

## A CASE STUDY OF THE NSU STARTUPS NEXT (NSUSN): FOSTERING ENTREPRENEURSHIP AND INNOVATION IN BANGLADESH

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### ABSTRACT

University business incubators (UBIs) give universities a dedicated entrepreneurship hub where young entrepreneurs with innovative business ideas receive mentorship, resources, and networking opportunities to lay the foundations for successful ventures and utilize the university's research outputs. Three years into the journey, North South University NSU Startups Next (NSUSN) has considerably impacted the Bangladeshi start-up ecosystem with its entrepreneurial education quality and business model, creating quality spin-off ventures and contributing to social and economic development. This article provides a case study for North South University's NSU Startups Next (NSUSN) which works with limited resources to support young start-up founders and provide value to the university entrepreneurs, the institution, society, and the economy. The study also outlined the model of NSU Start-up Next and provided insights on the outcomes obtained through its cohort-based system. The paper applies David J Miller's 'The Campus and the Ecosystem' framework to explain how a university's entrepreneurial ecosystem interacts with external stakeholders.

**Keywords:** Bangladeshi start-up ecosystem, Entrepreneurship, Regional development, Start-up incubator, University business incubator.

### 1. INTRODUCTION

Bangladesh-based startups have raised about USD 950 million from big-name investors like Softbank, Ant Financials, Tiger Global, and Sequoia (LightCastle Partners, 2023). The neighboring country, India, on the other hand, has raised more than USD 20 billion just in 2021 (Islam, 2022). SoftBank has gained recognition as the most bullish investors in Indian startups having backed large ventures which include Paytm and Policybazaar, as well as others such as Delhivery, Unacademy, Grofers, Oyo (Balakrishnan, 2022). Bangladesh has strong opportunities to develop the economy and take advantage of an annual global venture investment market of USD 650 billion (Islam, 2022). Furthermore, startups create employment opportunities alongside new kinds of work. In Bangladesh, both ride-sharing startups and food delivery startups have all together created employment for 1.5 million people directly and indirectly with potential to create a lot more jobs (Islam, 2022). Startups also bring innovation by challenging the traditional sector and creating value for consumers and the economy on a whole. For example, ride-sharing services like Pathao are breaking the taxi syndicate thereby making rides accessible and cheaper for everyone (The World Bank, 2019). Business-to-Business (B2B) commerce companies like ShopUp provide on-demand inventory delivery and credit to retail SMEs. Lastly, startups help support inclusive growth as they tap into markets that are not receiving the best value and eventually come up with products and services that create value for everyone. Agriculture technology companies, such as iFarmer, have benefitted smallholders by making their access to capital easier and telehealth services (e.g., Praava

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Health) have made access to medical consultation readily and remotely available for everyone (Islam, 2022).

In recent times, with the increasing importance of education to reach mass people, universities are tasked with nurturing entrepreneurship and innovation, generating revenues from research produced on campus, and contributing to economic growth on a whole (Etzkowitz, 1998, 2002; Etzkowitz et al., 2000; Goldstein and Renault, 2004). University Business Incubators (UBIs) can be considered research hubs for entrepreneurship stakeholders (Rice & Zahra, 2013). Universities and startups are naturally partners in most of the developed countries. Startups more or less require external sources of knowledge to assist their human resources and R&D. Often coming up with new products and services and modifying the existing products and services according to changes in consumer needs require sources of skills, knowledge, and creativity beyond the boundaries of the existing business. These require entrepreneurs to be involved in cooperation with customers, suppliers and research institutes. The involvement by the student entrepreneurs enhances the overall startup network eventually leading to many other opportunities associated with relevant industries (Chesbrough, 2006). Successful student entrepreneurs are frequently the key to social and economic growth in developing countries. Successful student entrepreneurs identify and, at times, influence the trends and patterns required for proper development of businesses in a region. So, proper and responsible entrepreneurship roles of the student entrepreneurs contribute to social and economic development. And UBIs can be considered as preferred partners in research related to developing a business, particularly where business results are uncertain. (Stal et al., 2016). Also, the Government has encouraged startups and innovation through policies that encourage investments and forming Startup Bangladesh Limited, a flagship venture capital fund under the Information, Communication, and Technology division of the Government of the People's Republic of Bangladesh (Islam, 2022). Startup Bangladesh Limited, which is a flagship venture capital fund of the ICT Division made its Vintage II investments amounting to Taka 17 crore to the country's 8 startups that are under an initiative 'Shotobarshe Shoto Asha', launched earlier marking 50 years of independence of Bangladesh (Islam, 2022). With the second series of investments, amounting to a total of Taka 34 crore were given to 15 more startups to scale up their products and services along with improvements in their qualities (Islam, 2022). Startup Bangladesh Ltd. announced to commit Taka 100 crore to 50 more startups for the year 2024 to create entrepreneurs and employment in the country.

This case study aims to provide insights on the role that business incubators can and should play in fostering innovation and entrepreneurship by examining how they have changed and evolved in response to changes in the larger entrepreneurial ecosystem. This is achieved by focusing on the development of startup companies in Bangladesh through NSU Startups Next (NSUSN). The primary questions posed and answered to in this paper are:

1. How do business incubators adapt to changes in the entrepreneurial landscape of a country?
2. What specific operational strategies do these incubators employ in response to dynamic shifts in the broader entrepreneurial environment in a country?
3. How do these adapted business incubators contribute to fostering entrepreneurship and innovation within the entrepreneurial landscape of a country?

## **2. LITERATURE REVIEW**

This literature review section kicks off by introducing the context of the study. It chronicles the evolution of various incubation approaches as well as their importance in the entrepreneurial scene. Following this review of the historical frameworks, the section offers an in-depth look at the Bangladeshi startup environment. This overview includes information on the ecosystem's growth trajectory, prominent participants, and the dynamic forces that have driven its evolution. Several examples of UBIs in operation in Bangladesh are featured in the same section. This is followed by a succinct summary of previous research grounds and the extant work, pointing to a knowledge gap that this study is trying to address. Then the appropriateness of the chosen theoretical framework for addressing the gap and answering these research questions is discussed.

### ***2.1 Research Context***

#### ***2.1.1 The History of Start-up Incubators***

The history of business incubators can be traced back to World War II which at that point of time served as a probable solution to keep the industrial districts from failing. War directly consumed over one-third of the total output from the industries worldwide, but the gradually expanded productivity ensured a satisfying supply of consumer goods to the people. The United States was the only country that considered an expansion of consumer goods despite wartime rationing (Bikse et al., 2016).

In the 1990s, academic entrepreneurship expanded, which led to an eventual increase of incubator programs on university campuses (Stal et al., 2016). UBIs currently exist all over the globe. University incubators are characterized by dynamic interactions between different individuals throughout the start-up incubation and graduation process. Business models are developed as entrepreneurs enhance their knowledge of available opportunities and resources (Rasmussen, 2011). The entrepreneurial teams of university-based startups evolve and change over time and their resource allocations have to be modified as the startups grow.

In the last thirty years, as the developed countries inclined more towards a knowledge-based economy, partnerships of universities with industries developed and led to the formation of more business incubators (Green & Venkatachalam, 2005).

According to the Global Entrepreneurship Index (GEI), there has been a 3% worldwide growth in entrepreneurship (2018). Entrepreneurial activities are essential contributions to economic growth and businesses are a crucial component of a country's economic engine. Without proper enterprise development and entrepreneurs who can take the lead, new job creation innovation is not possible (Acs, et al., 2018).

The Stockholm-based data and advisory firm, UBI Global, has assessed over 1,300 academic-based incubators in 53 countries including the United States, Brazil, Mexico, Canada, and Columbia (Castillo & Meyer, 2018).

#### ***2.1.2 History of University Business Incubators (UBIs)***

The model of business incubators started to get attention in the early 1980s; and as the US universities were the first ones to realize its significance. During that time, more than 50 US

universities stepped into the race and established their own university incubators (Mian, 1996; pp. 191-208). In Europe, on the other hand, between 1995 and 2003, 131 out of 499 high-tech small medium enterprises that went public on the stock exchanges, were from university incubators (Bonardo et al., 2011; pp. 755–776).

Initially, UBIs were developed to commercialize academic research by creating a relationship between enterprises and university campuses. The goal of this relationship was to offer support infrastructure so that it can compensate for predictable inefficiencies in the market mechanism. At present, however, UBIs aim to develop products and technologies by focusing on research and development findings. University incubators nowadays thrive for end-to-end development rather than venerating only on profit (Bøllingtoft, 2002; Uihøi; 2005; pp.265-290).

University incubators come across a histrionic shift in the commercialization of scientific discoveries after the Bayh–Dole Act, enacted in 1980, favoring entrepreneurs against commercial exploitation, came into force in the year 1980. This revolution enabled U.S. universities to engage in technology transfer and licensing fearlessly, resulting in an eightfold increment of university technology licensing and fourfold increment of university technology patenting (Mowery & Shane, 2002; as cited in Markman et al., 2005). University incubators licensing income climbed by almost 315% between 1991 and 1997, from \$220 million to \$698 million (AUTM 2000, 2002; as cited in Markman et al., 2005).

At present, many countries around the world have policies in place to encourage the establishment of university incubators (Grimaldi et al., 2011; as cited in Meifang et al., 2020). As a result, the number of spin-offs has skyrocketed worldwide (Clarysse et al., 2005; as cited in Meifang et al., 2020). Researchers predict that by creating closer ties between research and industry, university incubators will not only surge information dissemination but also contribute to economic prosperity (Bonardo et al., 2011; pp. 755–776).

### *2.1.3 Overview of the Bangladeshi Start-up Ecosystem*

In this paper, we infer the Triple Helix Model of Innovation as the startup ecosystem, entailing the interactions among academia, industry, and government to nurture social and economic development (Etzkowitz & Ledesdorff, 1995).

The startup scene has been heaving, as more and more businesses are coming out to satisfy unmet demands of the growing population across Bangladesh. There are around 1,200 active startups now with over 200 new ones forming every year. One of the key factors behind the growth in startup ecosystem in Bangladesh is due to the country's young tech adaptable population with 48 percent using smartphones and 68.4 percent having internet access across the country (Islam, 2022). The need for digitalization was further propelled by the COVID-19 pandemic as digitization became a must during and after the pandemic. Since post-pandemic consumption patterns are expected to boom globally, Bangladesh, with a digitally savvy population, is at a point lucrative for startups to take opportunity of (Islam, 2022). The momentum to encourage innovation through more startups was further amplified by enthusiasts from private sectors who manifested the startup initiation in the form of multiple accelerator and incubator programs (LightCastle, 2022). Currently, Bangladesh has more than 1,200 active startups that have drastically impacted day-to-day Bangladeshi lives through products and services that are new and innovative (LightCastle, 2022). Bangladesh attracted investment amounting to a total of USD 505 million in 2021 and 2022 (up to Quarter 2), with a total contribution of USD 498 million from global investors (LightCastle, 2022).

#### *2.1.4 UBIs in Bangladesh*

To cater the growing needs of the entrepreneur-driven ventures, a few prominent universities in Bangladesh have taken the initiative to set up university incubators. The following is a rundown of few university incubators in Bangladesh:

- **Daffodil Business Incubator (DBI):** Daffodil Business Incubator (DBI) was created in 2012 to meet expanding demand for co-working office space. Eventually, DBI accelerated and systematized the process of establishing successful businesses by offering a comprehensive and integrated variety of services, including incubator space, business support services, and every opportunity for clustering and networking (Daffodil Business Incubator, n.d.).
- **Business Incubation Center of BRAC University:** BRAC University's Center for Entrepreneurship Development (CED) runs the Business Incubation Center of the university. It was founded in 2016; and since then it has been running its operation with a goal of providing professional business incubation services (Business Incubation Center of BRAC University, n.d.).
- **Sheikh Kamal IT Business Incubator at Chittagong University of Engineering and Technology (CUET):** The incubator started its journey in 2022 with a goal of fostering entrepreneurship and contributing to the knowledge-based economy. The incubator is expected to aid in transforming creative ideas into goods and services to develop a "Smart Bangladesh" by 2041 (Mamun & Barua, 2022).
- **North South University Startups Next (NSUSN):** Founded in 2020, this university incubator is a platform for shaping and supporting early-stage entrepreneurs who demonstrate innovative technology and techniques for solving a social problem (NSU Startups Next, 2020).

#### *2.2 Analogous Studies and Unaddressed Research Areas*

In recent years, there has been a noticeable rise of university incubators that are likely to play a crucial role in research and innovation management in Bangladesh. Positioned between universities and industry, these incubators now serve as intermediaries, and have become essential mediators in the innovation process. This has given rise to studies that look into the dynamic relationships through a variety of case studies. For example, Rothschild and Darr (2005) have looked at the structure and nature of relationships among incubators, universities, and the industry in Israel. Nicholls-Nixon et al., (2021) have discussed the lifecycle of university business incubators by focusing on a business incubator of Canadian university. Some studies have examined the economic indicators of such incubators by doing a meta-analysis of university incubators (e.g., Al-Mubarak & Busler, 2012). Moreover, the success factors of business incubators have been identified by Wiggins and Gibson (2003) by focusing on the incubator at an American university; and Famiola and Hartati (2018) by focusing on the incubator at an Indonesian university. These studies provide a comprehensive idea of entrepreneurial ecosystems and its underlying intricacies in their respective country or region.

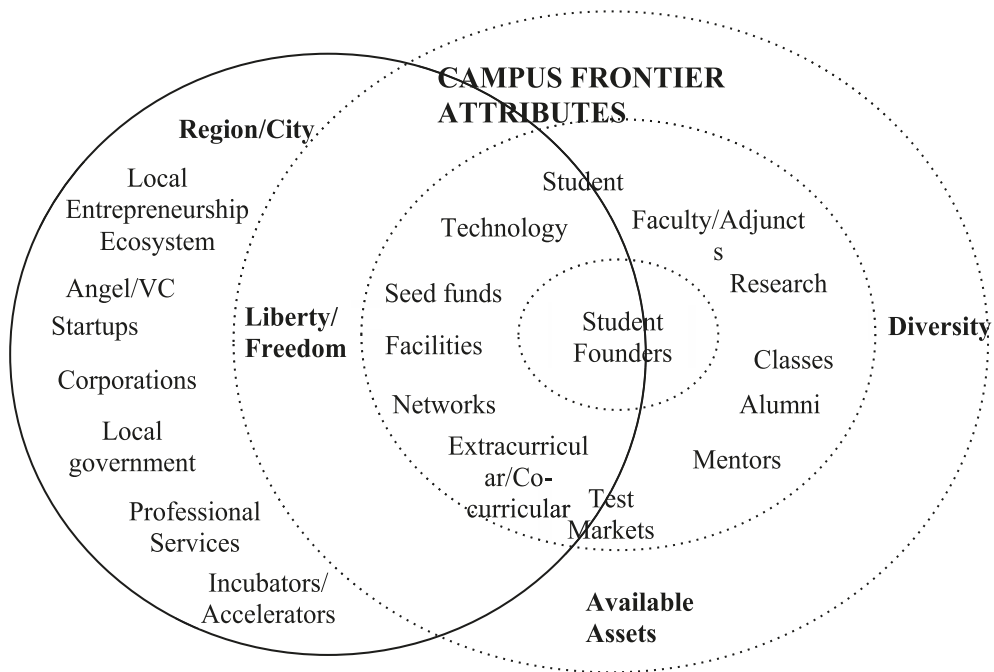
However, none of the previous studies has examined how the structure and operation of business incubators transforms in regard to the changes in wider entrepreneurial ecosystems. It has been the focus of prior research, in particular, to find out how business incubators perform, and how they impact certain contexts, such as economies and societies where they operate. While these studies have provided important insights into the efficacy and functions of incubators, very little research has been done on how these incubators adapt and evolve over time in response to dynamic changes

in the broader entrepreneurial environment. In this study, this gap is addressed by investigating how business incubators adapt to changes in entrepreneurial ecosystems, what these incubators do differently in their operations, which ultimately foster entrepreneurship and innovation. As such, this research contributes to closing the knowledge gaps related to the structure and operation of such incubators, and their interactions with the startup ecosystem.

### 3. DAVID J. MILLER’S ‘CAMPUS AS ENTREPRENEURIAL ECOSYSTEM’ MODEL

The focus of recent research on entrepreneurial ecosystems has shifted from developed economy to emerging economy, as a number of scholars have begun to investigate entrepreneurial ecosystems in emerging economies like China, India, and Brazil (Armanios et al., 2017; Goswami et al. 2018; Jnior et al. 2016). The key difference between emerging countries and advanced economies as a whole is that there is a dearth of research on entrepreneurial ecosystems framework in the emerging economies (Cao and Shi, 2021). One framework that holistically addresses the dynamics of entrepreneurial ecosystems in emerging economies is proposed by Miller (2016). In this study, Miller employed a model for addressing the literature gap and answering the research questions posed in this study. This model is utilized to explain how a university’s entrepreneurial ecosystem interacts with external stakeholders. The two circles in Figure 1 below represent the university entrepreneurship ecosystem and the external environment of the university.

**Figure 1: The Campus and the Ecosystem (Adapted from Miller, 2016)**



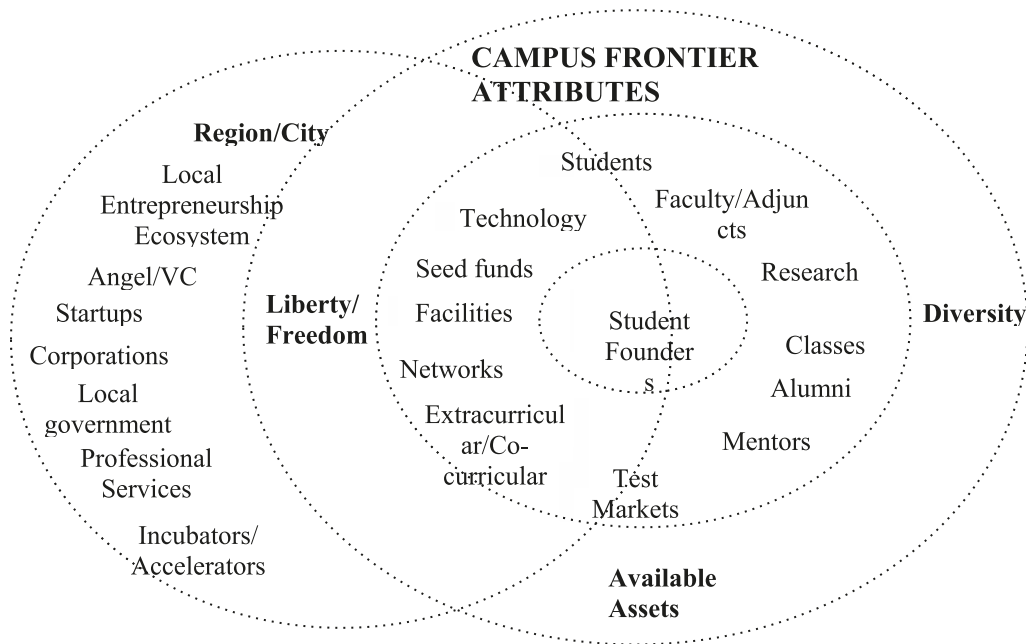
The dotted circle of the university entrepreneurship ecosystem demonstrates an openness to collaboration with external stakeholders. The inner circle of the university entrepreneurship

ecosystem consists of student founders and university facilities; and the outer circle consists of available assets, liberty and diverse populations.

The solid circle of the external stakeholders showcases a lack of openness and permeability to collaboration. This circle has stakeholders such as investors, accelerators, government, professional service firms, and a few others. Miller explains that external stakeholders work within particular policies and budgeting boundaries, restricting their freedom to engage with universities.

As the Bangladeshi start-up ecosystem grows, more angel investors, venture capitalists, corporations, the government, incubators and accelerators, and professional service provider firms are keeping high-growth start-ups at the center of their policies and budget commitments. Bangladesh Angels (Bangladesh’s largest angel investor network), Anchorless Bangladesh (a leading Bangladeshi venture capitalist firm), and many other investors’ network actively participate with NSUSN’s core operations. Grameenphone Accelerator, a leading startup accelerator of Grameenphone, Bangladesh’s top telecom operator, actively works with NSUSN and its portfolio start-ups. The Bangladeshi government has taken multiple initiatives to support Bangladeshi startups. Startup Bangladesh Ltd. is the government’s venture capital initiative that invests in early-stage and growth stage startups. Innovation, Design, and Entrepreneurship Academy (iDEA) project is the government’s initiative to support idea-stage and early-stage start-ups rigorous mentorship and grants. Both the organizations readily engage with NSUSN’s start-ups and have provided investments, grants, and mentorship. Multiple local and multinational corporations actively engage with NSUSN’s program as mentors, clients, corporate investors, and advisors. Professional legal, marketing, website, research, and other vendors support NSUSN start-ups with tailored products and pricing. As a result, the current study suggests that the solid circle of the external stakeholders be a dotted circle, like the dotted circle of the university entrepreneurship ecosystem (Figure 2).

**Figure 2: The Campus and the Ecosystem (Adapted from Miller, 2016)**



#### **4. METHODOLOGY**

Qualitative case study methodology was employed to find answers to the research questions. The adoption of this approach allowed the exploration of complex phenomena in a more meaningful, rich way, and was able to provide a deeper understanding of the situation than it would be with a more quantitative approach. Due to the vast amount of information gathered through the analysis of the two entrepreneurial cohorts, the case study research design was also appropriate given the enormous amount of qualitative and exploratory data gathered. Moreover, there are multiple data sources that are used in conjunction with the case study approach to facilitate the establishment of converging lines of investigation and multiple assessments of the same phenomenon (Yin, 2009).

We can trace the rationale of the case study technique (Yin, 1981) back to our research purpose since it scans a phenomenon within a real-life setting, which is relevant to our research goals. The dimension of richness, meaning, and insight of the collected data was the criterion used when studying samples in the case study method. The essential idea behind the selection of instances was the variance and multiplication of real-world experiences, rather than the representation of the parent population within the sample (Patton, 1990).

There are few independent and overlapping processes that were used to collect and analyze the data. In the first part of the document analysis process, we examined the content of many business incubator platforms' websites around the world as well as in Bangladesh in order to discover and compare the business models and incubation operations of the platforms. This was reinforced by a number of public documents that described the operations, policies, and commercial strategies of the platforms, which were clear and concise. In addition, relevant scholarly and media publications were reviewed in order to provide a comprehensive picture.

Secondly, various participant observations have been collected over the course of the three years of empirical research, spanning from 2020 to 2022. In this study, we drew a sample of startups from these two entrepreneurial cohorts. In the first instance, the first cohort of the project received approximately 200 applications, which laid the groundwork for further investigation in the coming months. Later on, there was an evaluation of the second cohort, which received approximately 160 applications. Moreover, the authors have been given access to the community membership that allowed us to monitor multiple investment campaigns over the period of two years.

The final step of the process was to conduct semi-structured interviews with the director, coordinators and program assistants of NSUSN to gain the most comprehensive understanding of the startup incubation process. We interviewed one of the coordinators of NSUSN, who is responsible for the internal operations of the program, including the start-up incubation and the management of stakeholder relationships with the external stakeholders. For the purpose of identifying network interactions, the program assistants were asked about the type of support startups seek, as well as what form that support takes to uncover network interactions. Following that, we extended the scope of our interviews to key support organizations that those startups had mentioned in their interactions with us. While these entrepreneurs and support organizations are the core of our analysis, we conducted additional interviews with people who were identified by entrepreneurs, such as mentors, as well as multiple field observations of networking events and speaker events within the ecosystem, as well as additional interviews with individuals identified by entrepreneurs. To better understand the logic and dynamics involved in the valuation of startups, the data collected has been analyzed, evaluated, and triangulated with data from other sources.

## **5. DISCUSSION**

The purpose of this section is to provide a comprehensive understanding of NSUSN, its structure and its work processes, thereby providing a clear understanding of what sets NSUSN apart from other university incubators and how such differences in structure and operation make it adaptive to changes in the entrepreneurship ecosystem as a whole. An overview of these changes can be found in the extended theoretical framework that serves as a depiction of them.

### ***5.1 Inception of NSU Startups Next (NSUSN)***

North South University (NSU) is Bangladesh's oldest and most prestigious private university. Established in 1992, the university provides top-quality undergraduate and master's degree programs that follow the North American curricula. The university consistently ranks top among the country's private universities (NSU, n.d.). The state-of-the-art 5.5-acre campus at Bashundhara, Dhaka, can accommodate up to 22,000 students.

Four schools provide all education programs of NSU: the School of Business and Economics (SBE), the School of Engineering and Physical Sciences (SEPS), the School of Humanities and Social Sciences (SHSS), and the School of Health and Life Sciences (SHLS). Each school has numerous research centers and labs that foster a culture of innovation, collaboration, and experimentation. The university has dedicated research centers and labs for global health, genome research, business research, biotechnology, microbiology, infrastructure research, and many others. In 2015, NSU School of Business and Economics (NSUSBE) became the first business school in Bangladesh to receive the Accreditation Council for Business Schools and Programs (ACBSP) accreditation (NSU, n.d.).

In 2018, the Bangladeshi start-up ecosystem was still in its infancy. Pathao (Bangladesh's biggest on-demand digital platform that provides ridesharing, food delivery, courier, medicine, and other services and was founded by an NSU alum) was only in its third year of operations. Other notable Bangladeshi start-ups founded by NSU alums, such as Chaldal (a grocery e-commerce platform), ShareTrip (an online travel aggregator), Truck Lagbe (a freight and logistics start-up), and iFarmer (an agro-fintech company that connects investors with farmers), were in their very early days. Considering that the NSU entrepreneurs were doing exceptionally, the NSU think-tank quickly realized that structured support from a dedicated entrepreneurship center would create more successful entrepreneurs and contribute to the country's social and economic development.

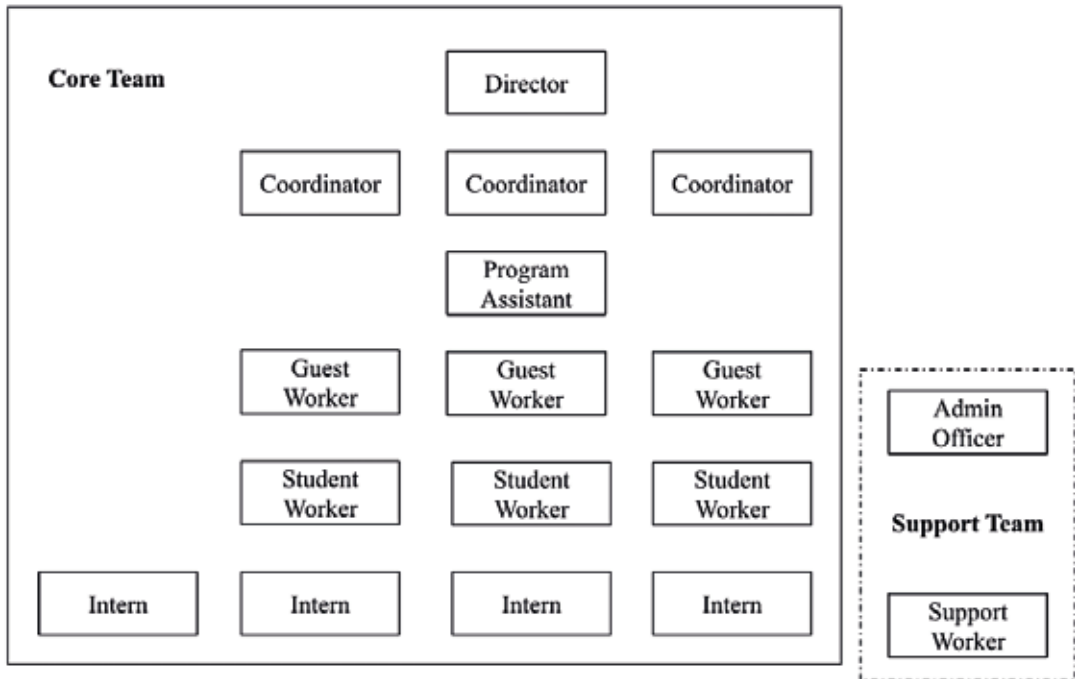
To better understand what internationally recognized university business incubators do and how they create social and economic value through entrepreneurship development, NSU officials visited the MQ Incubator, the university business incubator of Macquarie University in Sydney, Australia. Much of the program structure of NSUSN is inspired by the MQ incubator model.

A thorough brainstorming process among the major stakeholders, including multiple schools and department heads, administrative leaders, and top industry professionals, of NSU commenced. In late 2019, the administration approved the formation of an interdisciplinary university business accelerator.

### 5.2 NSUSN Organogram

The head of this incubation program is a director, a part-time position for a full-time faculty member of NSU. The Director is supported by two Coordinators, part-time positions for full-time faculty members of NSU. The Coordinators are responsible for the internal operations of the program, including the start-up incubation, and external stakeholder management. The organogram has a vacancy for another Coordinator that has not yet been filled yet. A guest worker, usually a part-time position who has a bachelor’s degree, assists each Coordinator. The incubation center also hires student workers, current students of NSU, and interns to support the guest workers and the coordinators.

**Figure 3: NSUSN Organogram**

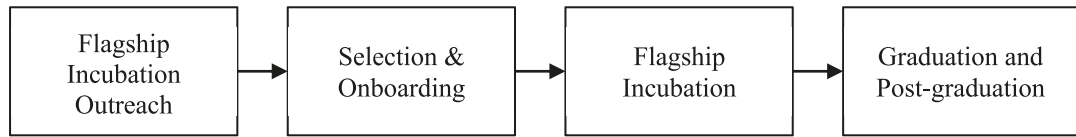


### 5.3 The NSU Startups Next Model

NSU allocated a 2000-square-foot space for NSU Startups Next on the ninth floor of the North Academic Building (NAC) in the Bashundhara, Dhaka campus. The space is divided into three major segments: a 250-square-foot office for the NSUSN staff members, a 1500-square-foot coworking space, and a 250-square-foot board meeting room. According to the approved plan, the program had offline and online components to incorporate local and international start-ups, mentors, advisors, investors, and other critical stakeholders. Because of the COVID-19 pandemic, all the activities had to be shifted online.

**Program Overview:** NSUSN implements a cohort-based system and serves one cohort per year. Each cohort has four major components: outreach, selection and onboarding, incubation, and graduation and post-graduation (Figure-4).

**Figure 4: Major Cohort Components of NSUSN**



**Flagship Incubation Outreach:** Outreach is a 2-month activation campaign that NSUSN conducts to reach out to aspiring entrepreneurs, educate them about the benefits of joining the program, and encourage and assist them in applying for the upcoming cohort. During the outreach, numerous flagship webinars, ask-us-anything webinars and seminars, and start-up clinics are organized.

Flagship webinars are hosted by NSUSN, where top local and international start-up professionals engage in informative discussions on crucial start-up topics. Previous flagship webinars had topics such as 'The Next Big Idea, solving for the Community, Finding Money That Matters, Evolution of Your Product' and many others. The core objective of these webinars is to increase the entrepreneurial knowledge of young start-up founders on vital topics related to navigating start-ups successfully. In addition, the entrepreneurship community can engage in discussions with prominent start-up professionals.

Ask Us Anything (AUA) webinars and seminars are conducted by the internal NSUSN team, where NSUSN primarily partners with its student organizations and other Bangladeshi universities to answer the queries of potential university entrepreneurs. The NSUSN team explains the program and the eligibility criteria to the university students and allows the audience to interact with the NSUSN team and ask questions. For the AUA sessions within NSU, NSUSN partners with seven prominent NSU student organizations, such as NSU Young Entrepreneurs Society, NSU Young Economist Forum, NSU Marketing and International Business Club, NSU Finance Club, NSU Human Resource Club, NSU Social Services Club, and NSU Association of Computing Machineries. The AUA sessions are held both online and in-person on the campuses of NSU and other Bangladeshi universities.

Start-up Clinics are day-long one-on-one free start-up consultation services that the NSUSN team provides to aspiring university entrepreneurs. Anyone can book time slots and get a consultation from an NSUSN team member.

The outreach activities ensure that NSUSN can promote its program to university students and encourage them to apply for the program. Aspiring start-up founders fill out a standard application form at NSUSN's website. The application form collects details such as the education and work experience of the founders, pitch deck, legal documents, capitalization table, and many others.

**Selection and Onboarding:** After attracting an application pool, the NSUSN team conducts a rigorous selection process to identify the best start-ups. The following are the factors that NSUSN considers during the selection:

**Figure 5: NSUSN Selection and Onboarding Criteria**

| <b>Factors</b>  | <b>Considerations</b>  |
|-----------------|--|
| Idea viability  | - size and intensity of the problem<br>- practicality of the proposed solutions  |
| Market research | - clear articulation of market size<br>- in-depth customer knowledge<br>- in-depth competitors' understanding  |
| Scalability     | - ability to create a solution that can reach customers rapidly and serve demand influx with minimum physical intervention   |
| Team            | - at least one founder needs to be an NSU student or an alum. The other co-founders can be from other universities.<br>- right technical skills<br>- right interpersonal skills<br>- startup mindset |

First, the internal NSUSN team screens out ineligible applications, such as incomplete or the ones that do not meet the essential eligibility criteria. Previously, the two most common rejection reasons in this stage were that no founder was a current student or an alum of NSU, and the business idea was not a start-up (rather a small-and-medium enterprise or a social business). The fact that the other co-founders can be from other universities makes the program more inclusive than other traditional UBIs that cater to their university stakeholders only. Second, the internal NSUSN team critically evaluates the remaining pool regarding idea viability, market research, scalability, and co-founding team quality. Major rejection causes at this stage include poor market size calculations, not knowing the customer needs critically, lack of knowledge of what the competitors do, and the incapability of the co-founding team to turn the idea into a scalable commercial venture. Third, shortlisted companies pitch in front of the internal and external advisory boards of NSU Startups Next. The internal board consists of the Deans of the four NSU Schools, the Director of NSUSN, and the Director of MBA & EMBA programs. The external board consists of a diverse pool of top industry experts from venture capital firms, legal firms, established start-ups, and the development sector. The advisors engage in a thorough Q/A session with every team and provide scores to each in a Google Form on the factors mentioned in table n. Finally, the top six to eight teams are selected for the flagship incubation. Before the final onboarding, NSUSN conducts a thorough background check of the co-founders for any information discrepancies that the teams provided and past criminal records.

Flagship Incubation: The 4-month flagship incubation introduces the start-up founders to the top local and international experts who provide firsthand and tailored mentorship and guidance. Previously, mentors from international giants like Google, Amazon, TikTok, Microsoft, and Uber and reputed local companies like bKash, Pathao, Sharetrip, and iFarmer conducted mentorship sessions at NSUSN.

The flagship incubation has two significant components: mentorship sessions and key performance indicator reviews (KPIRs).

A 15-module mentorship curriculum is designed to give the young start-up founders concrete and diverse foundational and advanced knowledge on how to run a start-up. The following is the curriculum:

1. Investor communication and fundraising 101
2. Legal and financial compliance
3. Revenue models
4. Data and analytics
5. Branding and storytelling
6. Mental health and wellbeing
7. Customer development
8. Financial modeling
9. Culture and team development
10. Business model that scales
11. Start-ups for social impact
12. Crafting the perfect pitch deck
13. Digital marketing for tech products
14. Choosing the right tech stack
15. Creating investor funnel

Every week, the founders receive one (sometimes two) mentorship sessions. In addition, each team must schedule a one-on-one session with each mentor to get tailored guidance and feedback.

The KPIRs are weekly meetings between the founders and the internal NSUSN team. In these meetings, the Coordinators of NSUSN provide thorough guidance and feedback and remove any operational and external bottlenecks for the founders, allowing the founders to scale fast. In addition, the coordinators introduce the founders to key external stakeholders, such as clients for B2B partnerships, marketing vendors, legal vendors, investors, government offices, research agencies, universities, and many others. Finally, the Coordinators assign quantifiable goals that each start-up must attain weekly. Attaining these goals increases the chances of the start-ups to graduate successfully from the program.

Two progress review sessions (one after five weeks and the other after twelve weeks of incubation) are organized where the start-up founders share their progress with the internal and external advisors. Based on the progress, the advisors provide scores to each start-up on four criteria:

1. Product development
2. Business model
3. Team coachability
4. Fundraising

The scores of the KPIRs that the coordinators and the progress review sessions that the advisors provide determine which start-ups graduate from the program.

**Graduation and Post-graduation:** At the tail-end of the incubation period, the NSUSN team evaluates teams' progress during the program. Graduating teams will have launched their products in the market, attained a working business model that attracts customers and allows rapid scaling, acted upon the experts' feedback, and raised seed funding. Graduation from the program signals a seal of approval for the teams to the prominent start-up stakeholders in the ecosystem.

The Graduation is a public event that invites influential government officials, the NSU Board of Trustees, investors, start-up founders, NSUSN's internal and external advisory panels, young aspiring student entrepreneurs, and other ecosystem builders.

After the Graduation, NSUSN conducts a 2-month bi-weekly post-graduation program. The NSUSN team provides further scaling and investment facilitation services in this program. In addition, NSUSN organizes on-demand mentorship sessions that help the graduate start-ups with more mature topics, such as international legal incorporation, cloud security, international expansion, paperwork for international VCs, and many others. In addition, NSUSN organizes 'Investors Day' in collaboration with Bangladesh Angels. On Investors Day, the graduate start-ups pitch their start-ups to a huge and diverse angel investor's network for pre-seed funding. Finally, NSUSN organizes 'Meet the Corporates,' where professionals from top local and multinational companies network with NSUSN's portfolio start-ups and explore mutually beneficial business relationships.

### *5.3.1 A New Strand: The Pre-Incubation*

The Bangladeshi start-up ecosystem is in its infancy. The Bangladeshi start-ups have raised a total of USD 800 million (Lightcastle, 2022); a sum that Klarna, a European financial technology company, has raised (Sawers, 2022). Considering that the Bangladeshi start-up ecosystem had 1200 active start-ups (as of June 2022) and the established start-up failure rate worldwide is 90%, the number of high potential start-ups that business incubators could work with was not very promising.

For NSUSN, the shortage of quality start-ups is further compounded by the fact that one of the co-founders must be a current NSU student or an alum, making the overall consideration pool even smaller. Moreover, start-ups getting into the flagship incubation were required to have a minimum viable product and market traction. NSUSN quickly realized that it needed to create start-ups organically through start-up education and hands-on mentorship. As a result, NSUSN introduced a new program: pre-incubation.

Pre-incubation is a 2-month mentorship program for idea-stage start-ups that may not have a minimum viable product or even a co-founding team. An aspiring individual start-up entrepreneur can join the pre-incubation program with a prospective idea only. The objective of the pre-incubation is to educate a bigger pool of quality entrepreneurs and create more start-ups that can join the flagship incubation.

The pre-incubation outreach campaign is very similar to the flagship incubation outreach. One additional initiative that NSUSN takes is 'Connecting Co-founders.' Connecting Founders is a networking event where NSUSN invites interested start-up entrepreneurs from different backgrounds to network and onboard co-founders. The previous editions of Connecting Co-founders attracted students and early-stage professionals from diverse backgrounds such as marketing, finance, supply chain, software engineering, electrical engineering, mechanical engineering, psychology, biotechnology, and many others.

As the pre-incubation start-ups are mainly at the idea-stage, the co-founders can regularly sit down with the NSUSN Coordinators to take feedback on co-founder(s) onboarding, initial market research, minimum viable product, pitch deck, capitalization table, and other foundational elements required to start a company.

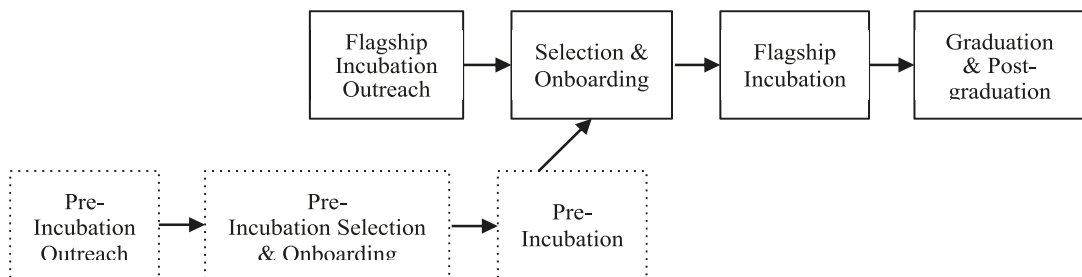
Interested teams apply for the pre-incubation using the application portal at the NSUSN website. The pre-incubation selection and onboarding process is very similar to that of the flagship incubation. The ineligible applications are first screened out and then the internal NSUSN team conducts one round of screening based on idea viability, market research, scalability, and team. Finally, a pitch presentation in front of the Senior Adviser and the NSUSN team determines which start-ups are onboarded to the pre-incubation.

Keeping in mind that the pre-incubation start-ups are at the idea stage, NSUSN has designed a preincubation mentorship curriculum that is more basic compared to the flagship incubation sessions. In parallel to the weekly mentorship sessions, NSUSN also conducts weekly KPIRs. The following is the preincubation mentorship curriculum:

1. Marketing research
2. Building MVPs to attain problem-solution fit
3. Your first customers
4. Basics of digital marketing
5. Key startup metrics and KPIs
6. Crafting the perfect pitch deck
7. Teambuilding and culture
8. Company registration

The teams that complete the preincubation are then invited to apply for the flagship incubation program. Start-ups that complete the pre-incubation program successfully have a 50% greater chance of getting selected for the flagship incubation program.

**Figure 6: Major Cohort Components (Revised)**



## 6. RESULTS

Due to its unique structure and progressive design process, NSUSN has been able to take advantage of the changes of the entrepreneurship ecosystem and utilized them in a way that the association keeps fostering entrepreneurship and innovation in Bangladesh. This is evident from the successful completion of two entrepreneurial cohorts. The details of the landmarks are as follows:

From the outreach programs, the first cohort attracted around 200 applications and the second cohort received around 160 applications. The first cohort started with six start-ups and has successfully graduated four. Out of these four, three are operating and one has shut down. The three graduate start-ups from the first cohort have raised a combined seed funding of USD 980,000 and employ around 65 people. The two that did not graduate changed their business models to become

SMEs. The second cohort attracted around 160 applications. The four graduate start-ups from the first cohort are Thrive, Loox, Hypescout, and Kalke. Thrive, an education technology company, joined Iterative, a start-up accelerator based in Singapore. Loox, a live fashion commerce platform, joined SM-square accelerate, a start-up accelerator backed by SBK Tech Ventures (venture fund for technology companies in emerging markets), SOSV MOX (a development program for tech companies backed by SOSV), and Miaki (a company with expertise in product development and content). Hypescout has raised venture capital from Anchorless Bangladesh, an early-stage venture fund that invests in Bangladesh start-ups. Kalke, a human resource (HR) technology company that built a software-as-a-service (SaaS) platform for HR administrative tasks, raised around USD 16,000 but eventually failed to survive.

The second cohort started with four start-ups and three have successfully graduated. The three graduate start-ups from the second cohort have raised a combined seed funding of USD 300,000 and employ around 30 people. The one that did not graduate has raised around USD 80,000 and is operating in the market. The three graduate start-ups from the second cohort are Bimafy, Chaya, and Cleinsight. Bimafy, an insurance marketplace, has raised investments from Startup Bangladesh Ltd., a Bangladesh government-backed venture fund. Chaya, a housing solutions platform for bachelors, has raised investments from a Bangladeshi angel investor and received grants from Innovation Design and Entrepreneurship Academy (iDEA), a Bangladesh government-backed initiative to support idea-stage companies. Cleinsight, a market research platform, has also raised an initial investment and is working with some of Bangladesh's top telecom and fashion brands. Table 1 presents the numerical achievements of NSUSN in a tabular form for a better understanding of the incubators's considerable impact.

**Table 1: NSUSN Entrepreneurship Program Cohort Data: Applications, Start-ups, Graduations, Funding, and Employment**

| Cohort | Number of applications | Number of start-ups | Number of graduations | Number of start-ups that raised funding | Number of people employed by the graduate start-ups |
|--------|------------------------|---------------------|-----------------------|---|---|
| First  | 200                    | 6                   | 4                     | 3                                       | 65  |
| Second | 160                    | 4                   | 3                     | 3                                       | 30  |
| Total  | 360                    | 10                  | 7                     | 6                                       | 95  |

Therefore, North South University NSU Startups Next (NSUSN), a university incubator, has achieved remarkable results in a short period of time. Here is a summary of their key achievements:

- Raised USD 1.2 million in investment, with 90% coming from international investors. This shows the strong confidence that global investors have in the quality of startups incubated by NSUSN.
- Created 60+ new jobs and launched 30+ new companies. This is a significant contribution to the startup ecosystem in Bangladesh, and it is helping to create new opportunities for young people.
- Graduated 7 startups from the flagship incubation program and 4 startups from the pre-incubation program. This is a testament to the effectiveness of NSUSN's programs in helping startups to grow and succeed.

Overall, NSUSN is having a significant impact on the startup ecosystem in Bangladesh. It is attracting international investment, creating jobs, and launching new businesses. NSUSN is also playing a key role in developing the skills and knowledge of young entrepreneurs.

### ***6.1 Value to Entrepreneurs***

NSUSN works as a catalyst that helps entrepreneurs to independently work on entrepreneurial ideas that they have harbored. The setting provides a conducive environment for the development of business opportunities where ideas are recognized, explored, developed, fostered and elongated. This conducive environment consists of tangible as well as intangible attributes. Entrepreneurs, when they become a part of NSUSN, they receive certain intangible benefits from the university. Firstly, they receive effective grooming, training and monitoring from the seasoned staff members who have been strategically placed to accelerate and enrich their entrepreneur journey. The training and grooming take place exclusively for each and every start-ups, keeping both macro and micro environment in mind. Start-ups nurtured by NSUSN are organized in a way which allows entrepreneurs to wear a lot of hats at the same time. This way, entrepreneurs learn about different job roles as well as develop sound business skills. This also enables an entrepreneur to draw a balance between technical and managerial capabilities. Also, such loosely defined roles of entrepreneurs allow a start-up to be goal oriented rather than task oriented.

Entrepreneurs also receive advice from experts and professionals from different industries from time to time. NSUSN also enables entrepreneurs to access a wide network of investors and executives with extensive experience for funding which would be inaccessible otherwise. It also guides the entrepreneurs to obtain their relevant regulatory approvals when necessary. Besides, NSUSN creates a bridge between the entrepreneurs and North South University's vibrant and accomplished alumni network from which the entrepreneurs are widely benefited as the network opens doors of opportunities, tapping on which entrepreneurs can turn their start-ups into thriving businesses. Apart from the intangible benefits, NSUSN also provides space for coworking, conference and meeting that a start-up might require in its founding years.

### ***6.2 Value to the Institution***

NSUSN has opened doors for North South University where it can commercialize its academic research sourced from Office Of Research - NSU (OR-NSU), which is responsible for developing regulatory policies and procedures and enhancing and facilitating internal and extramural grant opportunities (Office of Research: North South University, n.d.). The mission of OR-NSU is to collaborate with international agencies for the purpose of advancing local science and technology innovation as well as with government, professions, and industry to advance local science and technology innovation (Office of Research: North South University, n.d.). NSUSN has given this office a platform where it can pivot research findings in new businesses for economic development. This linkage has been proven beneficial for both offices. NSUSN accesses the exclusive research results that is being conducted by OR-NSU and on the other hand, OR-NSU identifies the potential research area through NSUSN. Meanwhile, the university is being benefitted through this direct relationship between the research outcomes and business development.

With the presence of NSUSN, North South University was successful in creating an image for itself as an acquiescence of its civic responsibility. Recently, the university has made into news where it was addressed that currently, there is no other college or university in Bangladesh that produces more entrepreneurs than NSU (Rabbybhn, 2022). This reputation was earned as NSUSN has

enabled many start-ups to flourish and expand. Also, start-ups nurtured by NSUSN has created a lot of jobs around it. Besides, NSUSN grooms the start-ups keeping the Sustainable Development Goals (SDGs) of UN in mind. This has enriched the socially responsible institution image of the university even further.

### ***6.3 Value to the Society***

NSUSN contributes to the social connection as the incubator increases and improves networking among its members within the context of a society along with increased communications and opportunities. NSUSN has created new job opportunities contributing to the society's overall employment and income ratio and at the same time the organization makes new products and services available to the consumers at lower prices with easier accessibility. It is because NSUSN increases the number of business channels through which products and services flow along with number of variants in a product or service category or line. All of these on a whole provide consumers within the societal context with more options to make better choices from while they purchase a product or avail themselves of a service.

The ethical concerns regarding misconduct and illegal deals among businesses are also minimized to an extent by NSUSN. NSUSN is an university based incubator and like most other academic institutions, the university focuses on fostering an ethical sense of conduct and morality among its students. Therefore, the businesses initiated and developed through NSUSN by the academic members are inclined more towards activities that ensure proper legal structures and ethical standards being maintained among the various stakeholders of the businesses and within the businesses themselves. Assurance of proper ethical standards and conduct within businesses benefit the society as these ensure both consumer and worker rights as well as safety of the people within a society being given to them both through the corporate and industry level manufacturing sector.

### ***6.4 Value to the Economic Development of Bangladesh***

The economy of a country is highly influenced by the success or failure of the startups and the innovation these businesses bring with the changing consumer demand over time. NSUSN has been providing its members with greater connectivity and legitimacy along with important contingencies regarding business strategies and models that are associated with the community stakeholders and important industries. These influences the long run success of the startups and eventually helps the economy to grow as these businesses grow after being successful. Also, the transfer of scientific and technological knowledge through NSUSN is vital for the economy since these contribute to economic development as incubated firms outperform non-incubated firms in terms of both sales' growth and employment. One of the objectives of NSUSN is to assist startups with unique and value-added resources that include knowledge, technology alongside access to academic networks.

Even though in a small amount the startup business facilitated by NSUSN and other similar UBIs contribute to the country's GDP, currently 0.10 percent of the current GDP. Between 2020 and 2021, Bangladesh experienced the largest increase in startup investments among neighboring countries, with a nearly ten-fold increase in the investment with added perks of new employment opportunities and increased consumer demand being met creating sustainable value for the economy on a whole.

## **7. THEORETICAL CONTRIBUTIONS**

This paper contributes to existing theories concerning entrepreneurship and innovation by enriching them. The report does this by providing supporting evidence that outlines how a particular entrepreneurial ecosystem, such as Bangladesh's startup ecosystem in this case, can adapt to changes in the environment and evolve over time as its environment changes. In this case, the framework provided by David J Miller in 2016, known as 'The Campus and the Ecosystem' model, was extended in the context of the Bangladeshi startup ecosystem to represent a change in the connection between the university's entrepreneurial ecosystem and external stakeholders. Here's how the framework was expanded:

Firstly, there has been a change in the circle of external stakeholders. The external stakeholder circle was originally portrayed as a solid circle, indicating restriction of flexibility and engagement with institutions. However, in the context of the Bangladeshi startup ecosystem, the external stakeholder circle was modified into a dotted circle. It is clear that this development is the result of a gradual change in the attitudes of outside stakeholders who have become much more accepting and accommodating of university incubators, as well as the startup programs they are associated with, including NSUSN.

Secondly, some new key external players have been included in the system. The framework has also been extended to include specific external players and organizations that have been actively involved in supporting startups on their way to becoming high-growth companies in Bangladesh by providing them with development assistance. Angel investor networks such as Bangladesh Angels, venture capital firms such as Anchorless Bangladesh, startup accelerators such as GP Accelerator, Bangladeshi government initiatives such as Startup Bangladesh Ltd. and the iDEA project, and various local and multinational corporations are among these actors. The bigger external stakeholder ecosystem now includes these organizations as a component.

Thirdly, the extended model has identified a spark in the level of collaboration and support between external stakeholders and university incubator. The transition of the external stakeholder circle from a solid to a dotted circle suggests that external stakeholders in Bangladesh are now keener to cooperate with university-affiliated startup initiatives like NSUSN. This is because they actively promote startups through a variety of means, including, but not limited to, finance, mentorship, and resources.

Last but not least, there has been a change in the commitments made in terms of budget and policy. The extension also emphasizes that external stakeholders in Bangladesh have made policy (e.g., Startup Bangladesh Ltd.) and budget commitments (e.g., Bangladesh Angels) to help startups with high-growth potential. A commitment such as this stands in sharp contrast to the previous model, in which external stakeholders were bound by policies and financial restrictions as part of the system.

It can be concluded that the extension of David J Miller's 'The Campus and the Ecosystem' model, as applied to the Bangladeshi startup ecosystem, offers a valuable theoretical contribution to the field of entrepreneurship and innovation. The extended frameworks demonstrate a promising transformation, where the interaction between Bangladesh's external stakeholders and the university's entrepreneurial environment has become more inclusive and supportive as a result of this transformation. The case emphasizes the importance of improving cooperation, openness, and active assistance from outside parties in order to encourage the growth of entrepreneurship and innovation within the nation.

## **8. LIMITATIONS**

This study focuses in-depth on the business model and the impact of one Bangladeshi university business accelerator that is still in its early days and is growing in reputation in the Bangladesh start-up ecosystem. NSUSN operates on a limited budget and human resources. Currently, the office has a Director, two Coordinators, two guest workers, four student workers, and two office assistants. Other than the two office assistants, the other employees are part-time. The Director and the Coordinators are full-time faculty members and researchers of NSU. The guest workers are recent graduates and the student workers are current students of NSU. With limited resources, the incubator has produced admirable results.

A significant limitation of the study is that crucial metrics, such as customer growth, customer retention, customer acquisition cost, revenue growth, burn rate, and many others, could not be gathered. Interviews of the start-up founders could not be organized. Moreover, NSUSN does not track these numbers. Conducting an exit interview of the graduate start-up founders to understand the program's impact and observe the key metrics improvements will benefit both NSUSN and similar future studies.

In addition, the value that the incubator generates for the wider community, such as the students who want to nurture entrepreneurial skills without getting into the incubation programs or entrepreneurs who were not selected for the incubation programs, could not be measured because of a lack of available data at NSUSN. Similarly, NSUSN's impact on student entrepreneurs in other universities could not be measured. Students with SME or social business models also received informal guidance from the Coordinators, but the impact could not be measured.

Inputs from various stakeholders (clients, customers, investors, accelerators, and government entities) that closely work with the NSUSN portfolio and non-portfolio companies would have added new dimensions to the study.

Additional data points and more in-depth stakeholder analysis would have made this study more comprehensive. Due to limited resources, these opportunities could not be explored.

## **9. CONCLUSIONS**

NSUSN has grown organically since its opening. With minimal resources, the UBI has operated to help launch, grow, and support the entrepreneurs in the university. It has also helped the entrepreneurs to evaluate their ideas as they proceeded with their startups and choose not to continue with the businesses. So, entrepreneurs leaving the incubator without growth, successfully mitigated some risk before investing too much of resources personally was made into an idea that was either not feasible or not yet ready to be launched. Furthermore, NSUSN has enabled university faculties and students to accomplish their desire to share their time, skills, and knowledge for benefiting the business community on a whole. NSUSN as a business incubator is still small and matches with the current goals of the university. In the future, NSUSN will have opportunities to increase the funding network as per requirements of the businesses to support its members and to continue building the connection between students and regional entrepreneurship. Most importantly, this paper sheds light on the fact that even with minimal funding and limited number of resources, formation of an efficient university business incubator is possible.

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