

UNVEILING THE MOTIVATIONS OF STUDENT ENTREPRENEURS: INSIGHTS FROM UNIVERSITY BUSINESS INCUBATORS

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Abstract: *This study delves into the motivations of student entrepreneurs starting their own businesses and investigates the comparative appeal of informal, self-owned, and partnered enterprises versus traditional 9-to-5 employment. Focusing on New Mexico State University's University Business Incubator (NMSU-UBI), this research offers insights valuable for business incubators worldwide. The data, gathered from Studio G's client intake and interviews, reveals the underlying factors driving student entrepreneurs. The findings hold significance for policymakers, economists, new business incubators, and accelerators keen on emulating Studio G's strategies to foster entrepreneurship.*

Keywords: *Student entrepreneurs, Business incubators, Motivation, New business ventures, Entrepreneurial talent*

Introduction

How should economists' and business incubators' around the world evaluate the motivation behind student entrepreneurs starting their own business? Is having an informal, self, or partnered-owned enterprise more self-rewarding, lucrative, and satisfying than the regular 9 – 5 formal mainstream jobs (Allen & McCluskey, 1990; Maloney 1999 & 2004; Lalkaka, 2003; Sauner-Leroy, 2004; Fajnzylber et al. 2006; Nguyen et al., 2019)? The primary contribution of this paper to the literature on small-business ventures and incubation programs is the study gives an overall view of New Mexico State University—University Business Incubator (NMSU—UBI). The NMSU—UBI is used as a case study for other UBIs in the US, and it tries to discover the driving factor(s) behind student entrepreneurs starting their businesses. The study also examines the experiences and feedback from the participants whose contribution(s) provide valuable information to the Arrowhead Center—Studio G (Studio G) and other

Innovative Journal of Entrepreneurship and Business (IJEB)

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Innovative Journal of Entrepreneurship and Business (IJEB)

Volume 10 Issue 1, January-March 2022

ISSN: 2837-3960

Impact Factor: 7.33

Journal Homepage: <https://americaserial.com/Journals/index.php/IJEB/index>

Email: contact@americaserial.com

Official Journal of America Serial Publication

business incubators, nation, or worldwide. The research information is relevant to policymakers, economists, new business incubators, and accelerators interested in imitating Studio G's incubation program strategies. As it provides a deeper understanding of why student entrepreneurs start businesses and the role incubators and accelerators can play to assist and promote entrepreneurship in a region. The analysis for this study is based on qualitative data mined from Studio G's client intake and follow-up interview sessions.

Studio G, a classified example of a UBI, seeks an effective means to link technology, capital, and know-how to leverage entrepreneurial talent(s), accelerate the growth and development of new companies, and thus speed the exploitation of technology (Grimaldi & Grandi, 2005). The NMSU—UBI primary aim is to assist new business ventures in the Las Cruces (LC) area by providing a variety of business support programs.

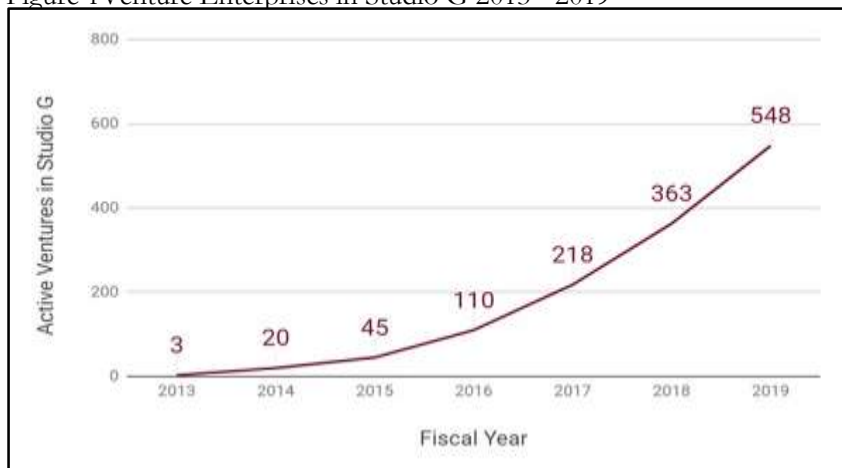
In analyzing Studio G's practices, this study doesn't overlook the fact that small businesses are more volatile to economic and political shocks, especially ventures housed in UBIs and Independent Private Business Incubators (IPBIs) (Allen & McCluskey, 1990; Radosevich, 2014; Yusof, 2009; Schaper & Lewer, 2009; Yaun & Lin, 2009; Rong, 2009; Mora & Davila, 2014; Hoshino, 2009).

The work analyzed 600 Studio G clients by combining standard measures of job quality and new jobs as it related to the framework developed from a synthesis of (Merrifield, 1987; Smith, 1776; Ricardo, 1817; Solow, 1970; Mark, 1867) economic perspectives. Our data comes from answered questionnaires and in-person interviews from the Studio G incubation program between 2013 – 2018. The study contextualizes the responses of the participants by categorizing and coding the information in a structured manner. The results reveal a complicated story of selfemployment being a means of expressing creativity, forming an identity, and a sense of community while simultaneously being characterized by community altruism and cultural capital to promote economic development in the LC, New Mexico (NM) area. This study is limited to the description results from NMSU—UBI, and a small part is devoted to the general analysis of business accelerators and incubators.

Background of the NMSU—UBI:

In the early 30s, (Schumpeter 1942) stated that an economy would only be able to survive if the entrepreneur sector of that economy, continues to innovate. In the 21st century, the ideology that innovation drives economic growth and competition (Debackere et al., 1999) was known across industries and university campuses. The NMSU— UBI, was established in 2011 and has supported approximately 1600 student entrepreneurs, raised about USD 6 million in investments and grants. These student enterprisers have hired more than 300 people in the local economy and the NMSU—UBI was ranked as one of the Top 20 UBI in the world by UBI Global.

Figure 1 Venture Enterprises in Studio G 2013 - 2019



Source: Author's creation based on studio G's Database

Figure 1 shows the number of active venture enterprises supported by the NMSU—UBI from 2013 – 2019.

$$\frac{\text{newventurec} \text{ reate } d_{y_t} - \text{newven} \text{ urescrea} \text{ e } y_t}{\text{newventurec} \text{ reate } d_{y_t}} \cdot 100^t \quad t \quad d \quad t \quad t \quad d$$

The trend from Figure 1 depicts an increasing—rate . The figure shows only the number of ventures without taking account of partnership businesses and founders for each firm.

Figure 2 NMSU—UBI Client Logic Model:



Source: Author's creation based on Studio G's practices

Innovative Journal of Entrepreneurship and Business (IJEB)

Volume 10 Issue 1, January-March 2022

ISSN: 2837-3960

Impact Factor: 7.33

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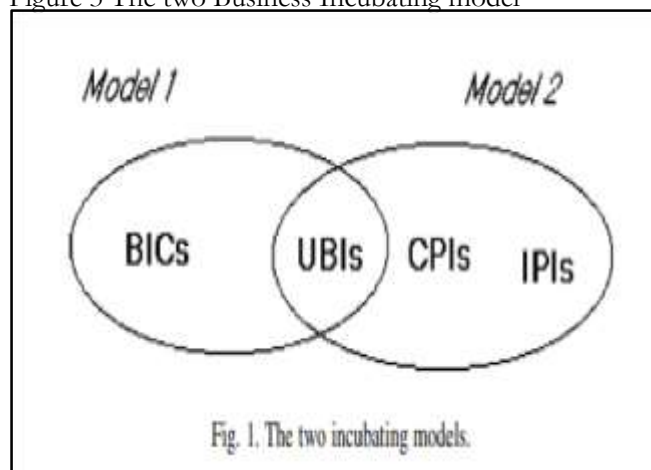
Figure 2 shows NMSU—UBI's client intake process to business launching. The first phase is the application and intake meeting phase, where interested entrepreneurs apply on the UBI's website. Then, a staff member schedules a convenient time for the meeting. During the elicitation section, the UBI team talks to the entrepreneur about their business, current stage, goals, and services they are hoping the UBI can provide. Next, is the business assistance phase, where the UBI's new clients get access to all of Studio G's incubation program resources. After that, we introduce the client to the business advising team, which entails a deep network of over 50 advisers from the Arrowhead Innovation Network of Advisers (AINA). The AINA comprises experienced entrepreneurs, professors, lawyers (business, intellectual property, and Tax), accountants, marketers, and product design teams, etc. One of the AINA strengths is its Advising program can be done/scheduled in-person or online, which has helped increase our client base, which has resulted in more people taking advantage of Studio G's affiliated Programs.

Previous Studies:

According to the (Entrepreneur Media, 2019), there are approximately 900 business incubators nationwide. The first business incubator was established in 1959 in Batavia, NY (Lewis et al., 2011). The question of why student starts their businesses or create employment (formal and informal) has been debated within the field of economic growth, development, and stability for decades (Smith, 1776; Ricardo, 1817; Solow, 1998; Yusof, 2009; Maloney, 1999, 2004; Grimaldi & Grandi, 2001 & 2005). In most literature that addresses this topic, economic growth is the primary focus but, entrepreneurship and job creation play a significant role and affects the pace of a nation's economic growth. Also, the startup and growth phase of new ventures have been studied by different scholars that focus on fostering the growth of the entrepreneurial sector in economies around the world (Roberts, 1991; Smilor, 1987; Marrifield, 1987; Stuart & Abetti, 1987; Mian, 1994 & 1996; Autio & Klofsten, 1998; Osiobe & Winingham, 2018).

Business accelerators assist new ventures by providing office space, support services, and assistance to entrepreneurs to develop their business ideas. According to (Grimaldi & Grandi, 2005), business incubators can be grouped into four categories: The Business Innovation Centers (BIC), University Business Incubators (UBI), Independent Private Incubators (IPI), and Corporate Private Incubators (CPI). The authors argue that the variety of business incubating organizations is a direct result of business evolution over time, business needs, and the requirements by the industry regulating bodies. Grimaldi and Grandi (2005) identified two main incubator models (Models 1 and 2).

Figure 3 The two Business Incubating model

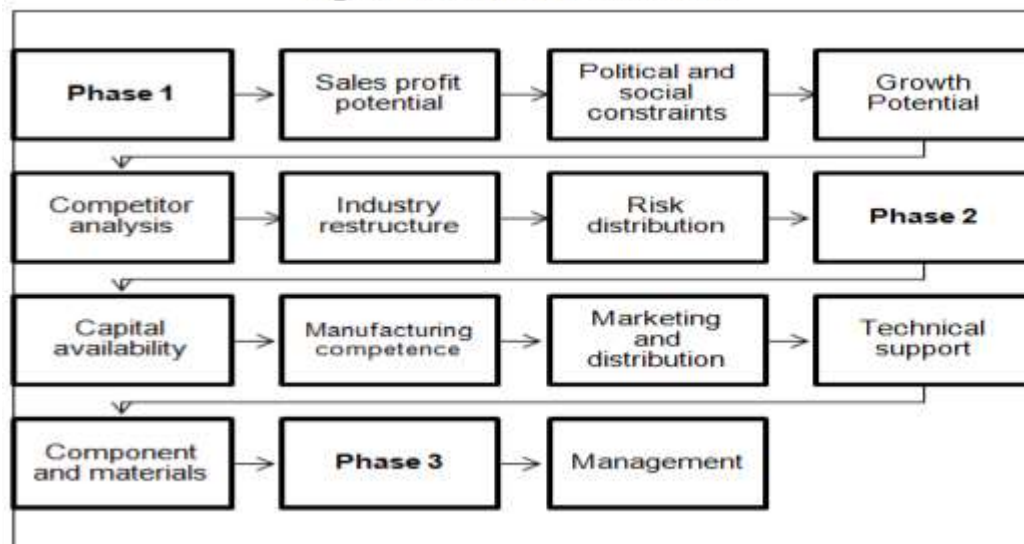


Source: Grimaldi & Grandi, 2005 pp. 114.

From Figure 3, one can infer that Studio G falls under the UBIs group, which is a hybrid of the BICs and CPIs base on the evolution of the incubator industry described in (Grimaldi & Grandi, 2005). Albert and Gaynor (1998), in their work, examined the body of academic literature on business incubators and grouped them into three dimensions: descriptive, prescriptive, and evaluative works. The descriptive research analyzed the definition and classification of business incubators. The prescriptive papers examined the role(s) of business incubators in economic growth, development, and stability while set out best practices based on research on critical features of successful business incubation programs. The evaluative works aimed at the establishment of metrics to evaluate business incubation programs and to assess the impact(s) (direct, indirect, and induced effects) and the effectiveness of incubation programs.

Based on scholarly articles, the screening process is an essential component in the business incubation process (Merrifield, 1987) analyzed business incubation screening processes in detail and gave some critical factors for these processes. According to (Merrifield 1987), the selection process is essential, and the author gave a decision tree process (see Figure 4).

Figure 4 Merrifield Decision Tree



Source: Merrifield, 1987

In conclusion, (Merrifield 1987) admits that no analytical scheme can guarantee 100% success, but a careful selection can increase the probability of success. Mian (1996) assesses university technology business incubators in the US by exploring their value-added contributions to technology-based startups. Mian's (1997) group, incubator assessment research, focused around four approaches in the management literature: goal approach, system resource approach, stakeholder approach, and internal process approach.

The author introduced four dimensions in his assessment framing on the performance of university technology business incubators; the program growth and sustainability phase, client survival and growth phase, contributions to sponsoring stage, and community-related impacts phase. Xiao and Ramsden (2016) investigated the relationship between expertise and financial choice on founders, strategic decisions, formation, and survival of hightech SMEs in China. They presented the three strategic alternatives available to ventures holding different types of expertise and how their knowledge influences the development path of the firms, interacting with the availability of sources of finance.

Research Design and Methods

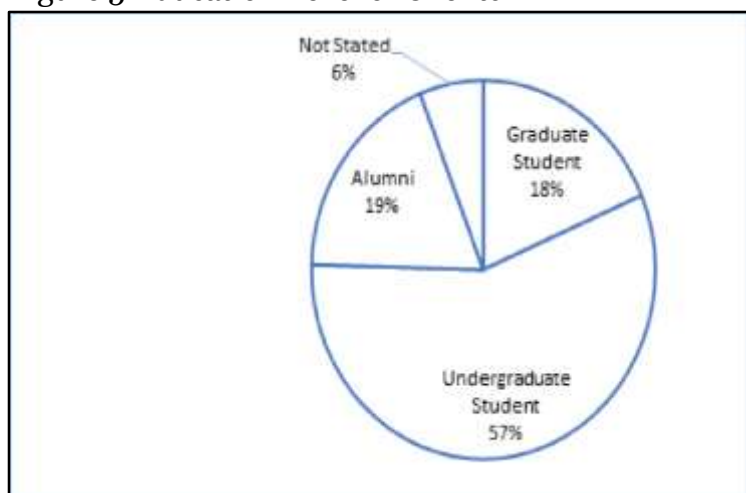
To understand the primary question of this research, i.e., why student entrepreneurs start a business (see Figure 8), data was gathered from Studio G's interview sessions, client intake forms, first business elicitation meetings, and follow-ups. This study builds on already coded and analyzed information from (Osiope & Wininghams, 2018) report. Six hundred participants were interviewed for this study irrespective of if their business was a partnership or sole proprietorship business, hence the discrepancy in Figure 1. A qualitative analytical approach was implemented for the study, and the QDA Miner software was utilized in coding the dataset. While coding, personal, business, and identifiable

information were extracted from the dataset and only responses to the questionnaires were coded to allow for descriptive statistical analysis.

Sample Description

With any business accelerator or incubator, the success of the ventures supported depends on programs offered to its clients, how they respond to feedback and the performance of its client. Thus, Studio G's philosophy is an incubator benefit from not picking favorites (most likely to succeed), leading to a reduction in the failure rate. Studio G's intake methodology and programs follow (Merrifield, 1987) decision tree methodology with some unique modification to operationalize and revamp the incubator's methods to fit the LC, NM area, and create more features that are essential and lucrative to a business venture.

Figure 5 Education Level of Clients



Source: Author's creation based on participants response

Figures 5, 6, and 7 provide some pertinent characteristics of our participants. Figure 5 shows the educational distributional levels of our clients. The result indicates that 57% of clients are working on their first degree, 19% are Alumni, 18% are earning a graduate degree, and 6% did not state their educational status.

Figure 6 Academic Colleges of Clients

Innovative Journal of Entrepreneurship and Business (IJEB)

Volume 10 Issue 1, January-March 2022

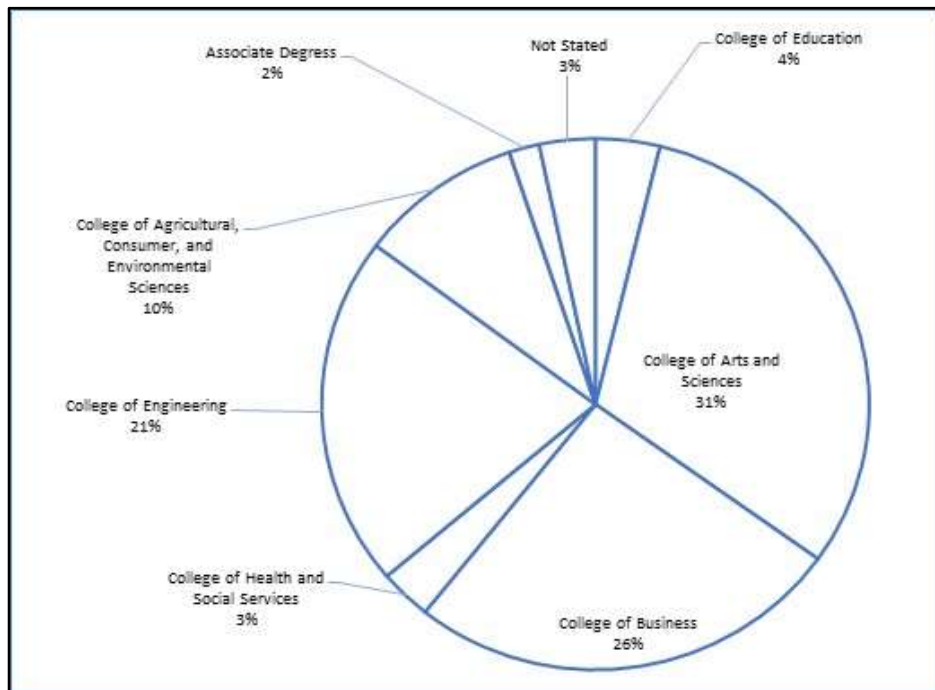
ISSN: 2837-3960

Impact Factor: 7.33

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Source: Author's creation based on participants response

Figure 6 shows Studio G's clients as they differ by their colleges. 31% of our participants are from the college of arts and sciences, 26% college of business, 21% college of engineering, 10% college of agriculture, consumer, and environmental science, 4% college of education, 3% college of health and social services and non-specified clients, and 2% are earning an associate degree.

Figure 7 A Set of Longitudinal Data sets

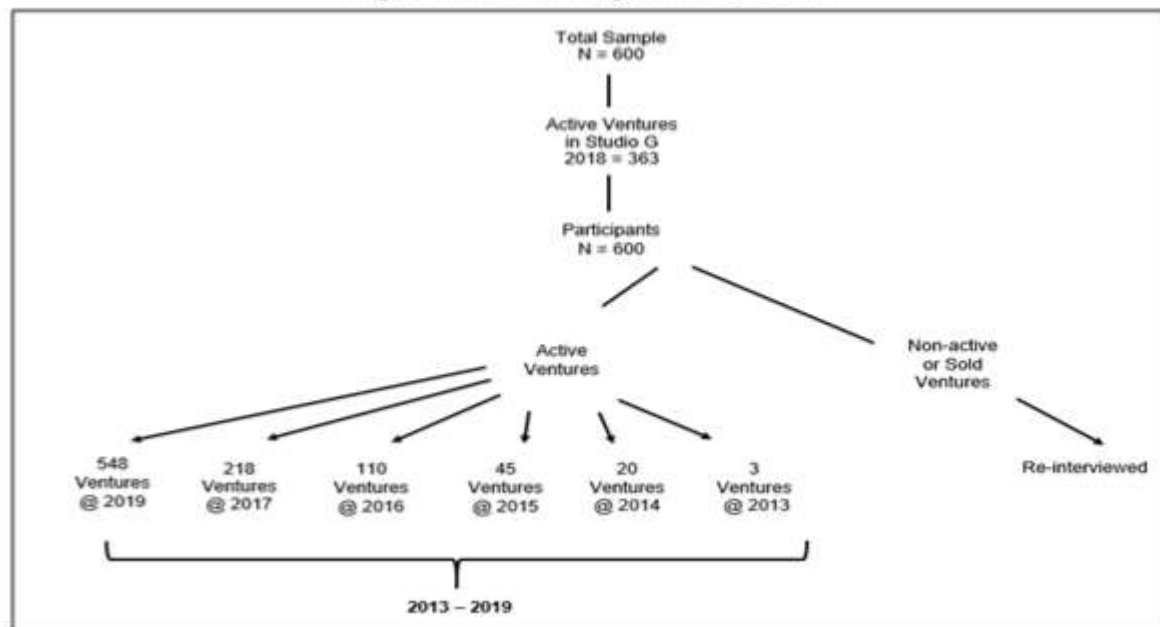
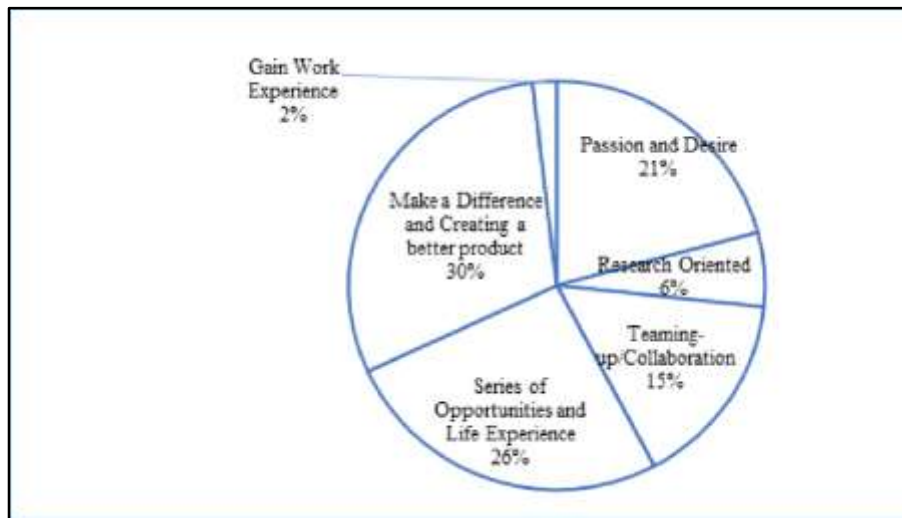


Figure 7 shows the breakdown structure of the study's sample and the timeline (2013 – 2019) of ventures operating in LC, NM, under the support NMSU–UBI. Figure 7 shows the criteria by which clients were selected for our study from 2013 – 2018. The main reason for nonparticipation in the survey was some clients didn't complete the UBI's incubation process (see Figure 2). It is noteworthy, some of our clients in the study are partners/co-founders of a single enterprise, adjusting for the differences in the sample size $N = 600$ and the maximum number of active ventures in 2019 active ventures = 548 (see Figure 1 & 7).

Findings:

From previous literature, on business acceleration and incubation, in most cases, entrepreneurs have high levels of formal or informal education and qualification(s) (see Figures 5, 6, and 9). From our poll, the most established areas of expertise were technological, sciences, finance, management, and entrepreneurial. Figure 8 – 12 descriptive statistics builds on the preliminary findings of (Osioibe & Winingham, 2018).

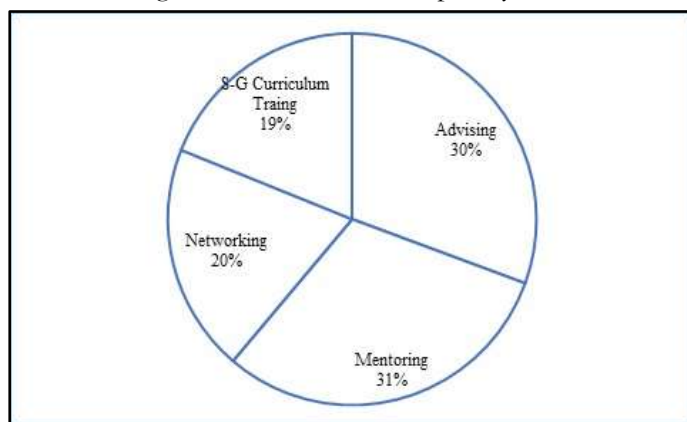
Figure 8 Clients Inspiration(s) for Starting their Businesses/Project(s)



Source: Author's creation based on participants response

Figure 8 shows participants' primary inspiration(s) for starting their business and joining the UBI's. Our analysis shows that 30% of clients started their ventures to make a difference in their communities and create a better product, 26% was a result of series of opportunities and life experiences, 21% was birth out of passion and desire, 15% was a collaborative effort, 6% due to a research idea. In comparison, the remaining 2% started a business to gain real-life working experience.

Figure 9 New Skills Developed by our Clients



Source: Authors' creation based on participants response

Figure 9 shows the new skill sets developed by our clients from going through Studio G's incubation program. 31% learned mentoring skills, 30% gained how to advertise their products to their audience effectively, 20% learned about networking, and 19% found the incubation curriculum training to be beneficial, giving them new skill sets. Figure 10 Effective Marketing Channels Used by Studio G to Attract Clients

Innovative Journal of Entrepreneurship and Business (IJEB)

Volume 10 Issue 1, January-March 2022

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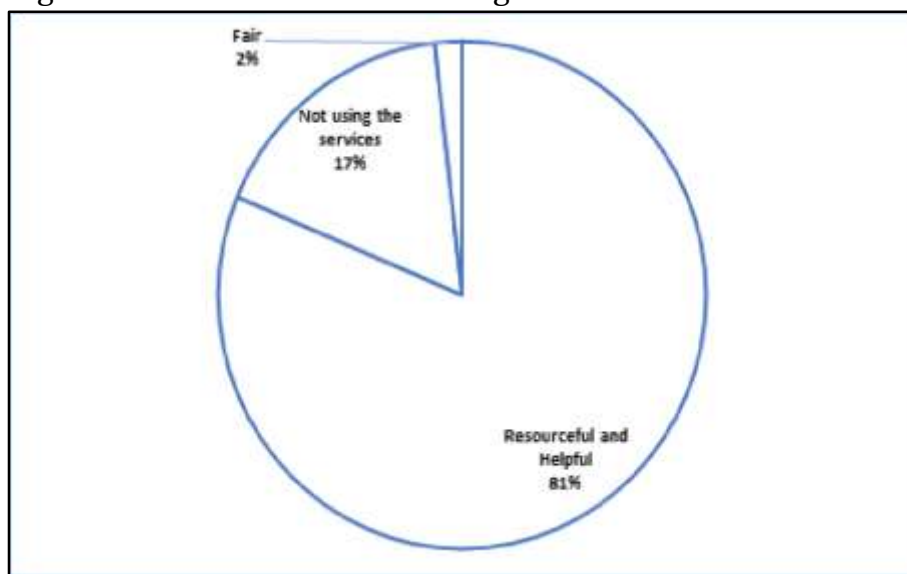
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Figure 10 shows the effective marketing channels used by Studio G to attract new clients. This result is valuable to other business incubators and accelerators by providing them with the unique sets of marketing venues used in Studio G's incubation program. Figure 10 depicts that 37.7% of our clients got to know about the incubation program from degree—1 friend(s). A degree—1 friend(s) are people of close personal relationship(s); 13.2% from Studio G's table booth outreach program on NMSU campus; 6.3% from degree—2 friend(s). A degree—2 friend(s) are contacts that have a close relationship with a degree—1 friend(s); 6% from Studio G's invitation emails, classroom presentations, and staff talking about the program; 4.7% from a Google search; 4.1% from newsletter(s); 3.5% saw a Flyer(s); 1.9% through a degree—3 friend(s), who is, a friend—to—a degree—2 friend(s), who is a friend(s) with a degree—1 friend(s), and at the Arrowhead Center main office; 1.6% from the incubation program by attending the Aggie I-corps event and other event(s); 0.9% through our Hotline; 0.6% by random walkins, through our Instagram page, at the Las Cruces local Farmer's market, and not stated; 0.3% from NMSU—Canvas home page, NMSU orientation classes, the Arrowhead center's innovation space, NMSU Aggie fest, the university council, our Facebook page, campus science and innovation event(s), campus startup weekend Las Cruces, some said word—of—mouth, Aggie shark tank event, Arrowhead—Studio G sponsored TV advertisement, personal research, AIS, our website, Arrowhead—Studio G's excel program, and NMSBA.

Figure 11 Clients Satisfaction Rating



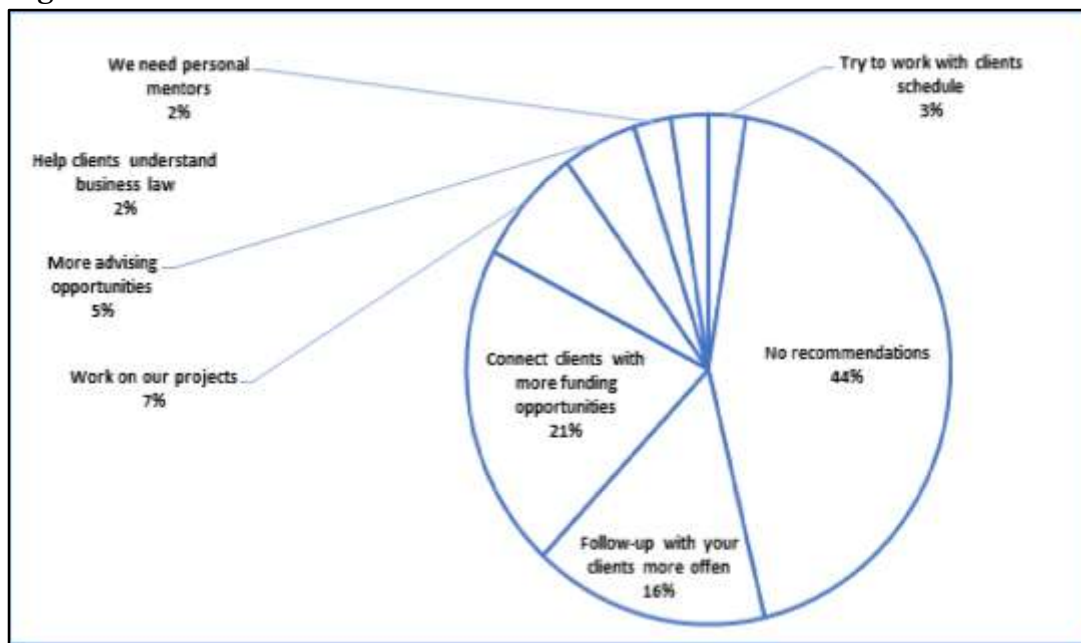
Source: Authors' creation based on participants response

Figure 11 shows the clients' satisfaction ratings. 81% of our clients found the incubation program to be resourceful and helpful, 17% identified as a client that didn't use incubation curriculum training services, and 2% found the incubation program to be fair.

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Figure 12 Clients Feedbacks



Source: Authors' creation based on participants response

Figure 12 shows the feedback on areas the incubation program can improve. 44% of our participants believed the design is okay; hence they gave no recommendations, 21% wants the program to incorporate a greet—and—meet section more frequently and connect clients with more funding opportunities, 16% of our participants will like the program to increase the follow-up sections with our clients by making it more frequent, 7% want the incubation program to be more hands-on clients projects, 5% wants the business incubator to found their advisement and create more opportunities for them, 3% encourages the incubator to have after-hours schedules for clients who work 9 – 5 jobs, and 2% encouraged the business incubator to hire life coaches in their team (personal mentors), and also help clients understand business law.

The participants for this study are a small percentage of entrepreneurs that have used a business or an economic development incubator and accelerator to grow their ideas and businesses. Given the fact that our sample is from the NMSU—UBI client list, they likely had a particular interest in starting their companies based on their environment. Their perceptions may not represent the entire LC, NM, USA area, or other clients of economic incubators and accelerators nationwide. Their comments may reflect recall bias, and we cannot confirm their reports. Further research is needed to understand why student entrepreneurs start businesses, and the roles of UBIs play in encouraging these student entrepreneurs.

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Discussions, Policy Implication, and Conclusion:

This work analyzed the NMSU—UBI client responses. The NMSU—UBI is well developed, but there are plenty of improvement opportunities. A UBI is a powerful instrument in encouraging student entrepreneurs, and the initiative deserves considerable attention to support the economic development sector of the nation while promoting business incubator and accelerator soundness and industry competitiveness. This study on UBIs is neither the first nor the last to delve into the topic. Still, it covers a link between a UBI and other incubation and acceleration programs nationwide, which leaves room for more research. Despite the positive reports from our study (see Figure 8, 9, and 11) on Studio G's incubation program, our findings question the impact of economic development programs that promote entrepreneurship in local communities without implicit or explicit attention to NMSU—UBI affiliated entrepreneurs.

Furthermore, while there are certainly contexts/communities in which our analysis can be replicated, this does not appear to be the primary inhibitor to economic growth, development, stability, and business incubation program(s) expansion.

Although a more representative study needs to be conducted, this limited analysis of UBIs can direct economists, policymakers, and researchers to evidence that UBIs encourage students to be more entrepreneurship minded (see Figures 5, 6, and 7) which in the long-run will foster economic growth and development in any economy. Although the findings and, therefore, policy implications of the program, are linked to the sample size and LC, NM area, the investigation does provide ideas for policymakers, economists, and researchers concerned with business incubators and accelerators nationwide. Our findings will contribute to more representative survey data and additional empirical analysis on the topic.

Despite the current status of New Mexico's economy, New Mexicans were able to create new opportunities for themselves through starting businesses and the helpful support of NMSU—UBI and other incubation programs around. The preliminary finding of (Osiobe & Winingham, 2018) main take away shows that 60% of the participants are undergraduate students, 33% from the college of arts and sciences, 27% from the business college, and 23% from engineering. The finding from the follow-up study shows similar trends based on the dataset used with 30% of Studio G's clients' primary reason for starting their venture was birth out of the desire to make a difference in their communities and create a better product. 21% out of passion (see Figure 8), 31% of our clients benefitted from Studio G's incubation mentorship program (see Figure 9), and over 80% of our clients were satisfied with the structure of Studio G's incubation program.

Acknowledgment:

Thanks to Dr. Kramer Winingham for providing the data for the study and to the 2018 Studio G summer team: William O'Neill, Trashard Mays, Joseph Check, Alex Gorsuch, Vanessa Delgado, Alexis Cornidez, and Laura Mendez Carvajal.

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Volume 10 Issue 1, January-March 2022

ISSN: 2837-3960

Impact Factor: 7.33

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Innovative Journal of Entrepreneurship and Business (IJEB)

Volume 10 Issue 1, January-March 2022

ISSN: 2837-3960

Impact Factor: 7.33

Journal Homepage: <https://americaserial.com/Journals/index.php/IJEB/index>

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