretical frameworks operate in and are shaped by real-world tech entrepreneurial contexts.

3.2 Sampling and Participant Selection

To gain rich and relevant insights necessary for addressing the research questions, a combination of purposive sampling and snowball sampling is used to select participants who offer detailed perspectives on technological neocolonialism within Bangladesh's tech startup ecosystem. The target group for this study consists of early-stage tech entrepreneurs in Bangladesh, specifically, founders or key decision-makers of startups that are typically less than five years old and focused on digital or technology-based innovation. This specific group is chosen for several key reasons that align with the study's objectives:

First, early-stage tech entrepreneurs operate at the crossroads of local innovation and the influence of global technological systems. Their daily operations expose them to challenges and dependencies imposed by foreign digital platforms, infrastructures, and policies. This direct experience makes their insights crucial for understanding how technological neocolonialism manifests at the grassroots level.

Second, Bangladesh is a rapidly developing economy with ambitious goals for digital transformation. Studying entrepreneurs within this evolving context offers critical insights into how global power dynamics affect emerging digital economies, filling a gap in the literature that often focuses on established tech hubs or general development models. Their experiences highlight context-specific nuances that are often overlooked in broader discussions.

Third, these entrepreneurs actively form and manage their businesses within a complex digital landscape, providing direct experiences with technological constraints, necessary adaptive practices, and their perspectives on digital autonomy and dependency. Such experiential data is central to answering research questions associated with subjective technocolonial repercussions.

Finally**,** insights from this group assist policymakers in making local interventions for strengthening the tech ecosystem and for entrepreneurs to better grasp systemic challenges and identify opportunities for collective action or resistance.

However, this study focuses exclusively on early-stage tech entrepreneurs operating in Bangladesh. This decision allows for a deeper exploration of their lived realities and aligns with the study's focus on how technological neocolonialism is experienced at the grassroots level. As a result, other actors in the digital startup ecosystem such as government officials, investors, platform providers, and more established firms are not included in the sample. This exclusion is not a limitation of access but a deliberate methodological choice made to maintain analytical depth and thematic consistency, in line with the interpretivist approach of this research.

Eight early-stage tech entrepreneurs are selected for the study through initial purposive sampling via professional networks, followed by snowball sampling to identify additional participants within the startup community. They are from various sectors including fintech, software services, cloud, computer hardware, and digital commerce. This sequential sampling strategy allows for both strategic selection and community-informed expansion of the participant pool, especially when access to new respondents becomes limited or when exploring specific subnetworks. I consider eight to be sufficient for a qualitative study focused on depth rather than generalization. In qualitative research, the sample size is influenced by the depth of the information and its significance to the research questions, not by statistical standards (Malterud, Siersma & Guassora, 2016, p. 1754). This sample allows comprehensive data collection and in-depth thematic analysis to identify patterns and unique insights without reaching the point of saturation.

3.3 Data Collection Method

Semi-structured interviews serve as the primary data collection method for this study, offering both consistency in addressing core themes and the flexibility to capture new, emerging insights. This method proves particularly effective for exploring the varied and nuanced experiences of early-stage tech entrepreneurs in Bangladesh, allowing participants to share their personal perspectives, unique stories, and challenges while staying focused on the study's key research themes.

While participant observation is often used to explore lived realities, this study follows a qualitative, interpretivist approach. Within this tradition, in-depth interviews are recognized as a valid and rigorous method for accessing individuals' experiences and interpretations of their worlds (Kvale & Brinkmann, 2009, p. 27; Seidman, 2013, p. 9). The semi-structured format

enabled participants to reflect on how structural and digital inequalities impact their everyday entrepreneurial lives. This made it possible to study lived realities through dialogic interaction and meaning-making rather than direct observation.

The interview guide was developed through a thorough and iterative process, drawing heavily from the literature review in Chapter 2, especially the "Conceptual and Empirical Map of Technocolonialism" that supported the theoretical framework. Initial drafts of the guide are based on key concepts identified in the literature, including data colonialism, platform dependency, infrastructure colonialism, surveillance capitalism, legal and regulatory colonialism, epistemic and cultural exclusion, humanitarian technocolonialism, narrative domination, linguistic imperialism, and digital sovereignty. These drafts are refined through discussions with the thesis supervisor and pilot testing, including mock interviews, to ensure the questions were open-ended enough to uncover unexpected insights while addressing the main research questions.

The guide covered several interrelated domains relevant to the theoretical framework. First, it addressed experiences with foreign digital platforms, including utilization patterns, pricing structures, feature limitations, and participants' perceptions of fairness and customer support from dominant global platforms. Second, it explored challenges related to digital infrastructure and data governance, such as unreliable internet connectivity, limited access to local cloud alternatives, and concerns about control and security over business data. The third focus area was encounters with regulatory environments and policy influence, examining how national and international legal frameworks, often shaped by donor influence or external consultancy affected entrepreneurial decisions regarding foreign investment, data privacy, and intellectual property. Fourth, the guide considered the impact of language, culture, and cognitive bias in global technology tools, asking how Western-centric design features, English-only interfaces, or culturally embedded assumptions impacted the usability and relevance of these technologies in the Bangladeshi context. The fifth area captured adaptive and resistant strategies adopted by entrepreneurs, including efforts to localize technologies, navigate platform dependencies, or engage in advocacy. Finally, the guide probed perceptions of the local startup ecosystem and support structures, including the role of government programs, incubators, funding bodies, and the availability of skilled labor.

This interview guide goes through iterative process to make it sure was not only comprehensive, but also culturally appropriate, and capable of drawing out detailed narratives about entrepreneurs' lived experiences. As Kallio et al. (2016, pp. 2954- 2955) point out, a carefully crafted interview guide strengthens the credibility of qualitative research. It allows for a structured yet adaptable approach to data collection which is key when trying to understand participants' experiences in depth.

The interviews take place one-on-one over a six-week span through Google Meet online platforms. Conducting online interviews makes it easier to manage both the physical distance and the varying schedules of the participants. Each interview lasts on for about 45 to 60 minutes, which is long enough to dive deep into the key themes without losing focus or energy. There is flexibility for participants to speak in either Bangla or English, depending on what felt most comfortable to them. Using both languages is important to get real and clear stories as topics like reliance on foreign digital tools or questions around technological barriers can be sensitive and tricky. Upon interviewee's permission, every conversation is recorded and transcripts are prepared shortly afterward to make sure none of the details are lost. Pseudonyms are used throughout the transcription and analysis process in order to keep everyone's identity safe and secure.

3.4 Analytical Framework and Analysis

The interview data are examined using thematic analysis according to Braun and Clarke's (2006, pp. 87- 93) six-step process. The analysis places explicit emphasis on abductive reasoning and theory-driven interpretation to maintain analytical alignment with the typology outlined in Chapter 2. This approach allows for a flexible yet structured way of identifying patterns that emerge from the data, particularly when informed by theoretical interpretation. While Braun and Clarke's model accommodates both inductive and deductive orientations, in this study it is applied in a theory-informed and abductive manner, wherein theoretical constructs from Chapter 2 served as sensitizing concepts that guided theme development.

The process begins by reading the interview transcripts thoroughly and multiple times. Understanding each participant's narrative develops while also noting early impressions, recurring ideas, and emotional tones. Initial codes are generated with openness to the data but are shaped primarily by pre-existing theoretical concepts. These initial codes help identify key

issues and recurring challenges raised by the entrepreneurs, such as “platform lock-in,” “infrastructure barriers,” and “data control issues.”

Similar codes are grouped together to form wider themes that reflect significant patterns. For example, a wider theme titled Global Platform Dependency emerges from data points such as Google Workspace reliance, AWS-related expenses, and Meta’s advertising policies. To ensure accuracy, improve clarity, and avoid duplicity, an intensive review process is used then to shape and adjust themes so that they accurately reflect the data. This involves revisiting the original transcripts, combining overlapping themes, breaking down complex ones, and fine-tuning labels. Each theme is then clearly identified, defined, and assigned a brief label. This includes selecting direct quotes from the interviews according to the core meaning of each theme, so that they closely tie to the participants' lived experiences. The final themes are used to construct the analytical narrative in the results chapter. This account merges thematic analysis with direct participant quotes to demonstrate and reinforce the interpretations.

Alongside the early openness to empirical narratives, I draw on key theoretical ideas from Chapter 2 such as ‘data colonialism’ (Couldry & Mejias, 2019, pp. 3, 12, 39- 41) and ‘platform colonialism’ (van Dijck et al., 2018, pp. 10- 13, 30- 36) to guide my analysis. These concepts help me stay attentive to power dynamics embedded in digital infrastructures. I also rely on critiques of legal and regulatory dominance (Santos, 2014, pp. 152- 58) to better understand how imposed frameworks shape the everyday realities of local entrepreneurs. These ideas are not applied as rigid categories, but rather used as interpretive frameworks that direct the analysis toward uncovering systemic patterns of power and dependency.

This twofold method merging theory-informed thematic analysis with sensitizing concepts allows the research to both anchor its findings in empirical evidence and stay in conversation with established theoretical viewpoints. For instance, when business owners talk about issues related to ownership of customer data or international payment systems, the concepts of "data colonialism" and "legal colonialism" establish a basis for more comprehensive examination, uncovering the underlying structural power disparities involved.

NVivo software (version 15) is utilized to structure and oversee the coding procedure, ensuring uniformity and effectiveness. To ensure analytical depth, coding choices are recorded in comprehensive memos, which serve as a reflexive diary. These documents are examined and

refined as the examination advanced, and thematic overviews are created to synthesize results from all cases, emphasizing both shared experiences and distinctive aspects.

3.5 Evaluation of the Research Process and Ethical Considerations

The trustworthiness of this study, a key aspect of qualitative research rigor, is ensured by applying four criteria proposed by Lincoln and Guba (1985, p. 300): credibility, transferability, dependability, and confirmability.

First, credibility, akin to internal validity in qualitative studies, is backed by clear documentation of the research process, encompassing the development of the interview guide and the decisions made in coding. Credibility is also enhanced by maintaining prolonged and meaningful engagement with participants through in-depth interviews. These interviews allowed for direct interaction and follow-up, giving participants space to elaborate on their thoughts and clarify meanings. As a result, I was able to capture how participants articulated and made sense of their experiences, rather than just documenting surface-level responses. This depth of engagement is relevant for credibility because it supports the authenticity of the data and reduces the risk of misrepresentation.

During the early framing of the study, I receive regular feedback from my thesis supervisor. These supervisory discussions help sharpen the conceptual direction, challenge initial assumptions, and clarify theoretical grounding. While this form of input is most prominent in the beginning stages rather than throughout the analysis, it contributes to the overall credibility and coherence of the research design.

Although formal respondent validation (member checking) is not widely implemented due to time limitations and logistical issues, the continuous cycle of data gathering and analysis ensured that interpretations stayed rooted in the participants' own expressions. This approach is consistent with qualitative best practices that emphasize authenticity and accurate representation of participant voices.

Second, transferability; similar to external validity or generalizability, is addressed through rich descriptions of the participants' environments, challenges, and coping strategies. By providing detailed contextual insights and linking them to global theoretical concepts, this study allows readers to determine whether the findings might apply to similar contexts or digital ecosystems

experiencing technocolonial pressures. Such thick description facilitates informed judgment about the potential applicability of the findings beyond the immediate research setting.

Third, dependability; comparable to reliability, is maintained by ensuring consistency in data collection procedures, including the use of a standardized yet adaptable semi-structured interview guide and the systematic application of thematic analysis. Comprehensive documentation of methodological steps, such as how interviews were conducted, transcriptions were made, and codes were developed, supports transparency. This enables the study to be repeated in similar contexts and helps build confidence in the reliability of the results.

Fourth, confirmability; akin to objectivity, is reinforced through careful reflexive memoing and detailed documentation of each step in the analytical process. I maintain a comprehensive audit trail, which records all essential research activities, such as interview schedules, recordings, transcripts, coding decisions (managed in NVivo), thematic development, and memos. This open documentation provides a clear and traceable path from raw data to final interpretations, enhancing transparency and allowing external examination of the research logic.

Ethical safeguards are incorporated throughout the research process. All participants receive clear and thorough information regarding the study's objectives, procedures, confidentiality safeguards, and their entitlement to withdraw at any moment without consequence. Consent is received from every participant prior to the interviews.

Participants' identities are kept secret by giving them pseudonyms and making sure that no information that could be used to identify them (like company names or personal information) is included in the transcripts or final report. All of the data, including recordings and transcripts, are safely stored on password-protected devices that only the researcher could access. To uphold ethical standards, all collected data will be securely destroyed following the completion and official archiving of this thesis. This ensures that data confidentiality is preserved even after the research ends.

I take a careful approach to ensure that the interview process is respectful and did not lead to any distress or discomfort for the participants. While designing questionnaires, focus is given only on professional experience with technology, not any sensitive or overly personal topics. During the interview phase, this approach helps create a safe and non-intrusive environment for open and honest discussion.

3.6 Researcher Positionality

Being of Bangladeshi origin and having a background in people management and development, my positionality influences both the research process and data interpretation. The experience of being associated with the tech sectors in Bangladesh gives me an insider's perspective. Through this position, I can easily build rapport with the participants and acquire insights that might be difficult for an outsider or casual observer to grasp. On the contrary, this insider position carries the potential for biases, particularly in how I frame the interview questions, direct the conversation, and construct the narrative of the interview data.

Such biases are controlled through the maintenance of a reflexive research diary throughout the entire process of data collection and analysis. After each interview or coding session, I used the diary to record my immediate impressions, emotional responses, emerging questions, and any moments of uncertainty. This regular writing practice helped me pause and critically reflect on how my own values, expectations, and background might be shaping what I noticed, emphasized, or overlooked in the data. Over time, this reflexive engagement became an active part of the analytical process, helping me identify patterns in my thinking and flag potential blind spots. For example, at the outset, I assumed that local entrepreneurs would mostly blame infrastructural or financial constraints for their struggles. However, as I progressed with the interviews, I began to observe recurring frustrations related to power asymmetries, knowledge hierarchies, and platform control mechanisms. By revisiting earlier diary entries, I could clearly trace how my interpretations were shifting. This prompted me to reframe my analytical focus and place more emphasis on structural and systemic issues in the final analysis.

I further employ theoretical paradigms from the typology of technological neocolonialism, including platform dependency, data colonialism, and infrastructural colonialism, to attain analytical distance and avoid unduly romanticizing the challenges faced by participants. These frameworks help me stay critical and attentive to the power structures shaping the lived realities of early-stage entrepreneurs, without losing sight of their agency or contextual complexity.

Being a Bangladeshi embedded in a Western academic environment, I feel the tension between local lived realities and the largely Western-origin theories through which they are interpreted. Early in the process, I often struggled with reconciling the empirically grounded voices of Bangladeshi entrepreneurs with abstract theoretical models that sometimes overlooked cultural

nuance or situated experience. Employing both perspectives helps me navigate this dilemma to localize theoretical frameworks while also globalizing the realities presented in the interviews. Balancing these two perspectives ensures that the lived experiences of my participants are not marginalized, and that the analysis remains committed to epistemic justice. It also enables me to articulate their narratives in ways that are intelligible within the global research discourse while staying true to their local context.

Recognizing the influence of existing theoretical lenses, I remain reflexive about how concepts such as platform dependency, data colonialism, infrastructural colonialism, regulatory colonialism, and epistemic exclusion inform not only my interpretation but also my framing of interview narratives.

4 Findings

This chapter entails the main findings generated by a thematic analysis of in-depth interviews with early-stage tech entrepreneurs in Bangladesh. It begins with a brief overview, giving background on the data analysis process from which the main insights emerged. The rest of the chapter is structured according to seven core themes. Each theme reflects a specific set of challenges that entrepreneurs face while operating within a digital landscape, as narrated by participants in relation to their own experiences and perceptions.

Consistent with the theory-informed thematic analysis outlined in Chapter 3, the findings are presented using the participants' own words and descriptions of their lived experiences. The use of their direct quotes helps to bring authenticity into the analysis and to meaningfully link theory with practice. These findings are not only illustrative but also interpretive. The analysis seeks to identify underlying patterns, contradictions, and tensions that help explain how structural, epistemic, and ontological dimensions of technological neocolonialism are experienced and navigated in the Bangladeshi context. The chapter builds on the typology introduced in Chapter 2 to explore not only what participants describe but also how those experiences interact with, extend, or complicate the theoretical concepts used in the study.

4.1 Data Analysis Process

The qualitative data collected through the semi-structured interviews were analyzed following Braun and Clarke's (2006, pp. 87- 93) six-step thematic analytic process described in the methodology chapter. The process started quite early with deep engagement with the transcripts-reading and re-reading the participants' responses coupled with reviewing the recordings to capture all nuances of expression, tone, context, and sentiments behind those words. These early impressions laid the foundation for a grounded and empathetic analysis of each narrative.

In the next phase, initial codes were generated with an exploratory orientation. Hence the repeated pattern, key challenges, and strategies that emerged across the interviews were identified and labelled. These codes highlighted important issues, such as entrepreneurs' reliance on foreign platforms, local infrastructure problems, regulatory challenges, and their adaptive behavior. For example, one common theme across interviews was financial

sustainability and the high costs associated with platforms like AWS and Google Cloud, which are seen as essential but often financially out of reach for many local startups.

These initial codes were grouped under broader themes shaped both by participants' narratives and the theoretical concepts introduced in the literature review. This step followed an abductive reasoning approach, where ideas from the interviews were interpreted through the theoretical framework introduced in Chapter 2, while remaining open to new meanings. Rather than just applying theory to the data, the process involved moving back and forth between concepts and lived experiences to better understand how the themes emerged.

To further strengthen the interpretation of these themes, the analysis sought support from theoretical concepts presented in the literature review. The analysis draws on several key theoretical concepts outlined in Chapter 2, including but not limited to data colonialism (Couldry and Mejias, 2019, pp. 337–340), surveillance capitalism (Zuboff, 2019, pp. 10–13), platform colonialism (van Dijck et al., 2018, pp. 9–12), infrastructure colonialism (Graham and Dutton, 2014, p. 89), legal and regulatory colonialism (Yasmin, 2019, pp. 322–325), humanitarian technocolonialism (Madianou, 2019, pp. 5–6), narrative domination (Madianou, 2019, p. 7), and linguistic and cultural imperialism (Phillipson, 1992, p. 47). These concepts guided the interpretation of the data without rigidly determining the outcomes. These frameworks provided an excellent perspective through which one could understand that local entrepreneurs are embedded in a global system that often favors external actors. For instance, the idea of data colonialism helped make sense of concerns related to data sovereignty, particularly when sensitive business data are stored in servers outside Bangladesh and hence raise issues of who exercises control, ownership, and access over such data. Similarly, narrative domination was used to analyze how foreign technological models influence local practices and limit entrepreneurial autonomy by privileging Silicon Valley innovation ideals over local approaches.

To organize the coding process, NVivo software (version 15) was used, which helped keep the analysis consistent and well-documented. All coding decisions were recorded in reflective memos, which were reviewed and updated as the analysis progressed to ensure the themes were fully supported by the data. The following figure outlines the visual progression of this coding journey, from raw data to finalized themes.

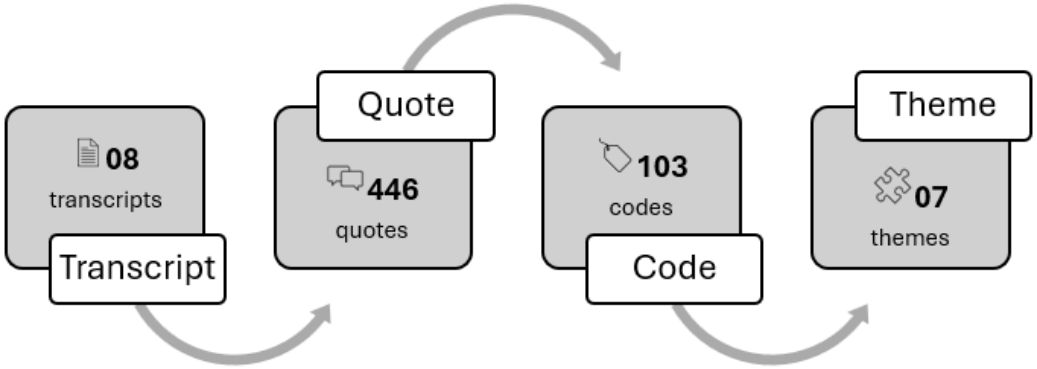

Figure 2: Qualitative Data Analysis Process Flow (NVivo Coding Overview)

Figure 2 above illustrates this step-by-step analytical process. It visually maps the journey from raw interview transcripts to finalized themes using NVivo. The flow begins with eight interview transcripts, from which 446 meaningful excerpts were extracted in NVivo. These excerpts were coded using a theory-informed thematic approach into 103 distinct codes, which were subsequently organized into seven overarching themes. This figure underscores the grounded and systematic approach used in deriving the final insights. While this provides transparency about the volume of data analyzed, the focus remains on the depth and contextual richness of these narratives, not their quantity alone. The next figure presents a visual overview showing how often each theme was referenced across interviews. This representation is offered to enhance transparency in the analytic process, but it does not imply that a theme's frequency determines its analytical weight. In this qualitative study, the significance of each theme is judged by the depth of insight it provides into participants' lived experiences, regardless of how often it was mentioned.

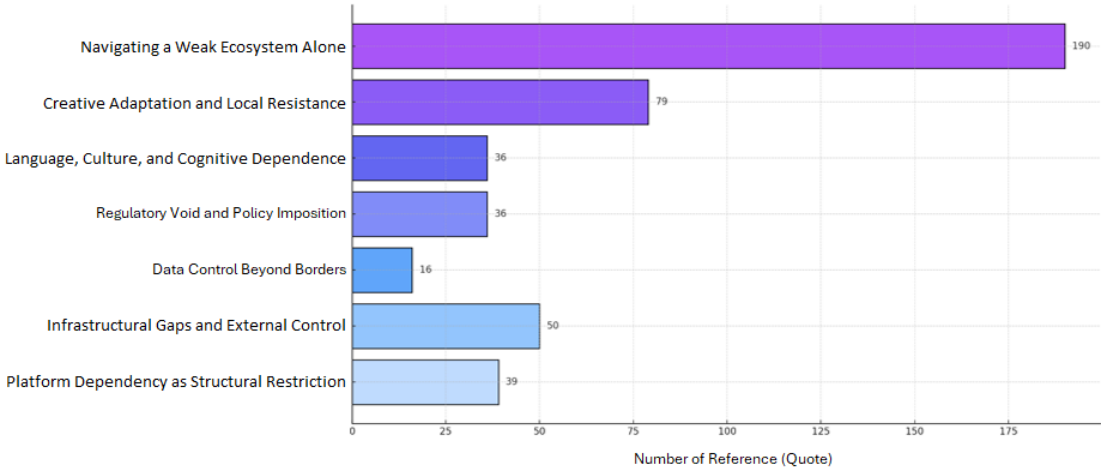

Figure 3: Theme Frequency Distribution from NVivo Coding

Figure 3 displays a horizontal bar chart showing the frequency distribution of the seven emergent themes identified through thematic analysis in NVivo. While the x-axis presents the number of participant quotes coded under each theme, this visualization is not used to quantify importance but to offer a transparent snapshot of how frequently certain issues were raised. In qualitative research, meaning is not measured by volume alone; even a theme mentioned by only one or two participants may carry critical significance if it reveals deeper contradictions, emotional intensity, or fresh insight. The frequency count is therefore included only as a supplementary visualization, while interpretive weight is drawn from contextual depth and participant meaning-making.

Following this frequency-based overview, the analysis moved toward refining and consolidating these themes. Once the initial themes were identified, they were carefully reviewed and refined to ensure clarity, coherence, and alignment with the research questions. This step helped confirm that each theme accurately captured important patterns and contributed to the overall narrative.

The final step involved clearly defining and naming the themes, ensuring each one represented a key aspect of the entrepreneurs' experiences. This process was not only descriptive but also interpretive. In line with Braun and Clarke's (2006) guidance for theory-informed thematic analysis, the goal was to uncover how participants' stories reflect deeper structural, epistemic, and ontological forces. Some themes offered confirmation of the typology, while others exposed tensions and contradictions that challenged or extended it. In this way, the findings aim to do more than represent experience. They are also intended to provoke reflection on how global systems shape digital entrepreneurship in contexts like Bangladesh.

The final seven themes that emerge are as follows. Theme 1 is Platform Dependency as Structural Restriction, which reflects how Bangladeshi entrepreneurs rely heavily on foreign digital platforms for essential operations. While these tools offer necessary functionalities, such dependency often results in restrictive terms of service and limits local autonomy. Theme 2 is Infrastructural Gaps and External Control, which captures how the lack of consistent electricity, high-speed internet, and dependable data centers drives entrepreneurs toward foreign digital services. These dependencies reduce control and widen structural imbalances in the tech environment. Theme 3 is Data Control Beyond Borders, which refers to concerns about data

ownership, security, and sovereignty when platforms are hosted outside national boundaries. In such settings, entrepreneurs are forced to comply with foreign laws often without robust local regulation. Theme 4 is Regulatory Void and Policy Imposition, which highlights the difficulty in growing sustainably due to unclear national digital policies and donor-driven external legal frameworks. Theme 5 is Language, Culture, and Cognitive Dependence, which shows how Western-centric design and language barriers limit access and usability, especially in rural or less-educated regions. Theme 6 is Creative Adaptation and Local Resistance, which illustrates how entrepreneurs adapt global tools, use open-source options, and develop locally suitable solutions in response to these constraints. Finally, Theme 7 is Navigating a Weak Ecosystem Alone, which portrays how many entrepreneurs build businesses without adequate funding, mentorship, or institutional support. These limitations make their journey more difficult and isolated.

4.2 Thematic Analysis Result

From the interviews data, seven core themes were identified. These shed light on the real life experiences of Bangladeshi early-stage tech entrepreneurs, those who navigate a digital system marked by technological neocolonialism. I explained each theme in the subsections below. Themes are supported by direct quotes from participants to ground the analysis in lived experience and give voice to their perspectives.

4.2.1 Theme 1 - Platform Dependency as Structural Restriction

Bangladeshi Early-stage tech entrepreneurs mostly rely on global platforms and tools. They cannot even imagine their daily operations such as hosting, payments, and marketing without these platforms and tools. However, such reliance has negative impact on local control and raises concerns about long-term sustainability.

Entrepreneurs are mostly suffering from financial burden of using these tools. Most of the tools are for high-income markets. One entrepreneur expressed this concern clearly:

> *"The costs of using platforms like AWS and Google Cloud are unaffordable for local businesses. We are struggling constantly to meet our needs" (Interview 1).*

This quote underscores how platform dependency goes beyond mere usage; it generates structural constraints that threaten the viability of local entrepreneurship. The issue is not only that platforms are expensive but that their pricing structures are fundamentally mismatched with local economies. This expands the concept of platform dependency by exposing the economic exclusion embedded in global digital infrastructures.

Many participants echoed similar concerns about high subscription fees, unpredictable cost models, and billing in foreign currencies, which collectively made it difficult to budget and plan sustainably. Several participants noted that these tools, while essential, often require compromising between service quality and financial survival.

Another concerning issue was the differences between global pricing and local purchasing power. Another participant shared:

"For us price always mismatch between global platforms and local businesses' budgets. It limits our ability to grow and scale sustainably. We have to compromise all the time" (Interview 1).

Here, the mismatch leads to systemic compromise, where local actors adjust ambitions downward rather than challenge the system. The repetition of financial strain from multiple participants indicates a pattern of structural limitation that ties economic dependence directly to restricted growth. These quotes reflect how digital colonialism materializes not only through data extraction but also through pricing models that undermine local innovation ecosystems.

The practical consequence is that startups frequently reduce services, limit product development, or operate at a loss absorbing the costs of a system not designed for them. These realities show how participants internalize the logic of scarcity and continuously adapt to platforms that are not designed with them in mind. This reinforces digital dependency while eroding the possibility of developing locally sustainable alternatives.

Some interviewees noted that the unpredictability of platform service costs, often influenced by foreign exchange fluctuations or hidden usage fees, further constrains their ability to scale strategically. The pressure to rely on external infrastructure also discourages experimentation with alternative or open-source tools.

Beyond affordability, another challenge for them is to comply with international regulations like CCPA, and other data protection frameworks. An interviewee explained:

"Though we interact with global platforms and comply with international regulations like GDPR when necessary, but it's a huge headache for us" (Interview 2).

This highlights a tension where entrepreneurs must operate in compliance with legal regimes that are externally imposed, without having contributed to their formulation. The regulation becomes an added layer of pressure, one that reinforces global asymmetries rather than creating safeguards. This complicates the notion of digital sovereignty, as compliance requirements may further marginalize those without institutional support.

Running the business without legal team is a severe obstacle for a start up. One Interviewee elaborated:

"To comply with these regulations and complexity of integration is difficult for us as we don't have any in-house legal team" (Interview 1).

These regulatory challenges reflect the indirect enforcement of control via law. Entrepreneurs are not only dealing with platforms but also navigating foreign compliance landscapes without resources. This again reveals an imbalance in the expectations placed on local startups compared to their global counterparts. It adds a new dimension to platform dependency where legal compliance becomes both a technical and existential challenge.

Many participants shared that navigating foreign regulatory systems consumes valuable time, increases legal uncertainty, and exposes them to risks they cannot afford especially in the absence of national digital policy or local legal infrastructure. Regulatory requirements, originally designed for wealthier jurisdictions, become tools of structural exclusion in less-resourced contexts.

While platforms like AWS offer reliability, some entrepreneurs questioned whether gaining full local control would be preferable given their lack of in-country infrastructure or legal expertise. This contradiction complicates the binary framing of control versus dependence, revealing how some dependencies feel necessary when alternatives are absent.

Another limitation is payment infrastructure. An interviewee shared their frustration:

> *"We had to wait for PayPal for years, and even now payment gateway options are very limited if we compare to what global businesses have. It really slows us down" (Interview 3).*

This quote illustrates the infrastructural lag that local businesses face, making even basic transactions difficult. The dependency here is not just technical but operational. It blocks integration with the broader global economy. The long wait for payment solutions like PayPal demonstrates how local contexts are deprioritized, highlighting the passive exclusion built into global systems.

Several respondents described similar limitations in accessing Stripe, Apple Pay, and international banking APIs, which disrupted their ability to engage in cross-border commerce. These absences are not temporary glitches but recurring exclusions from the global digital infrastructure.

Furthermore, entrepreneurs do not have enough local support from these global platforms. If entrepreneurs face any kind of technical problems or service disruptions have to struggle to get help timely. One entrepreneur shared,

> *"When we face any issues the response time from customer service is slow because we're in a different time zone, and they often don't understand our local needs or context" (Interview 4).*

This quote reveals the cultural and geographical disconnect that often renders technical support inadequate or irrelevant. The absence of contextual understanding adds another layer to digital dependency. Support systems themselves are alienating. This suggests a contradiction. Platforms claim global reach but are locally inattentive, deepening the sense of peripheral participation.

Multiple participants reported feelings of invisibility and neglect, especially when customer support failed to address local language issues or provide region-specific guidance. While platforms claim to be inclusive, the lack of Bengali-language support or regional account managers reinforces the perception that local users are an afterthought.

This geographical, cultural, and institutional disconnect leads to delays, loss of revenue, and feelings of frustration among local entrepreneurs. These emotional and economic consequences expose how global platforms reproduce colonial hierarchies by making peripheries adapt to the center's norms and timelines.

Taken together, while global platforms offer essential services and market reach, their design, operational standards, and terms are often not suitable for the Bangladeshi context. This creates an uneven reliance, where local startups bear the costs of adapting to these platforms. This situation exemplifies platform colonialism, where digital infrastructure becomes a tool for external control and economic extraction. The data do not merely reflect this concept. They complicate it. Participants' words reveal how dependency is lived through financial strain, legal vulnerability, and infrastructural exclusion, and how these forces interact to constrain local agency.

In particular, these findings suggest that platform dependency functions not only as a structural condition. It also operates as a form of epistemic and ontological domination, where knowledge systems, regulatory expectations, and operational assumptions are externally defined and locally imposed. Entrepreneurs are compelled to adapt cognitively and institutionally to platforms designed elsewhere, reinforcing a mode of participation defined by asymmetry.

This theme complicates existing ideas of platform colonialism by showing how dependency is not just imposed but also internalized. This internalization occurs where necessity, lack of alternatives, and regulatory coercion converge. This opens space to rethink how structural exclusion operates in low-income digital economies and invites theoretical reflection on constrained digital agency.

This layered financial and regulatory dependency is further deepened by infrastructural gaps and foreign-controlled services, as explored in the next theme.

4.2.2 Theme 2 - Infrastructural Gaps and External Control

This theme shows how the lack of proper infrastructure in Bangladesh, combined with the control of important digital services by foreign companies, creates big challenges for early-stage tech entrepreneurs. Entrepreneurs often mentioned problems like unreliable internet, frequent power cuts, and the lack of local data centers. These problems make it harder for them to build strong and scalable digital services. Several participants echoed that internet instability and frequent load shedding were not isolated incidents but daily realities that disrupted development timelines and customer trust.

Unstable internet and power cuts were the most common issues that entrepreneurs faced. One entrepreneur explained,

> *"Even though we use AWS to host all our services for better uptime, we're still affected by national internet throttling or outages during political events" (Interview 4).*

This quote highlights a contradiction where global tools are adopted to mitigate local instability, yet entrepreneurs remain vulnerable to domestic infrastructural and political disruptions. It reveals a double-bind: global services are used as buffers, but they cannot fully insulate users from local limitations. This adds nuance to the idea of infrastructural dependency, where neither global nor local systems offer full reliability, reinforcing entrepreneurs' precarious position.

Another entrepreneur said,

> *"Power cuts are very common, sometimes several times a day, and it directly affects our servers and our ability to operate continuously. It's a constant battle" (Interview 7).*

This insight expands the concept of infrastructural gaps by showing how recurring, routine disruptions accumulate into structural disadvantage. The use of the phrase *"constant battle"* conveys the emotional and logistical toll of maintaining operations under unstable conditions, suggesting a form of everyday resistance to systemic neglect.

Interestingly, while several participants shared frustrations with local infrastructure, some also questioned whether full localization would solve their problems. They pointed to a lack of institutional support or technical expertise within the country. This mini-contradiction suggests that reliance on global services is not always a forced choice, but sometimes a strategic one, made in the absence of viable local alternatives.

Participants commonly expressed frustration that while they were technically capable and visionary, the lack of foundational infrastructure undercut their momentum and reinforced a sense of working uphill. These problems make it difficult to provide services, develop products, and keep customers satisfied. As one participant put it,

> *"We rely on stable internet, electricity, and digital platforms. We literally can't function without them; our entire business model collapses" (Interview 3).*

This quote illustrates the entangled dependency between local infrastructure and global services. It demonstrates that infrastructural gaps are not merely technical issues but existential threats to digital entrepreneurship. The participant's framing of collapse underlines the fragility embedded in the system where disruptions in basic services can dismantle entire business operations.

In response to these issues, one entrepreneur said,

> *"That's why I've applied for Starlink—to create a reliable backup" (Interview 2).*

This shows the lengths entrepreneurs are going to ensure that their internet connection remains stable, even when local infrastructure is unreliable. Across the interviews, many entrepreneurs described a cycle of adapting their business operations to accommodate infrastructural uncertainty, such as pausing deployments, delaying updates, or shifting to asynchronous customer support models. It also reflects that, entrepreneurs are not passively enduring but actively seeking alternatives, even if those alternatives represent further entrenchment into global dependency. This shows how participants navigate structural constraints through strategic, though often unequal, adaptations.

The heavy reliance on foreign-owned cloud services, like AWS and Google Cloud, makes these challenges worse and raises concerns about control over data. Many entrepreneurs are forced to use platforms based in other countries, meaning their data is stored outside Bangladesh. One entrepreneur said,

> *"Most of our data is on AWS, which is hosted in Singapore or USA. We don't have local data centers here with similar reliability or scale to compete" (Interview 5).*

This reinforces the idea of infrastructure colonialism, where data flows and storage are externally managed. It also introduces the spatial asymmetry of digital power: local actors produce value, but infrastructure remains controlled from distant centers. Entrepreneurs face limited options, which only deepens the existing hierarchy of control.

This creates delays for local users and data security becomes concerning issue, as it is connected to other country's law. Also, most of the time entrepreneurs don't get local support when they face problems with these global platforms. One entrepreneur explained,

> *"We don't have any emergency contact point, not even any local support when we suffer from connectivity, or a global platform is down. Sometimes we wait hours or even days to get a response from global platforms. Because of this we lose ore valuable business time even sometimes we lose our client" (Interview 4).*

This quote presents a vivid example of how infrastructural dependency leads to operational vulnerability. The absence of local support is not just a service gap. It represents an institutional vacuum that compromises business continuity. Entrepreneurs' lived experiences thus reflect a form of exclusion from the very systems they depend on, amplifying frustration and economic loss. It also shows how infrastructural gaps interact with platform control to create cascading effects of inefficiency and disempowerment. The shared view was that infrastructural weaknesses not only disrupted workflows but made local tech ventures appear less reliable in the eyes of clients and collaborators, compounding the credibility challenge.

Entrepreneurs feel isolated because of this lack of support, especially when they face important technical issues. This isolation is more than emotional, it's structural. The quote above shows that global systems, although omnipresent, are not locally responsive. It underlines a gap not just in technology, but in accountability and contextual understanding.

What these experiences suggest is that infrastructural gaps in the Global South are not simply about the absence of tools. They reflect a systematic lack of inclusion in the design, deployment, and governance of digital systems. These findings invite a rethinking of infrastructure colonialism as not only about foreign control, but also about structural disempowerment, where both global and local systems fail to provide agency to the periphery.

In conclusion, these problems offer a clear picture of how infrastructure colonialism works in practice. Local entrepreneurs are forced to rely on external platforms for basic services that are taken for granted in more digitally mature contexts. Though these global platforms provide essential functionalities, their control over digital infrastructure limits local innovation and growth. Their experiences further suggest that infrastructural gaps are not only technical challenges but operate as filters that determine who can innovate and under what conditions. The data show that entrepreneurs are not simply dependent; they are actively negotiating their position within an uneven digital terrain. Their experiences complicate existing theories by revealing how infrastructural gaps are experienced not just as technical obstacles, but as lived inequalities that shape agency, vulnerability, and adaptation.

This entangled reliance on unreliable local infrastructure and unaccountable global platforms reinforces the broader structural restrictions first explored in Theme 1. The layering of financial, regulatory, and infrastructural dependency forms a compounding barrier to autonomous innovation in the Bangladeshi tech ecosystem.

4.2.3 Theme 3 - Data Control Beyond Borders

The focus of this theme is the the growing concerns of Bangladeshi tech entrepreneurs about data ownership, storage, and security while using foreign-hosted digital platforms. Platform such as AWS and Google Cloud frequently offer scalable infrastructure and reliable technical support. Entrepreneurs feel constrained by a lack of control over where they store and the governance of their data. This tension between technical empowerment and legal insecurity was a recurring pattern across the interviews.

A key concern raised by multiple entrepreneurs was the absence of well-defined, enforceable national data protection laws, which leaves them exposed to international legal systems without adequate local recourse. This created a persistent sense of vulnerability, especially as critical

business data is often stored abroad without much say from the entrepreneurs themselves. As one interviewee explained:

> *"We rely on storing our most of data on Google Cloud and AWS. These platforms are secured" (Interview 5).*

Another interviewee added:

> *"We prefer to store our data on AWS servers. It has strong security measures. Also it scales well with our growth" (Interview 4).*

These quotes illustrate that while entrepreneurs value the technical strengths of global platforms, they also experience a significant loss of control. Their data, although created locally, remains subject to foreign jurisdictions and geopolitical uncertainty, creating a sense of vulnerability and imbalance. Participants shared that the location of data storage is often dictated by default settings or regional availability zones, not by deliberate choice. This reinforces their limited agency in cross-border data flows. This illustrates a form of governance without representation, an experience that deepens their perception of asymmetry in the global digital economy.

Some participants were explicit about the benefits these tools provide in the absence of local alternatives. One interviewee shared:

> *"Using platforms like AWS is a great relief for us. We don't need to worry about managing physical infrastructure. Rather We can focus on product development" (Interview 2).*

Another interviewee had the same feeling:

> *"As we lack local infrastructure to support data manage, Google Cloud gives us support for that. We can run our services smoothly and reach more customers with the support of it" (Interview 3).*

These reflections point to a complex contradiction. Entrepreneurs are grateful for the flexibility and ease of access that global platforms provide, especially in light of weak local infrastructure. At the same time, they express concern about the long-term implications of their reliance. This contradiction enriches the concept of data colonialism by showing how it is not merely an exploitative relationship but one that is normalized through necessity.

The problems get multiplied because of the lack of a national regulatory framework. One participant remarked:

> *"We don't have any clear national policy or guideline to help the start up. We're just trying to independently interpret and stay compliant with international rules like GDPR" (Interview 1).*

The burden of interpreting and implementing foreign regulations, such as the GDPR, falls entirely on the entrepreneurs, many of whom lack legal support. This leads to cautious and overly conservative data practices that hamper innovation and drain resources, particularly in small teams.

Some participants also described being caught between competing preferences, those of global platforms and local clients. As one entrepreneur shared:

> *"We use AWS to store and manage data following region-based backups. But some of our partner NGOs want store data locally. In that case we adjust our data storage method" (Interview 7).*

This adjustment process shows that entrepreneurs try to negotiate their needs and those of partners, but it also reflects how little power they have in setting the terms of data storage and control. Many participants emphasized that despite being the producers of data, they lack the authority to determine how it is accessed, moved, or monetized.

This concern is central to the idea of "data colonialism." In this model, data created in the developing countries is extracted, monetized, and stored by companies in wealthier countries, with few benefits flowing back to local creators. Entrepreneurs in this study feel that while they are generating valuable data, they are neither compensated nor given control. This deepens existing digital inequalities. Their comments reflect a clear pattern where value extraction is globalized but responsibility and vulnerability are localized. What these lived experiences suggest is that data colonialism is not only about control over information. It is also about control over the very terms of participation in digital modernity. Entrepreneurs are aware that their engagement with global platforms is non-negotiable, but that awareness is tempered by a growing sense that they are being left out of decisions that affect their future.

In sum, while foreign platforms are indispensable for running their businesses, Bangladeshi entrepreneurs remain exposed to layered vulnerabilities due to missing national infrastructure,

limited legal recourse, and restricted data sovereignty. Their accounts reinforce the core arguments of data colonialism but also extend them. They show that this form of control is not just extractive but also institutionalized through convenience and infrastructural inequality. The contradiction between short-term enablement and long-term disempowerment opens space for rethinking data colonialism as a relational process. It is shaped by global asymmetries but also navigated with local agency and adaptation. This interplay between control, convenience, and compliance builds directly on Theme 2's exploration of infrastructural dependency and further sets the stage for the regulatory tensions explored in Theme 4.

4.2.4 Theme 4 - Regulatory Void and Policy Imposition

Entrepreneurs in Bangladesh often face two-fold challenges when comes to regulatory and policy imposition, which to be explored under this theme. Firstly, there is a lack of clear, locally tailored digital policy frameworks. Secondly, externally driven regulations are often enforced without adequate consideration of the local context. These conditions combinedly create an unstable legal environment in which startups must operate even without the clarity or support needed to grow securely and confidently. This dual burden creates what several participants described as a "grey zone" of compliance where the rules are unclear, and the risks are high.

The absence of an extensive national digital policy is one of the pressing issue for participants. Interviewee 7 conveyed this disappointment:

> *"Bangladesh doesn't have a clear national data protection policy, and companies set their own standards, leading to inconsistency".*

This lack of coherent policy forces entrepreneurs to fill in the blanks themselves, often resulting in inconsistent and insecure practices. The absence of unified regulation reflects a broader structural gap, one that limits trust, growth, and compliance capacity across the ecosystem. Multiple participants noted that even basic issues like consent, data transfer protocols, or breach responses have no clear domestic precedent.

The need for a centralized framework is echoed by one entrepreneur:

> *"A centralized, robust framework, similar to what GDPR provides in Europe, would help businesses like ours operate with more confidence and clarity" (Interview 2).*

Here, the reference to GDPR reflects aspirations for a protective and standardized digital governance model. Yet, this also exposes a paradox: entrepreneurs are left to desire foreign regulatory benchmarks because local equivalents are absent or ineffective. This aspirational alignment with foreign norms illustrates how colonial hierarchies of policy legitimacy continue to shape how digital governance is imagined and sought.

Clear guidance on crucial issues which ranging from basic data privacy to platform integration requirements is lacking. As a result, entrepreneurs often encounter a regulatory vacuum and their capacity to grow safely within their own nation is thus severely hampered. International or donor-driven models frequently fill the gap left by the lack of local policy. These frameworks could not, however, always be in line with local circumstances. Interviewee 5 shared:

> *"International donors often push certain digital governance models or best practices that, while well-intentioned, might not fully align with our local startup reality or capabilities".*

This quote highlights a structural tension between globally imposed governance and the grounded needs of local actors. While international frameworks aim to support digital development, their top-down nature often leads to poor contextual fit and low ownership by entrepreneurs. These experiences mirror the concept of regulatory colonialism, where domestic rules are externally shaped without meaningful local consultation. Participants emphasized that these imported rules often prioritize donor visibility or corporate risk management over grassroots needs. This reflects a situation where entrepreneurs become implementers of externally designed solutions, with little voice in shaping them.

This top-down approach reflects what some scholars describe as regulatory colonialism, where external actors shape domestic digital norms without adequate consideration of local needs, realities, or institutional capacity. In response, many entrepreneurs rely on informal problem-solving and self-regulation. Interviewee 4 explained:

> *"We don't have in-house legal expertise or even readily available external advice. So when something legal comes up like compliance issue with a foreign platform, we just try to figure it out ourselves or ask others in the community for informal advice".*

This workaround culture speaks to local resourcefulness, but also reveals the absence of systemic support. The reliance on peer networks and informal practices reveals a patchwork

form of survival that diverts time and energy away from innovation and growth. Entrepreneurs often become legal interpreters, forced to guess what foreign compliance might entail without the benefit of legal clarity or institutional support. The legal vacuum shifts the burden of interpretation from the state to individuals, making compliance a guessing game rather than a transparent process.

While this approach shows adaptability and community reliance, it also increases legal risks and diverts valuable time and resources away from innovation and scaling. The lack of protective legal infrastructure also weakens entrepreneurs' ability to negotiate with powerful global platforms. As one entrepreneur said,

> *"There's no clear regulation about data rights or what to do when platforms misuse information from our users or our business. We just have to accept that we have less power in those relationships because there's no local legal backing" (Interview 6).*

This quote points to a profound power asymmetry. Without legal recourse, local entrepreneurs must accept unfavourable terms, reinforcing a structural dependency that echoes broader patterns of technological neocolonialism. Several participants noted that when disputes arise, there is no national grievance mechanism or support channel, deepening the sense of isolation. Entrepreneurs are left not only to navigate legal uncertainty but also to do so alone, reinforcing both institutional and epistemic neglect.

In short, the regulatory vacuum and reliance on foreign models place entrepreneurs in a subordinate position. They must meet external compliance standards without receiving the benefits of a strong, context-sensitive legal framework at home. The expectation to conform to imported legal templates without meaningful participation in shaping them exemplifies humanitarian technocolonialism. In this model, well-meaning solutions inadvertently reinforce dependence. While these findings support the concept of regulatory colonialism, they also complicate it by showing that entrepreneurs are not passive victims. They actively interpret, adapt, and negotiate the rules imposed on them, even if those negotiations are uneven and exhausting. This form of legal self-navigation links back to the data governance challenges in Theme 3 and anticipates the cognitive and cultural implications discussed in Theme 5.

In conclusion, the absence of robust and locally relevant digital policy not only creates uncertainty but also reinforces external dependence. Entrepreneurs are left to operate in a legal grey zone through complying with international norms without sufficient domestic guidance or

support. Their lived experiences expose regulatory colonialism not as a theoretical abstraction, but as a daily challenge marked by legal ambiguity, limited recourse, and institutional neglect. Rather than empowering local innovation, the current regulatory environment forces entrepreneurs into a position of reactive compliance. This further entrenches the dynamics of technological and regulatory neocolonialism.

4.2.5 Theme 5 - Language, Culture, and Cognitive Dependence

This theme explores how the dominance of Western-designed digital platforms which embedded cultural and linguistic assumptions, creates significant barriers for Bangladeshi tech entrepreneurs. These challenges make local enterprises unable to cater to their customers and limit their access to the digital sphere. so, in consequence their ability to serve local customers, innovate meaningfully, and compete on equal footing in the digital economy is restricted. Several participants described feeling as though their users were treated as "afterthoughts" in platform design , meaning they were rarely prioritized or understood.

One recurring concern was the lack of Bangla language support and culturally relevant content across widely used platforms. Entrepreneurs noted that these limitations created friction for end-users, especially in rural or less-educated communities. One entrepreneur explained a challenge in a project:

> *"We had to create a system that allowed people to select items visually, using images and barcodes, because a large segment of our target users didn't understand either Bangla or English text interfaces" (Interview 1).*

This quote underscores the linguistic mismatch between global interface standards and local user needs. The workaround described reveals how entrepreneurs are compelled to develop alternative, visual solutions in response to language exclusion which is demonstrating a form of practical resistance. Such adaptations, while resourceful, reflect a larger structural inequality where local contexts must adjust to foreign defaults. In these efforts, we see the emergence of a localized design logic. This logic is shaped not by Western norms but by intimate knowledge of user realities.

Another entrepreneur added,

> *"Unfortunately, most essential tools are only available in English. This is a significant barrier for reaching the vast majority of our population, especially for rural users or those with limited formal education" (Interview 5).*

This observation highlights the depth of exclusion created by the dominance of English in digital interfaces. The issue is not just about access, but also about the broader implications of who digital tools are designed for and whose participation they prioritize. Participants emphasized that this language exclusion was not merely an inconvenience but a form of systemic neglect that reinforces marginality.

These language barriers make it difficult for local entrepreneurs to reach customers in rural areas who do not speak or read English, which limits their ability to expand and serve a larger audience. The problem goes beyond just language. Entrepreneurs also face issues with how global platforms are designed. Many of these platforms are built on Western technological standards and assumptions, which can be confusing or difficult for local users to understand. One entrepreneur shared,

> *"Most global platforms are inherently complex and not user-friendly, particularly for people without technical skills or a good command of English. It's like they weren't built with us in mind" (Interview 7).*

This quote illustrates not only usability issues but also a deeper sense of exclusion. It shows that local users are not the intended audience. Entrepreneurs must act as cultural translators, adapting platforms not just linguistically but structurally to fit local realities. Such acts of translation are time-consuming and cognitively demanding, adding hidden labour to entrepreneurship in postcolonial settings. Still, these translation efforts reflect active forms of negotiation with global systems, where entrepreneurs assert their agency through adaptation and mediation.

Local startups often have to spend extra time and resources adapting global tools to fit local needs, which can slow down their progress. Another concern is the dominance of Western knowledge systems in the technologies entrepreneurs use. One entrepreneur pointed out,

> *"Most documentation, coding guidelines, and even underlying philosophical approaches we follow are derived from Western contexts. Sometimes they assume*

infrastructure, user behavior, or even a socio-economic reality that simply doesn't apply to us in Bangladesh" (Interview 4).

This statement sheds light on the concept of "cognitive dependence," where entrepreneurial logic and innovation processes are shaped by externally imposed models. Even the foundational assumptions embedded in documentation and design workflows can create an implicit hierarchy of knowledge. In this hierarchy, Western templates are treated as defaults and local alternatives as deviations. This hierarchy shapes what counts as 'good' design or 'scalable' innovation, often marginalizing solutions that are deeply rooted in local knowledge. Several participants noted that when they develop context-specific solutions, they often feel pressure to make them appear "globally relevant" to gain legitimacy, even at the cost of local usability. This creates a contradiction. To serve local needs effectively, entrepreneurs must sometimes mimic global standards to be taken seriously, yet this action reproduces the very exclusions they aim to challenge. This also implies that local solutions might not be valued unless they match Western standards, which limits creative, context-specific solutions.

In conclusion, the lack of localized language support and culturally relevant designs, combined with the dominance of Western knowledge systems in digital tools, limits the potential for local entrepreneurs to succeed. While entrepreneurs demonstrate resourcefulness in adapting to these gaps, the overarching structure still promotes dependency. Their experiences reflect epistemic and symbolic exclusion, where dominant platforms not only shape access but also define what counts as legitimate knowledge, interface design, and user behaviour. This pattern reinforces the core tenets of technological neocolonialism, where even the act of participation in the digital space is conditioned by cognitive and cultural alignment with dominant external norms. These cognitive and symbolic exclusions further compound the challenges of regulatory neglect and institutional dependency explored in the previous theme, illustrating how multiple forms of domination intersect in entrepreneurs' everyday struggles.

At the same time, these constraints also spark acts of creative agency. These range from reimagining interface design through visual tools to translating Western design assumptions into locally intelligible formats. Such resourcefulness reveals that while structural barriers are real, local actors are not passive recipients. They continuously negotiate and reshape their environments within uneven digital terrains. These patterns of cognitive dependence raise important questions about how digital entrepreneurship might be reimagined from the margins.

They point toward the need for locally grounded design, documentation, and support systems that reflect rather than overwrite diverse cognitive and cultural contexts.

4.2.6 Theme 6 - Creative Adaptation and Local Resistance

Despite the significant challenges posed by technological neocolonialism, early-stage tech entrepreneurs in Bangladesh show impressive creativity and resilience. They adapt global tools to fit their needs, make use of open-source alternatives, and even create their own solutions to work around external limitations. This theme discusses how entrepreneurs localize foreign tools, embrace open-source alternatives, and build systems that better reflect their users' needs which is laying the groundwork for a more self-determined digital future. These practices highlight a form of ontological resistance, where entrepreneurs reject externally imposed defaults and reimagine digital participation on their own terms. Such acts align with Santos' (2014) notion of "epistemology" which calls for recognizing knowledge and innovation emerging from historically marginalized contexts.

One of the most common strategies discussed was the localization of global tools. This goes beyond translation; it includes adapting user interfaces and incorporating local languages and cultural practices. One entrepreneur shared,

> *"Yes, we developed a local OCR tool to recognize Bangla text because international OCR solutions couldn't handle it properly. They just weren't trained on our script" (Interview 1).*

This comment highlights the gap between global tool design and local linguistic realities. It also shows how local entrepreneurs are not just consumers but creators, developing custom technologies to address their own needs. They further explained,

> *"This kind of deep local customization has been absolutely essential for us to meet the unique needs of local businesses and serve the broader population, bridging the gap where global platforms fall critically short" (Interview 1).*

This quote illustrates the intentional strategy of modifying tools to better serve communities underserved by foreign digital infrastructure. It reflects an act of reclaiming technological agency. Such efforts demonstrate an ontological challenge to platform colonialism by asserting that local knowledge and user contexts should guide technology design.

In some highly specialized cases, entrepreneurs have gone even further by creating complex solutions for local language processing. One participant shared,

> *"We built a custom Bangla corpus with over 300,000 voice clips recorded in different dialects and contexts. We also created a fine-tuned tokenizer for Bangla since standard models often break words incorrectly. Additionally, we built an internal annotation platform with Bangla script and user-friendly UI to speed up our data pipeline for our voice AI. This is our answer to the global tools' limitations" (Interview 3).*

This quote reveals a powerful form of grassroots innovation, where entrepreneurs are not only adapting but building entire infrastructures of language processing. Such efforts reflect a form of epistemic justice, where the knowledge and needs of marginalized users are centered in technological development. These actions not only reject the technical limitations of dominant platforms but also challenge their implicit worldview that innovation originates from the Global North. Another key approach is using open-source tools to reduce dependency on proprietary foreign software. One entrepreneur noted,

> *"Yes, we rely heavily on open-source tools like PostgreSQL for our databases and actively recommend them to clients because they offer flexibility and cost control" (Interview 5).*

This reflects a conscious choice to resist technological lock-in and promote digital independence by using software that can be freely modified and shared.Another entrepreneur added,

> *"We primarily use open-source frameworks like Django and React for our development. These give us crucial flexibility, ownership, and significantly lower our operational costs" (Interview 2).*

This quote emphasizes the material advantages of open-source technology while also suggesting deeper values like freedom, adaptability, and autonomy in the digital environment. Participants consistently described open-source ecosystems as not only financially pragmatic but ideologically aligned with their desire for digital sovereignty.

Additionally, some entrepreneurs are developing their own in-house solutions to address local market gaps that global tools cannot meet. One participant explained,

> *"Sometimes, frankly, it's just easier and far more effective to build our own tools if nothing suitable exists globally or if foreign tools are too restrictive for our unique requirements" (Interview 6).*

This quote illustrates a form of resistance where building becomes an alternative to conforming which is an active redefinition of what technological progress means in local contexts. This approach builds local innovation capacity and reduces reliance on external systems, fostering a more self-reliant and resilient digital ecosystem. One participant also emphasized the importance of localization in AI development, stating,

> *"Our AI assistant can now answer basic questions in Sylheti, Chittagonian, and even some Rohingya dialects" (Interview 3).*

This not only showcases the linguistic inclusivity that global platforms often lack but also highlights how entrepreneurs use AI for cultural preservation and social inclusion. Such examples illustrate how digital tools can be reclaimed for pluralistic purposes, challenging epistemic homogenization and affirming linguistic rights. Beyond technical innovations, many entrepreneurs also engage in informal knowledge-sharing and peer-to-peer learning to overcome challenges and share best practices. One entrepreneur appreciated the sense of community, saying,

> *"We have a strong and supportive community of founders. We constantly share tips on how to deal with platform issues or tricky payment problems. It's our own support system" (Interview 4).*

This peer support helps strengthen the local entrepreneurial ecosystem and provides practical solutions to challenges posed by global platforms. Participants widely viewed these informal communities as essential to survival, especially in the absence of formal institutional backing. This reflects a bottom-up ecosystem where collective wisdom substitutes for absent institutional support, a strategy of resistance through solidarity. However, these acts of adaptation are not without tension. Several participants noted that in order to gain recognition or funding, they often have to present their innovations in globally familiar terms, even when their designs are deeply rooted in local contexts. This creates a contradiction where local relevance must be masked by global compatibility to achieve legitimacy.

These efforts demonstrate that despite facing tough structural constraints, Bangladeshi entrepreneurs are not passive. They are actively shaping their own digital futures, resisting external pressures, and working towards greater digital sovereignty. Their actions embody a grounded form of decolonial practice where innovation, community, and adaptation converge to create more inclusive digital futures.

These invite a broader reflection on whether digital innovation frameworks might begin from peripheral contexts, rather than positioning them as sites that must adapt to dominant global models. This raises important questions about the possibility of envisioning platform design, documentation standards, and governance mechanisms that emerge organically from local epistemologies. Such considerations encourage a rethinking of how legitimacy, innovation, and inclusion are constructed, and by whom, in the evolving digital landscape.

4.2.7 Theme 7 - Navigating a Weak Ecosystem Alone

This theme highlights how early tech startups in Bangladesh are confronted by a plethora of challenges because of the country's fragmented and undeveloped local ecosystem. The majority of participants were lonely and compared their experience as “sailing alone,” as no scaling or growth infrastructure existed. Infrastructure, investment, and mentorship all impact their growth severely, but determination and innovation are abundant in them. This theme builds on concepts such as infrastructure colonialism and regulatory void to show how the absence of enabling structures is itself a form of structural exclusion.

Among the most pressing concerns entrepreneurs expressed was lack of access to proper funding. Though they had taken occasional training, most claimed no direct access to funding. As one interviewee noted:

> *“We haven’t received direct funding so far from local sources, but we did attend a government-funded CxO training program” (Interview 1).*

This response shows that while surface-level engagement exists, tangible financial investment is often missing, leaving startups without the necessary capital to scale. Another added,

> *“There have been some training programs and workshops, but nothing substantial in terms of direct funding or consistent, impactful support for scaling” (Interview 7).*

Such gaps underscore a recurring theme of fragmentation in public support systems. The training provided is often disconnected from the actual financial and technical needs of tech ventures. Several participants shared that this absence of meaningful funding support leads many to depend on personal savings or informal family contributions, which increases financial vulnerability and risk.

This financial gap led many startups had to rely on personal savings or informal family support. Others seek foreign investors, who often introduce terms that may not be in harmony with local conditions or long-term developmental aims. Absence of experienced, context-aware mentorship was another need gap identified. With no exposure to mentorship from those knowledgeable about Bangladesh's ICT setting, entrepreneurs are not capable of overcoming complex problems in isolation. One entrepreneur explained:

> *"We desperately lack experienced mentors who truly understand the specifics of building a tech business in Bangladesh's unique context. Most advice comes from people who don't grasp our unique challenges here" (Interview 6).*

This reveals a deeper structural issue: when advisory models are imported from other contexts without adaptation, they fail to support local realities. The resulting isolation restricts knowledge circulation and collective problem-solving. Entrepreneurs expressed that this isolation has long-term consequences on learning, innovation, and overall startup survival, creating knowledge asymmetries that reinforce symbolic exclusion.

Thus, the majority of the entrepreneurs are left to learn by doing, which is not only inefficient but costly in terms of effort, time, and resources. This sheds light on the avenues through which systemic gaps in institutional support, finance, and localized know-how impede sustainable tech entrepreneurship development in Bangladesh.

Moreover, entrepreneurs expressed frustration with the misalignment between existing government-backed and donor-funded programs and their actual needs. One entrepreneur commented:

> *"Many support programs are either too generic, too bureaucratic, or simply don't apply to the kind of digital products we build. They're often designed for traditional businesses, not for the dynamic tech startup world" (Interview 5).*

Here, the criticism is not merely about absence, but about design. These quotes show that when policy tools are not rooted in ground realities, they can reinforce exclusion rather than enable

participation. Participants repeatedly noted that donor-driven models are often based on Western expectations of entrepreneurship, which fail to accommodate local constraints such as limited access to capital, digital literacy gaps, or informal market structures. This situation reveals an ironic contradiction: Many support programs designed to 'empower' local entrepreneurs often end up reinforcing dependency by failing to meet their actual needs. What is promoted as 'capacity-building' may, in practice, be a form of epistemic standardization where only externally recognized methods and outcomes are valued.

This disconnect creates a gap between national policy goals, like "Digital Bangladesh," and the practical realities faced by early-stage tech startups, leading to wasted resources and unfulfilled potential. The lack of startup-friendly infrastructure is another significant challenge. According to Entrepreneurs, basic infrastructure challenges are unreliable electricity, inconsistent high-speed internet, and a shortage of affordable co-working spaces. As one participant shared:

> *"Even simple things like consistent, high-speed internet or reliable electricity backup can cripple our ability to serve customers consistently. We don't have affordable co-working spaces with good connectivity, or easily accessible, affordable legal help tailored for startups" (Interview 4).*

This example brings attention to how everyday infrastructural barriers inhibit even the most basic operations, pushing entrepreneurs to operate under conditions of persistent precarity. Such barriers exemplify how infrastructure colonialism continues not just through foreign control, but also through neglect. In this form, essential systems are never fully developed, leaving startups in a liminal zone of dependence.

These infrastructural gaps make it even harder for local startups to scale and compete in the digital economy. As a source of support, many entrepreneurs have turned to informal peer-to-peer networks in response to these systemic gaps. As one entrepreneur explained:

> *"We get more help and practical advice from other founders facing similar struggles than from official programs. There's a strong sense of community and solidarity, but it's entirely informal and not institutionalized" (Interviewee 3).*

This shows an emergent form of resistance where community-based learning and mutual aid fill the void left by absent institutions. However, the informality of these networks also means they lack the reach, consistency, and resources to serve as a reliable support system for all. Shared learning circles and founder communities emerged as alternative ecosystems, but

participants emphasized they cannot replace the systemic role of state institutions or coordinated policy frameworks.

These community-driven networks work as a vital safety net and assist entrepreneurs in both surviving and growing. Their dependence on unofficial support networks, however, highlights the deficiencies of formal institutions, which have mainly fallen short in offering an integrated and consistent framework for entrepreneurs in their early stages.

Despite these challenges, many entrepreneurs are driven by a strong vision for the future. One entrepreneur expressed this passion:

> *"Our vision is to become South Asia's leading voice tech platform for low-resource languages. We want to power everything from government helplines to edtech platforms to agricultural advisories using localized voice AI. If we don't build for our own language, culture, and users, someone else will, and they'll charge us for it. We must build our own solutions" (Interview 3).*

This powerful sentiment illustrates their commitment to building local solutions that meet the unique needs of Bangladesh and South Asia, reinforcing their drive for digital sovereignty. Their ambitions point to a future where early-stage entrepreneurship in Bangladesh is not merely reactive to global systems but proactively shaping its own digital landscape. These patterns raise a deeper question. Can a truly decolonized entrepreneurial ecosystem emerge when foundational support systems remain informal, fragmented, and externally defined?

While peer-driven learning and mutual aid reveal impressive resilience, they also risk becoming substitutes for urgently needed institutional reform. Rather than expecting local actors to continually adapt to donor frameworks or foreign templates, it may be time to reimagine support infrastructures that emerge from the South, reflect local realities, and redefine what innovation and legitimacy mean. These must be defined on their own terms.

5 Discussion

This chapter discusses the findings presented in Chapter 4 and links them with the theoretical concepts and literature reviewed in Chapters 2. The discussion is structured along the three research questions and looks into whether the lived experiences of early tech entrepreneurs in Bangladesh present the larger facets of technology neocolonialism. In this way, the chapter serves not only to uphold many of the theoretical claims previously discussed but also to offer new insights into how neocolonialism typologies of data colonialism, surveillance capitalism, platform dependency, infrastructure colonialism, regulatory colonialism, epistemic and cultural exclusion manifest and interact in practice. This chapter also draws more explicitly on the conceptual framework of epistemic and ontological colonialism introduced in the literature review, using it to interpret the symbolic and material asymmetries experienced by entrepreneurs.

Although concepts like surveillance capitalism and humanitarian technocolonialism were discussed in the literature review, they did not strongly emerge from the empirical data. The absence of direct references to these dynamics in participant narratives may suggest either a limited experiential interface with such mechanisms or a gap in their articulation in entrepreneurial discourse. This omission itself becomes analytically meaningful, indicating that some theoretical frameworks may have limited resonance in Bangladesh contexts.

5.1 Revisiting Research Questions Through Thematic Lenses

RQ1: *In what ways do early-stage tech entrepreneurs in Bangladesh experience forms of technological neocolonialism?*

The findings point to multiple, intersecting ways in which technological neocolonialism manifests in the daily realities of Bangladeshi entrepreneurs. These align closely with the core theoretical concepts of platform colonialism (van Dijck et al., 2018), data colonialism (Couldry and Mejias, 2019), and infrastructure colonialism (Graham and Dutton, 2014). Participants consistently described how their businesses rely heavily on global digital platforms for essential services like cloud hosting, online payments, and digital marketing. While these tools are seen as necessary for operational credibility and growth, they also come with strings attached. These include high costs, rigid terms, and opaque regulatory structures. This platform reliance also entails a loss of data sovereignty. Entrepreneurs must comply with opaque data governance

structures imposed by hosting services abroad. This reflects a clear manifestation of data colonialism.

This illustrates the structural mechanisms described under platform dependency and reinforces the power asymmetries outlined by Couldry and Mejias (2019, p. 3)) in their work on data colonialism. Entrepreneurs find themselves positioned not as co-creators of digital ecosystems but as users with limited autonomy, mirroring colonial-era dependency structures. The lack of negotiation power, coupled with pricing mismatches and service constraints, reflects a one-sided value chain where global corporations capture value while local actors absorb the risks and costs.

Similarly, infrastructural colonialism becomes visible in the absence of robust local alternatives, where entrepreneurs are forced to rely on foreign hosting and cloud services due to domestic infrastructure failures. This echoes Plantin and Punathambekar's (2019, p. 164) notion of infrastructural exclusion, where the physical and technical systems underpinning digital participation are unevenly distributed, reinforcing dependency and shaping the contours of participation. This infrastructural exclusion is not merely a logistical challenge but a form of ontological colonialism that determines who is allowed to innovate and under what material conditions.

A key analytical insight that surfaced is the idea of asymmetric interoperability. This refers to a situation where local entrepreneurs must adapt to the standards, pricing structures, and interfaces of global platforms, while those platforms remain unresponsive to local cultural, linguistic, and infrastructural conditions. This goes beyond traditional notions of technological dependence. It suggests a one-way adaptation loop that reinforces digital subordination. This concept nuances the theory of infrastructure colonialism by showing how "integration" itself can become a mechanism of control when it is unidirectional and culturally unresponsive. This extends existing frameworks of platform colonialism by showing that global systems not only impose infrastructural norms but also ignore ontological alternatives that could reflect local ways of organizing digital life.

RQ2: *What structural and cultural barriers do these entrepreneurs face in adopting, localizing, or innovating with digital technologies?*

To interpret the lived realities of these barriers, it is helpful to recall the typology introduced in Chapter 2, which outlines forms of technological neocolonialism along four key dimensions:

structural, epistemic, symbolic, and ontological domination. These dimensions interact through mechanisms such as data extraction, infrastructure dependency, legal imposition, linguistic marginalization, and knowledge erasure. The findings from themes 2, 4, 5, and 7 illustrate how these mechanisms converge to limit entrepreneurial autonomy and creative capacity.

Thematic insights reveal how systemic barriers, both structural and cultural, impede the ability of entrepreneurs to innovate meaningfully. These range from infrastructural gaps and regulatory voids to linguistic limitations and misaligned development agendas. While these themes initially appear distinct, they form a complex web of epistemic and regulatory colonialism.

The findings related to language barriers and Western-centric platform design support Spivak's (2023, p.171- 219) critique of epistemic exclusion, wherein local knowledge systems, languages, and cultural references are marginalized. This has practical implications for training, onboarding, and user experience design, areas where global standards clash with local realities. Entrepreneurs' efforts to bridge these gaps through localized manuals or icon-based interfaces reflect not only adaptation but also an implicit resistance to cultural imperialism embedded in digital systems. These adaptations exemplify how epistemic colonialism operates through the subtle standardization of "best practices" that exclude non-Western cognitive frameworks.

Further, the regulatory challenges faced by entrepreneurs, ranging from donor-imposed compliance requirements to the absence of a national data protection policy, demonstrate how regulatory colonialism (Birhane, 2021) imposes legal frameworks without grounding them in local institutional capacity. Entrepreneurs are caught between complying with foreign standards like GDPR and navigating legal ambiguity at home. This not only increases operational risk but also reflects the imposition of global governance models with limited room for local negotiation. Such policy asymmetries represent an epistemological imposition, where legal norms rooted in Western contexts are treated as universally applicable, leaving little space for context-sensitive regulatory experimentation.

Finally, a significant insight relates to cognitive and narrative exclusion, which operates not only through language or education but through the underlying assumptions embedded in digital interfaces and governance systems. Participants reported that platforms assume user behaviors and market dynamics that do not reflect their context. This reveals a form of cognitive colonialism, where Global North mental models are imposed and internalized in the Global

South. This internalized exclusion aligns with Santos' (2014) concept of epistemicide, the erasure of alternative ways of knowing through standardization.

RQ3: *How do Bangladeshi entrepreneurs resist or adapt to these global constraints to shape alternative innovation pathways?*

Despite the structural inequalities identified, the findings also highlight active forms of resistance and adaptation. Entrepreneurs are not passive recipients of digital colonialism; rather, they engage in what Escobar (2020, p.22) terms "ontological design", creating and modifying systems that reflect local realities, cultural needs, and linguistic diversity. These acts of design suggest an emerging ontological sovereignty, wherein local entrepreneurs assert their own definitions of value, success, and innovation.

The development of tools tailored for Bangla language processing, or the creation of AI assistants in regional dialects, exemplifies decolonial innovation. These responses not only localize technology but also challenge the underlying assumptions of Western-designed systems. Entrepreneurs' reliance on open-source platforms also reflects a strategic effort to maintain digital sovereignty, reduce lock-in effects, and promote cost-effective scalability.

The acts of knowledge-sharing through informal networks, peer mentorship, and community-based learning further illustrate how cognitive colonialism is countered through grassroots epistemologies. These practices are not merely workarounds; they represent the co-creation of alternative innovation ecosystems that sidestep formal institutional failure and reassert agency in knowledge production. These networks demonstrate what de Sousa Santos (2014) describes as "epistemologies of the South," wherein communities generate their own modes of learning and innovation that defy global hierarchies of knowledge.

The reflections shared in interviews also suggest an undercurrent of hope and advocacy that drives innovation. Participants voiced the need to build for their own people, languages, and infrastructures, not out of isolationism but as a strategy for survival and relevance. This goes beyond practical adaptation. It signals a form of epistemic reassertion, where local actors are reclaiming the right to define their own technological futures. This reassertion challenges the universality of Silicon Valley innovation models, replacing them with context-rooted alternatives.

By including these reflections here, this chapter fulfills its theoretical role not only by confirming key ideas but by engaging with them critically and showing how new concepts such as asymmetric interoperability and cognitive exclusion emerge from the data. This interpretive lens deepens the typology of technological neocolonialism and helps refine its application to specific contexts like Bangladesh. Ultimately, these insights move the discussion beyond application toward theoretical contribution, offering grounded refinements to existing frameworks of platform, regulatory, and epistemic colonialism.

By revisiting each research question through the thematic insights, this section demonstrates that the main research question, *how early-stage tech entrepreneurs in Bangladesh experience technological neocolonialism in their business environment*, is comprehensively addressed. The findings illustrate how entrepreneurs encounter layered forms of digital dependency, regulatory asymmetry, and cultural exclusion while simultaneously engaging in adaptive strategies and local innovation practices. This synthesis of experience, interpretation, and resistance confirms the utility of the theoretical typology and shows how global digital power structures are internalized, negotiated, and occasionally subverted in the Bangladeshi entrepreneurial context.

5.2 Cross-Cutting Insights

A comparative reading of the themes reveals interlocking forms of dependency, exclusion, and resilience. Technological neocolonialism in Bangladesh does not operate through a single channel; rather, it unfolds across interconnected domains such as platform architecture, data governance, language, legal norms, and cultural design. Empirical evidence underscores how these domains are hierarchically structured. Platform dependency and data colonialism appear most prominently but also intersect with infrastructural gaps, regulatory voids, and epistemic exclusion. These interconnections mirror the layered nature of colonial systems. In such systems, symbolic, structural, and epistemic dimensions reinforce one another in maintaining unequal relationships.

This suggests that the typology of technological neocolonialism developed in the literature review (Chapter 2) is not only conceptually valid but also experientially grounded. The findings confirm the salience of multiple dimensions simultaneously and highlight how they interact in complex and dynamic ways. For instance, reliance on AWS and Google Cloud is not only a case of platform dependency but also implicates issues of data sovereignty, regulatory

compliance, and language exclusion. In this sense, dependency is not just infrastructural but ontological, shaping what kinds of digital futures are imaginable and achievable for local entrepreneurs.

Moreover, the findings hint at possible extensions of the typology. While epistemic and cultural exclusion are already included, the data reveal nuanced forms of cognitive dependency and informal resistance that could be theorized further. These include the internalization of foreign innovation models, the improvisation of legal compliance strategies, and the use of community networks as de facto support systems. These emerging forms of resistance may be viewed as extensions of the epistemic exclusion category introduced earlier, suggesting sub-dimensions that deepen the typology's explanatory power. These additions would acknowledge the agency of local actors without underestimating the structural barriers they face, offering a more dialectical view of power and resistance.

5.3 Linking Back to Theory

The findings of this study build on the theoretical framework established earlier. While existing literature on data colonialism and platform dependency explains the structural issues, the stories of Bangladeshi entrepreneurs highlight the daily challenges, compromises, and creative efforts involved in dealing with digital inequality. These narratives also reveal how infrastructure colonialism and regulatory colonialism shape the limits of entrepreneurial agency through poor physical infrastructure, externally imposed compliance models, and weak national policy support. Furthermore, experiences of epistemic and cultural exclusion emerge through platform design, language barriers, and Western-centric knowledge systems that limit local innovation potential. Together, these experiences offer a situated account of how coloniality operates not only through material systems but also through symbolic and cognitive frameworks that define who is allowed to innovate and on what terms.

To strengthen the analytical coherence between theory and empirical findings, the below table 2 provides a systematic mapping between the seven emergent themes, the associated types of technological neocolonialism, and the analytical dimensions through which they manifest. This mapping clarifies how the empirical themes relate to the theoretical typology and research questions, and demonstrates how different forms of structural, epistemic, symbolic, and ontological exclusion intersect in the lived experiences of early-stage tech entrepreneurs in

Bangladesh. The following table summarizes how the seven themes (as developed in Section 4.2.1 to 4.2.7) map onto the theoretical typology and research questions.

Table 2: Mapping of Thematic Findings to Theoretical Typology and Research Questions

Theme	**Typology**	**Dimension(s)**	**Research Question(s)**
Theme 1	Platform Colonialism	Structural, Ontological	RQ1, RQ2
Theme 2	Infrastructure Colonialism	Structural	RQ1, RQ2
Theme 3	Data Colonialism	Structural, Epistemic	RQ1, RQ2
Theme 4	Regulatory	Structural, Epistemic	RQ2
Theme 5	Linguistic Imperialism, Narrative Domination	Symbolic, Epistemic	RQ2
Theme 6	Counter to Platform Colonialism & Domination	Ontological, Epistemic	RQ3
Theme 7	Infrastructure & Regulatory Colonialism	Structural, Symbolic	RQ2, RQ3

This mapping illustrates that the experience of technological neocolonialism among Bangladeshi tech entrepreneurs is not confined to a single domain. Rather, it emerges through intersecting dimensions of structural, epistemic, symbolic, and ontological exclusion. While structural constraints appear across nearly all themes, deeper epistemic and symbolic exclusions become evident in areas such as language, knowledge systems, and governance frameworks. Importantly, the final two themes demonstrate that entrepreneurial agency is expressed through creative adaptation and peer networks. These offer pathways to ontological resistance and localized innovation. The typology thus proves analytically useful in unpacking how various forms of digital domination are experienced in context. It also reveals points of friction, negotiation, and emergent resistance.

By making these interrelations explicit, the mapping reinforces the theoretical claim that technological neocolonialism is a multidimensional phenomenon. Structural domination often coexists with epistemic and ontological exclusion. It also illustrates that the same empirical

reality, such as reliance on AWS or Google Cloud, can simultaneously express platform dependency, data colonialism, and cognitive disempowerment.

This study contributes to postcolonial innovation theory (Escobar, 2020, p. 22) by showing that adaptation is not just a personal task, but a collective and political act. Entrepreneurs are not just passive users of technology; they are "boundary workers" constantly navigating the space between global tools and local contexts, between innovation and limitation. Their efforts to localize technology, share knowledge informally, and redefine success on their own terms reflect ontological resistance that challenges dominant paradigms of digital innovation.

Additionally, this study advances the discussion on epistemic justice by showing how language, design, and teaching methods can both create barriers and provide opportunities for innovation. The findings support Santos' (2014) idea of a pluriversal epistemology, where different ways of knowing can exist together and help shape the future. Rather than seeking to replace dominant systems, these entrepreneurs attempt to pluralize them by inserting local voices, logics, and priorities into the digital sphere.

In sum, this chapter has explored how early-stage tech entrepreneurs in Bangladesh experience and respond to global technological inequalities. Through their stories, we see the clear impact of digital dependency, platform neocolonialism, and cultural exclusion. Besides, these findings suggest that while digital platforms enable entrepreneurial activity, they also reproduce systemic inequalities rooted in the global innovation economy. The themes of asymmetrical interoperability, cognitive exclusion, and community-based resilience highlight both the constraints and creative responses within these uneven systems.

The struggle for visibility, control, and cultural fit illustrates a broader paradox: participation in global digital ecosystems does not guarantee inclusion on equitable terms. These insights provide solid evidence for the existing literature on techno-colonialism and reveal the contradictions faced by entrepreneurs who try to navigate unequal systems with little local support. The next chapter will conclude the study, discussing the key implications, contributions, and suggestions for future research. In doing so, this thesis offers both a diagnostic lens for understanding digital inequalities and a generative starting point for imagining decolonial pathways to technological agency.

6 Conclusion

6.1 Summary of Key Findings

This study set out to understand how early-stage tech entrepreneurs in Bangladesh experience and navigate structural inequalities within the global digital economy. Drawing from rich, first-hand accounts, the research uncovered a layered picture of both struggle and strength. Entrepreneurs are not only engaging with global technologies; they are doing so under conditions shaped by unequal power dynamics, cultural exclusion, and infrastructural limitations. Yet, they are also crafting creative responses that reflect deep contextual awareness and collective resilience.

One of the most pressing challenges participants faced was their reliance on foreign-owned digital platforms such as AWS, Google, and Meta for core business operations. These platforms are often essential for tasks such as cloud storage, payment integration, and user outreach. However, they also impose rigid pricing models, high costs, and terms of service that leave little room for negotiation. Entrepreneurs spoke of being locked into systems they could not fully control, highlighting what scholars refer to as platform colonialism. In this model, global tech giants shape the local digital environment without adapting to the needs or constraints of users in developing countries.

These power imbalances were also reflected in the broader data colonialism dynamic. Several entrepreneurs pointed out that while their businesses generate vast amounts of user data, they lack ownership, access, or insight into how that data is used. The platforms that host their operations often extract and monetize this data without sharing any meaningful value in return. This asymmetry leaves local firms in a position of perpetual dependence.

Beyond platforms and data, infrastructure colonialism was another recurring theme. Entrepreneurs shared how poor internet connectivity, unreliable electricity, and expensive hosting services directly limited their ability to innovate. Even the most talented founders were held back by infrastructural gaps that global platforms do not account for. This reinforces the idea that innovation cannot flourish without addressing the material conditions in which it is expected to thrive.

The study also revealed patterns of regulatory colonialism. Entrepreneurs often found themselves trying to comply with foreign rules, such as GDPR or donor-driven procurement

policies, that were designed for completely different contexts. These frameworks were rarely adapted to the Bangladeshi startup ecosystem, making compliance both costly and confusing. Instead of providing guidance, regulation became yet another barrier to overcome.

Epistemic and cultural exclusion were just as significant. Many digital tools and platforms failed to support Bangla or reflect local user behaviors, effectively sidelining entire communities. Entrepreneurs described how Western-centric design and language choices made it harder to train local teams, onboard customers, or scale solutions in rural areas. These experiences echo concerns about linguistic and cultural imperialism, where dominant systems suppress local ways of thinking and interacting. These challenges span not only structural but also epistemic and symbolic domains, illustrating the multi-dimensional nature of technological neocolonialism discussed in Chapter 2.

Despite these structural hurdles, the study uncovered equally powerful stories of adaptation and resistance. Entrepreneurs were not merely accepting their conditions; they were reworking them. Some developed custom tools in Bangla, while others created internal platforms to process data more efficiently. Open-source technologies played a key role here, offering flexibility and autonomy that closed systems could not. Through informal mentorship, diaspora connections, and peer networks, many founders found alternative ways to learn, grow, and support one another.

Perhaps most significantly, the study introduces the concept of asymmetric interoperability, a term used to describe how entrepreneurs must constantly adapt to global standards, even though those same platforms rarely make reciprocal changes to support local needs. This idea helps us understand how dependency works not just through access or infrastructure, but through the unbalanced flow of adaptation itself. It highlights how the burden of integration is unequally distributed, and that this too is a form of structural inequality.

Overall, this study presents a grounded understanding of how structural digital inequalities are experienced, negotiated, and challenged in a developing context like Bangladesh. The entrepreneurs featured in this research are not merely passive recipients of technological systems designed elsewhere; they are active agents of change, working to reshape digital participation in ways that reflect their own cultures, languages, and aspirations.

6.2 Theoretical Contributions

This study makes a meaningful contribution to the growing body of literature on technological neocolonialism by grounding abstract theoretical concepts in the lived experiences of early-stage entrepreneurs in Bangladesh. The findings support the relevance of data colonialism (Couldry & Mejias, 2019), where user-generated data is extracted through digital infrastructures that offer little transparency or accountability to those producing it. This unequal dynamic reinforces existing global hierarchies and highlights the limited agency of entrepreneurs in developing contexts.

Platform colonialism (Zuboff, 2019; van Dijck et al., 2018) also emerged prominently, as entrepreneurs described a structural dependence on foreign-owned platforms that set the rules without local input. Infrastructure colonialism (Graham & Dutton, 2014) was evident in persistent challenges related to broadband access, power outages, and unaffordable cloud services, all of which hindered innovation at the local level. Regulatory colonialism further constrained entrepreneurial autonomy, particularly where compliance with donor-driven or foreign legal frameworks created confusion and increased operational costs.

The study also advances the discussion by introducing the concept of asymmetric interoperability, which captures how entrepreneurs are expected to adapt to global digital systems while those systems remain largely inflexible to local needs. This concept adds nuance to theories of digital dependency by showing how the burden of adaptation flows in one direction, deepening structural inequality.

In addition, the thesis engages with epistemic and cultural exclusion through real-world examples of language barriers and design mismatches, reaffirming the presence of linguistic and cognitive imperialism. Importantly, these experiences do not merely illustrate existing theory but complicate and extend it. Entrepreneurs' adaptive strategies, from community-based innovation to informal knowledge networks, point toward more grounded understandings of postcolonial resilience and agency in the context of global technological systems. In doing so, the study not only confirms but also extends the typology by suggesting possible sub-dimensions within epistemic exclusion. These include internalized adaptation, informal cognitive resistance, and community-based knowledge negotiation. This offers a more granular understanding of how local agency is expressed.

6.3 Practical and Policy Implications

The findings of this study point to several meaningful implications for policymakers, development practitioners, and technology ecosystem stakeholders working in Bangladesh and other low- and middle-income contexts. Entrepreneurs in this study consistently emphasized how structural dependencies on platforms, infrastructure, knowledge systems, and regulatory models shape not only their opportunities but also their limitations. Addressing these challenges requires more than piecemeal support or generic digital inclusion strategies. It demands a deeper rethinking of how digital ecosystems are designed, governed, and supported from the ground up.

One of the clearest implications is the urgent need to localize technology design and support services. Many of the platforms used by Bangladeshi entrepreneurs are designed without consideration for language accessibility, interface intuitiveness, or infrastructural constraints. Policymakers and development actors should therefore prioritize the creation and promotion of platforms that function in Bangla and accommodate diverse literacy levels, device capabilities, and connectivity conditions. This is not simply a matter of translation. It is a matter of inclusion that ensures tools are shaped by local experiences rather than imposed from external contexts.

Additionally, regulatory frameworks must be re-examined. Entrepreneurs frequently reported confusion, cost burdens, and operational delays due to donor-imposed or foreign regulatory standards. Instead of enforcing imported models like the GDPR without adaptation, local policymakers and international partners should collaborate to co-create rules that reflect the realities of Bangladeshi digital entrepreneurship. Doing so would not only reduce friction in startup growth but also affirm national digital sovereignty and autonomy.

The study also revealed that informal support systems such as peer mentorship, diaspora connections, and founder communities play an essential role in helping entrepreneurs adapt and grow. Yet these networks often operate in the absence of institutional support. One practical implication is the need to formally recognize and invest in such community-led infrastructures. Rather than focusing solely on incubators or accelerators modeled after foreign ecosystems, support should be extended to local innovation hubs, coding circles, and regional knowledge exchanges that reflect the organic ways entrepreneurs already collaborate. Formally investing in these grassroots infrastructures would help institutionalize informal learning and knowledge-

sharing networks, which are often more adaptive and context-sensitive than top-down training programs.

Capacity-building programs must also evolve. Many of the training models currently available assume a level of digital access and prior knowledge that does not always exist. A more inclusive approach would tailor training to different entry points, including rural and urban contexts, experienced and novice entrepreneurs, and both formal and informal actors. These programs should also be delivered in locally relevant languages and integrate knowledge about legal rights, data ownership, and platform governance so that entrepreneurs can make informed and strategic decisions.

Finally, international development agencies must consider how their funding models and procurement criteria affect entrepreneurial autonomy. When donor frameworks require adherence to rigid standards or favor partnerships with large, foreign-led platforms, they may inadvertently reinforce the very dependencies that entrepreneurs are trying to overcome. There is a growing need for funding mechanisms that enable experimentation, flexibility, and local leadership to thrive.

In sum, the practical and policy implications of this study extend well beyond the experiences of individual entrepreneurs. They call for a shift in how digital innovation is supported, moving away from top-down interventions and toward participatory, context-driven strategies that recognize the agency, creativity, and insight of those working on the ground.

6.4 Limitations of the Study

While this study offers important insights, it also has some limitations. First, the research is based on a small group of early-stage tech entrepreneurs. Although the sample was diverse, it may not fully represent the experiences of rural entrepreneurs or mid-sized tech businesses. Second, the data analysis used a thematic approach, which involves interpretation. Even though the researcher worked carefully and ethically, there is always a chance of personal bias in how the findings were understood and presented.

Third, the study mainly focused on the voices of tech entrepreneurs. It did not include direct input from other key actors like government officials, policymakers, platform providers, donors, or users. This exclusion was intentional, as the study aimed to maintain analytical depth

and focus on the lived realities of early-stage entrepreneurs, which aligned with the research questions and methodological framework. This decision also reflects the study's interpretivist approach, which prioritizes depth and meaning-making from the participants' perspective rather than broad institutional coverage. Including these perspectives in future research would help create a more complete picture of the digital ecosystem in Bangladesh.

Additionally, this study did not explore in depth how gender, disability, or rural location may affect digital inclusion or exclusion. In a country like Bangladesh, where access to digital tools and opportunities can differ greatly based on these factors, future research should address these important areas.

6.5 Recommendations for Further Research

Future research could examine asymmetric interoperability in other Global South contexts to test the applicability and depth of the concept. Comparative studies across countries or sectors may help uncover common patterns of digital dependency and localized adaptation. There is also an opportunity to study the role of diaspora networks, which appeared as informal but valuable support mechanisms in this study. Longitudinal research could track how strategies evolve over time, especially as policy interventions or ecosystem maturity influence entrepreneurial behavior. Finally, exploring under-theorized dimensions such as cognitive and narrative exclusion may deepen our understanding of postcolonial innovation and resistance.

6.6 Concluding Remarks and Final Reflection

This research set out to examine how early-stage tech entrepreneurs in Bangladesh experience, negotiate, and resist different forms of technological neocolonialism. While global platforms offer opportunities, they also come with hidden costs, including regulatory control, cultural exclusion, and data extraction. Yet, these entrepreneurs are not simply constrained by the system; they actively reshape it. Their work reflects deep resilience, collective intelligence, and a commitment to building technologies that reflect local identities and needs.

Through this journey, I have come to see that digital inequality is not just about access or affordability, it's about dignity, recognition, and the power to shape one's digital future. The stories shared by participants are not just accounts of struggle; they are also narratives of hope,

creativity, and resistance. They affirm Santos' (2014) call for epistemic justice through pluriversality, reminding us that innovation rooted in local realities is not only possible but necessary for equitable technological futures. This thesis has reaffirmed my belief that true innovation in the developing countries like Bangladesh must emerge from within, from the lived experiences, aspirations, and ingenuity of local communities.

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A. Appendix

Participant Information Sheet

Study Title: *"Assessing Technological Neocolonialism: Experiences of Early-Stage Tech Entrepreneurs in Bangladesh"*

Researcher:

Farhana Kabir

Master's Student, Aalto University

Supervisor:

Dr. Johanna Ahola-Launonen

Purpose of the Study:

This study aims to understand how early-stage tech entrepreneurs in Bangladesh experience and navigate challenges within the global digital environment, particularly focusing on the concept of technological neocolonialism. Your insights will contribute to a better understanding of the structural barriers, coping strategies, and local innovation practices relevant to digital entrepreneurship.

Why You Have Been Invited:

You have been selected because of your experience as a tech entrepreneur working within the Bangladeshi startup ecosystem. Your insights will help ground the study in real-world experiences.

What Participation Involves:

- A 45- 60 minute semi-structured interview via Google Meet.
- The interview will be recorded to ensure accuracy during analysis.
- You will be asked questions about your entrepreneurial journey, your use of technology, and your interaction with global digital systems.
- You may skip any questions you do not wish to answer.

Voluntary Participation and Right to Withdraw:

Participation is completely voluntary. You may withdraw at any time without providing a reason and without any negative consequences. If you choose to withdraw, any data you've provided will be deleted upon request.

Confidentiality and Data Protection:

- Your responses will be anonymized.
- A pseudonym will be used in the final report and any publications.
- Recordings will be securely stored and deleted after transcription.

- All data will be used strictly for academic purposes.

Potential Benefits and Risks:

- There are no direct risks or monetary benefits.
- However, your participation will contribute to knowledge that may help shape future policy and support for startups.

Further Information and Contact Details:

If you have any questions or concerns, feel free to contact:

Farhana Kabir – farhana.kabir@aalto.fi

Supervisor: Johanna Ahola-Launonen – johanna.ahola-launonen@aalto.fi

Consent Form

Title of Study:

"Assessing Technological Neocolonialism: Experiences of Early-Stage Tech Entrepreneurs in Bangladesh"

Researcher: Farhana Kabir

University: Aalto University

Supervisor: Johanna Ahola-Launonen

Please read the following statements carefully and tick the boxes if you agree:

☐ I confirm that I have read and understood the Participant Information Sheet.

☐ I have had the opportunity to ask questions and have received satisfactory answers.

☐ I understand that my participation is voluntary and that I can withdraw at any time.

☐ I agree to the recording of the interview.

☐ I understand that my responses will be anonymized and kept confidential.

☐ I give permission for my anonymized quotes to be used in the thesis and related academic outputs.

☐ I agree to take part in this study.

Participant's Name: _____

Signature: _____

Date: _____

Interview Guide

This semi-structured interview guide is designed to facilitate open, flexible, and conversational discussions with participants. Not all questions must be asked in every interview. Interviewers are encouraged to follow the natural flow of conversation and adapt as needed.

Brief Overview of the Research Purpose for Participants

I am currently conducting research for my Master's thesis, where I'm studying how new tech entrepreneurs in Bangladesh experience and manage the challenges that come from relying on foreign digital tools, platforms, and systems. The focus of the study is on people like you, those who are starting and growing tech-driven businesses in an increasingly connected digital world.

While digital technology offers amazing opportunities, we also know that many of the tools and platforms businesses use today like cloud services, advertising platforms, or payment systems are built and controlled by large companies based outside of Bangladesh. This research is interested in how that reality affects your work: from building your product to reaching customers, protecting your data, or making decisions about your business.

The goal is to understand your experience, not just the problems you face, but also the creative ways you deal with them. Your insights will help paint a more complete picture of the digital business environment in Bangladesh and contribute to larger discussions about how to build fairer, more supportive ecosystems for entrepreneurs.

There are no right or wrong answers. Your responses will be kept confidential and used only for academic purposes. Please feel free to speak honestly and openly.

Entrepreneur and Business Background

1. Can you tell me the story of how your startup began and where it is now in terms of growth?
2. What is the size of your team, and what kind of roles do people including you play?
3. What is your educational and professional background, and how has it shaped your business journey?
4. Have you received any support from incubators, accelerators, or government programs? If so, what kind of support?
5. Which parts of your startup experience have been more difficult or easier than expected?

Use of Technology and Infrastructure

6. What types of digital tools or platforms do you regularly use in your business (e.g., communication, payments, marketing)?
7. Are these tools mostly local or international? What influenced your choices?
8. Have you ever adapted or customized any of these tools for local use?
9. Have you encountered technical or operational limitations with these tools?
10. Does your physical location affect your access to infrastructure like internet, electricity, or tech support? Could you give an example?

Global Systems and External Influences

11. Have you interacted with global platforms, foreign investors, or international regulations? If so, how did this impact your business?
12. Have you experienced any difficulties connecting your product or service with global systems (e.g., APIs, international payments)?
13. Do you think these challenges relate only to technology, or are they also linked to broader economic, political, or legal systems?

Data Governance and Privacy

14. Where do you store your user or business data? Do you feel that it is secure and within your control?
15. Have you had any concerns about how your data or your customers' data is handled?
16. Do you feel that current data protection policies are effective for your business needs?

Language, Accessibility, and Inclusion

17. Have you or your users faced any challenges related to language or cultural fit when using tech platforms?
18. Are digital tools and help resources available in Bangla or your preferred language?
19. Do you think digital platforms are equally accessible to people from diverse education or language backgrounds?

Local Innovation and Adaptation

20. Have you used or explored open-source, affordable, or locally developed digital solutions? If so, which ones?

21. How do you customize your product or service to meet the needs of local customers (for example, pricing, features, usability)?
22. What support or changes would help you rely less on international platforms or imported tools?

Ecosystem Support and Networks

23. What types of support such as mentorship, funding, or training, have made the most difference to your business?
24. Have you received help from any community or government-led initiatives?
25. What essential services or infrastructure (like power, internet, digital access) does your business depend on daily?

Reflections and Looking Ahead

26. What support or policy changes would help your business operate more independently in the future?
27. What kind of infrastructure or regulatory reform would be most impactful for your startup's future?
28. Where do you hope to see your business in the next 3 to 5 years?
29. Is there anything else you'd like to share about your journey or the opportunities and challenges for tech entrepreneurs in Bangladesh?

Participant Summary Table

Participant ID	Industry	Role	Years of Experience	Experience in this role (Year)	Interview Language
Interviewee 1	Software and Business Application (ERP)	Co-Founder	18	4	Bangla & English (Mixed)
Interviewee 2	Data and FinTech	Managing Director	20	3	English
Interviewee 3	Freelance Software Development	CEO	11	5	Bangla
Interviewee 4	Software and Business Application (ERP)	Founder	16	5	Bangla & English (Mixed)
Interviewee 5	EdTech and IT Hardware	COO	12	3	Bangla
Interviewee 6	E-commerce Platform	Co-founder	28	4	Bangla & English (Mixed)
Interviewee 7	IT Infrasturcture and cloud	CEO	16	4	Bangla
Interviewee 8	Software Development	CEO	20	6	Bangla