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K-12 Institutions Shaping Future Entrepreneurs In A VUCA World

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Abstract:
Pandemic has proven that "necessity is the mother of invention". Digitalization existed before the pandemic, but new dimensions accelerated during and post-COVID-19. The education sector was one of the biggest verticals that was impacted. K-12 education underwent challenges, thus online education platforms and new pedagogy with advanced teaching aids and new learning approaches emerged. It was soon realized that in a Volatile, Uncertain, Complex, and Ambiguous (VUCA) world, education had to play a vital role. These would be future entrepreneurs who might play an integrative role as teacherpreneurs.
Until now, K-12 institutions have been focusing on neuro-based education while developing different concepts around the subject. Today, the time has come to support VUCA readiness. Most K12 institutions don't have the resources or capabilities to provide entrepreneurial education. These K-12 institutions must deliberate on their curriculum along with the teaching pedagogies. With this the authors set with a premise to respond to the research question "are K-12 institutions shaping future entrepreneurs in a VUCA world?'. To investigate this purpose Superhouse Education Foundation from Kanpur City in Northern India was chosen as a test bed. It comprises of eight Delhi Public Schools as a Franchisee spread over four cities, Kanpur, Lucknow, Bareilly, and Saharanpur. The other is Allen House Public Schools which has six branches spread over cities like Kanpur, Lucknow, Jhansi, and Ghaziabad. These cohorts were chosen as a part of qualitative research in building a response to the principal research question.

Keywords: K-12 institutions, Entrepreneurs, Entrepreneurial skill sets, Teacherpreneurs, Innovation, Foresightedness, and VUCA

Introduction

K-12 (Prensky, 2021) institutions changed their interpretation of education after the pandemic (Mohd. et al., 2022) and promoted a change in the teaching pedagogies. Believing that teachers are not soothsayers but after witnessing the radical change due to COVID-19 (Ramakrishnan, 2021), changes with online (Reaves, 2019) education platforms (Amann et al., 2011) have been accepted in the delivery process. K-12 institutions have played a significant role in restructuring the education model across the world. Many companies like Byju's, Vedantu, Teachnext, Edunext, Next Education, Xseed, Lead, Tataclasses, TataEdge, Educom, and alike have leapfrogged in creating the modules for most subjects concerned with different national and other state boards of India. These companies have also provided digital teaching aids to schools. These digital teaching aids attempt to address the needs of diverse types of learners in the classroom since they comprise auditory learners, kinesthetic learners, and visual learners. K-12 institutions have the nerve of this change that these institutions are the mass products of the future generation.
As per research, the coming generations will comprise future entrepreneurs (Rehman and Elahi, 2012) with a greater responsibility to be the changemakers in society. This creation of future entrepreneurs (Blanchflower and Oswald, 1998; Gaddefors and Anderson, 2017) can be possible when our teachers (Baldassarre et al., 2021) will become teacherpreneurs (Roque et al., 2018). This is a big challenge combining the innate abilities of a teacher and an entrepreneur. These teacherpreneurs shall have to provide entrepreneurship education ensuring the content delivery to the students, whether in a classroom or an online learning setting (Jovic et al., 2021). The biggest challenge is to ensure these teacherpreneurs provide clarity on all the concepts to the students via instructional methods supported by digital content. This must be followed by activities ensuring that the learning objectives planned must be met with learning outcomes. VUCA readiness (Abidi and Joshi, 2018) is simultaneously required to be taught along with entrepreneurial education to encounter the radical changes anticipated in a VUCA (Volatile, Uncertain, Complex, and Ambiguous) world.
Skill development through Project-Based Learning (PBL) and conducting projects in the subjects, justifies the need for applied subject knowledge. We must not forget that these students are the future of tomorrow. K-12 institution's vision (Joshi, 2010 a&b) has an immense responsibility that must be taken with utmost care. Generation-G (children born after the year 2000) and generation-alpha (children born after 2012) are being treated with advanced teaching pedagogies to enable the forthcoming generations to become future entrepreneurs.
Our teacherpreneurs understand the complexity of the future generation, hence designing teaching modules accordingly to enable students to survive in a VUCA world (Abidi and Joshi, 2015) is a much-needed specialty. Let us not be mistaken

that this acquisition of skill sets is a one-time activity, it is a vector requiring direction. These are full of dynamic capabilities one must be constantly engaged in acquiring, learning, testing, and executing both for survival and growth.

Entrepreneurship and Education

For students, the entire teaching-learning process is extraordinarily complex, and many educational challenges (Millar et al., 2018) are keeping in view the stream, the combination of subjects offered at the K-12 level, along the course on entrepreneurship (Amorim et al. 2018). This is followed by relooking at the 21st-century skills necessitated to survive in the future. Educational chains spread across have different approaches towards shaping entrepreneurs in a VUCA world via facilitating entrepreneurial education (Hess, 2006). There is ample evidence supported by research that institutionalizing entrepreneurial abilities along with added skill sets in the younger generation yield high results in the future and this becomes the center point or pivot of this research.

An interesting point emerges that these generations also possess the foresight to capture the future and enable themselves while maneuvering in their journey. Some of them become first-generation entrepreneurs while there could be few in second and third generation of entrepreneurship. Education is a central reason behind this journey. Most of these generations have an internal connection in carving an entrepreneurial future (Sonfield and Lussier, 2004), and hunt for unlimited opportunities (Christensen et al.,1989; Luksha, 2008; Hills, et al., 1997). They are linked to choosing varieties, trends, creation, goodwill, challenges, and creation of wealth (Venkataraman, 1997), thereby contributing to the economy and many more. These entrepreneurs (Blanchflower and Oswald, 1998) exhibit assorted entrepreneurial characteristics (Lumpkin and Dess, 1996; Kirzner, 1997) and intentions (Iakovleva and Kolverei, 2009) that are critical to existence both in present and future. With these characteristics, the entrepreneur can execute establishing an entrepreneurial firm (Klein, 2016). This is one great connection between entrepreneurship and entrepreneurial education.

The act of entrepreneurship

The pertinent question that encircles is around the act of entrepreneurship, as to 'why are some individual entrepreneurs, while others are not?' Gartner (1988), it is the individual's characteristics and the character of being classified as an entrepreneur. It is the internal factors within a person that influence their behaviour. These characteristics are either innate within generations or must be developed.

This research reflects a personality-based characteristic (Mischel, 1968) winged around an individual. Personality characteristics are not a decisive forecaster of any action by an individual in a specific way or a specific situation (Ajzen, 1988). These entrepreneurial characteristics are considered as an ability to create the product, which is neither existent nor required as an act of being a radical innovator or as an incremental innovator (Joshi, 2010c). Entrepreneurial growth demands proactive engagement in both divisions of innovative abilities. Entrepreneurial characteristics enable an entrepreneur to undertake risky decisions in VUCA conditions (Bennet and Lemoine, 2014; Abidi and Joshi, 2015).

These decisions are likely to strengthen the enterprise, changing as per market conditions (Assael, 1988). As an impact, the entrepreneurial firm created by these entrepreneurs moves into an expansion mode. Hence, the entire business cycle in an entrepreneurial firm travel through distinct stages, generating economic growth. Thus, we can visualize the immense potential of the educational institutions in telescoping the learning experience at the institutional level and making the incumbent VUCA ready by institutionalizing the spirit of entrepreneurship.

Entrepreneurial accomplishments are one of the influential drivers of industrial intentness, growth, and economic development (Schumpeter, 1934; Carree and Thurik, 2003). Entrepreneurship, speaking fundamentally (Shane and Venkataraman, 2000) refers to an economic activity that is conducted by individuals, acting solely or within business to create new probabilities (Acs et al., 1999; Acs and Audretsch, 2003; Audretsch, 2012).

This is a result of their confidence under uncertainty. The entire entrepreneurial process is linked to the welfare and advancement of society considering the growth, development, and achievement. Wennekers and Thurik (1999) claimed that these entrepreneurs have a great responsibility to save mankind, as their acts in terms of firm creation become a significant source of employment.

This is important in maintaining an equilibrium of demand and supply and hence, an important function to study and import to the education sector in the preliminary stages of a child's education.

Objectives

Having realized the potential of being an entrepreneur and the process that leads to its creation, the principal research query that emerges is 'K-12 institutions are shaping future entrepreneurs in a VUCA world?'. The knowledge of entrepreneurial characteristics required to encounter this journey was found to be a major research gap within the current educational setup. They were not abreast of the VUCA perspective and the impending challenges one would like to foresee in shaping the economy. To bridge this gap the authors saw a need to:

1. Explore the current K12 educational setup and assess if entrepreneurial characteristics were being instilled at any point in the student's journey.
2. To assess the relative importance of understanding the VUCA conditions and future readiness of the current generation with contemporary situations.

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Research Methodology

Until now, K-12 institutions have been focusing on neuro-based education while developing different concepts around the subject. Today, the time has come to support VUCA readiness. Generation G (children born after the year 2000) and Generation- Alpha (children born after 2012) need to be trained and skilled to respond in a VUCA word. K-12 institutions need to focus on skill-based education, considering PBL (project-based learning) by integrating project learning and integration in promoting skill and entrepreneurship education in a VUCA world.

Most K12 institutions don't have the resources or capabilities to provide entrepreneurial education. Those who possess the resources lack in intent, foresight, and execution to do so. It is challenging both to ascertain and execute the needful. These K -12 institutions must deliberate on their curriculum along with the teaching pedagogies to address the needs of the current generation for the entrepreneurial skill sets required to survive in a VUCA world. The authors set a premise to respond to the research question "are K-12 institutions shaping future entrepreneurs in a VUCA world?'. To investigate this purpose Superhouse Education Foundation from Kanpur city in Northern India was chosen as a test bed. It comprises of eight Delhi Public Schools as a Franchisee spread over four cities, Kanpur, Lucknow, Bareilly, and Saharanpur. The other is Allenhouse Public Schools which has six branches spread over cities like Kanpur, Lucknow, Jhansi, and Ghaziabad. These cohorts were chosen as a part of qualitative research in building a response to the principal research question.

Qualitative research using the case method was chosen as the best strategy to capture the insights and the phenomenon. For this, the authors deployed the Yin (1994) and Eisenhardt (1989) method of case selection and case study, with an impression to investigate and learn from educational leaders in a case setting. Thus, deriving theory from the use of a case study is one form of research strategy (Yin, 1994), which engages one or more cases in building the theoretical construct and propositions from case-based empirical evidence (Eisenhardt, 1989). The major reason to use the case-based approach as a fundamental resource center for acquiring knowledge was tempting and rewarding in generating theoretical perspectives. The theory based on the identified patterns emerges from the journey one institution understands the need, absorbing in its journey and purpose. The core idea in building theory from case studies is potential in terms of the reoccurrence of logic (Eisenhardt, 1989). Entrepreneurs and their entrepreneurial characteristics may sometimes stand as a unique base for action and performance and these institutional leaders are no less like being coined as teacherpreneurs. How one is exposed to different situations (Gorman et al., 1997) in harnessing entrepreneurial actions is important and therefore, these leaders must understand. Thus, the Entrepreneurship (Hebert and Link, 1989) Act lowers the rate of unemployment and at the same time prepares one to counter VUCA situations (Bennett and Lemoine, 2014; Abidi and Joshi, 2018). These discussions were put forward and widely addressed with snowballing techniques, addressing the principal research question from multiple angles while capturing the phenomenon from the identified institutions in a stratified sample.

To conduct this study, our research design (Creswell, 2014) was based on published material such as research papers, and case studies, which were examined to demonstrate the subject. Theoretical foundations based on the literature review reflected some signs of existence, while it was contrary at one pole. Theoretical sampling (Eisenhardt and Graebner, 2007) using "polar types", wherein there is an extremity in research samples (e.g., high, and low) performers were actively considered amongst the institutions and this made a logical difference. This sampling drew the researcher's pursuit to a clear pattern, creating a logic associated between the entrepreneur and the phenomenon around the principal research question.

Constructing or building a theory is a central activity in organizational research. Typically, authors have attempted to develop a theory by combining observations of previous literature, common sense, and experience. This research methodology expanded for entrepreneurial research (Dana and Dana, 2005) and helped study the objectives. This scholarly work attempts to build a theory from case studies as exhibited by Eisenhardt (1989). The data collection is based on real-time field research, personal interviews, and first-hand practical experience gained before, during, and after the interview.

Analysis

Every school visited has a different approach for any set of activities with centralized standard operating processes (SOPs). As far as shaping future entrepreneurs in a VUCA world, each school has a different notion. As per mandate by the government, all schools were advised to start entrepreneurial clubs where educators would focus on developing entrepreneurial skill sets amongst them, but this has been scantily understood. There is a long way to go in appreciating the dire need to be entrepreneurial.

Few had these entrepreneurial clubs engaging in several activities, founded on the principle of learning by doing. Students in such an environment were made to analyze and scrutinize from new directions. Knowledge acquired here through experiential learning transformed many towards independent thinking. Students were exposed to such experiences that allowed them to think and behave differently and build their entrepreneurial talents. Few institutions allowed their outstanding students from the entrepreneurial club to associate with entrepreneurial firms and assist in their growth, even in small capacities like idea generation, etc. The entrepreneurship club held weekly lectures with industry resources, and teams, mentored by experienced entrepreneurs, as well as professional faculty advisers. This one-stop entrepreneurial club

emerged as a venue where members of the community may incubate a start-up, thereby providing students with learning opportunities.

Learning ecology for teachers and students has transformed, fostering innovation (Rogers, 1983; Boldureanu et al., 2020) locally and globally. Some of the K-12 institutions are adopting new ways of classroom teaching to work on concept clarity so that the present and VUCA situations can be addressed. Entrepreneurial skill sets were diagnosed and skill clubs within the schools with practical application-based learning have stepped in enhancing them with a possibility of generating new start-ups (Birley and Westhead, 1994) by these entrepreneurs. Some educational leaders think this might accelerate with time. However, there is an impending need for teachers to be equipped with virtual tools to explore the future of teaching (Mehta, 2013). Learning aims to become outcome-oriented and be precise with the objectives. Some of the institutions with a wider body of understanding aim to be application-driven.

One of the Delhi Public School chains is managed by Superhouse Education Foundation based in Kanpur. They are comprised of entrepreneurial clubs on innovation (Joshi, 2017). Starting from pottery to publication and fashion to finance, interior to infrastructure, coding to cyber security, and artificial intelligence to aeronautical are various ones to try hands-on. Learning is to be facilitated by sharing experts' views. Students are motivated to share their views on multiple occasions. They are also exposed to the basics of learning in a VUCA (Bennett and Lemoine, 2014, Abidi and Joshi, 2015) perspective.

These chains of schools have conducted many activities but need deeper planning and objectivity to orient themselves in incubating the idea of creating new entrepreneurs while making them ready for their entrepreneurial journey. These schools have resources and are investing reasonable efforts but need a planned and focused approach to quantify the outcome. Similarly, a group of schools managed by the same management under their foundation by the brand name "Allenhouse_Public School", have different activities. Despite owning the infrastructure, these schools lack trained and qualified staff. At the same time, the availability of funds is also a challenge. These K-12 institutions have ample resources with a will to provide entrepreneurial education but are unable to capture the need and translate it into any kind of entrepreneurial ability. Thus, the initiative towards entrepreneurship education takes a back seat.

On the contrary, if they got some clarity on requirements and needed to establish an entrepreneurial club they could have begun a journey. The biggest challenge for them has been the untrained staff requiring a distinct set of capabilities in translating this opportunity.

In another case, K-12 institutions from the cohort lack fundamental resources like dedicated classrooms, internet-enabled computer labs, and school playgrounds but have competent staff. Whereas some other institutions lack curriculum planning for providing entrepreneurial education to students. This kind of institution suffers from the gratification of being innovative, supportive, and competent staff consider. One more category of institutions where neither the management nor the staff have the vision to explore the requirement of entrepreneurial education for students who possess little or no resources. The primary focus of these K -12 institutions is to complete the coursework and co-curricular of recommended by the board. They are gratified in following the age-old system with no spirit of entrepreneurship.

We must understand that entrepreneurs must possess diversified entrepreneurial characteristics and hence, should be nurtured in the infancy of the educational journey. The authors explored several dimensions to demonstrate that different entrepreneurial characteristics like innovation (Prahalad and Krishnan, 2008; Carlsson et al., 2013; Ferreira, et al., 2017) and foresightedness (Johansen, 2020), etc. are the foundations and drivers of entrepreneurship. These were found in pockets in these institutions, some willing to extend and others as reiterated, gratified. Casson (1982) states that a person possessing entrepreneurial characteristics inhibits justified decisions about the resource's availability. These entrepreneurial characteristics are the attributes leading to "justified decisions" under VUCA conditions (Abidi and Joshi, 2015). As a result, these small-time entrepreneurs (Dana, 2000) are in the micro-small-scale businesses likely to have a major impact on society. This construct attempted to contribute to the body of literature on entrepreneurship education, based on qualitative methods (Guba and Lincoln, 1994; Starman, 1997; Dana and Dumez, 2015). The authors opting for a qualitative method (Starman, 1997 and 2013; Creswell, 2014; Gephart, 2004; Neergaard and Ulhoi, 2007; Dana and Dumez, 2015) helped in exploring distinct stages. Many times, higher professional education (Fayolle, 2008) facilitates these incumbents to accelerate and hence, the need to institutionalize in an educational setting for being innovative (Ries, 2011).

Interpretations, gaps, and problems

The school's administration and policymakers are conventional. Their methodologies opted for educators' recruitment, induction, and support need to be reviewed at the appointment stage. Skillful teaching staff adapts to challenge-based learning (CBL) (Kukreti and Broering, 2019) and evolves to deliver the highest quality education. This is also important for assisting in developing entrepreneurial skills in students. K-12 institutions embrace the change but are reluctant to upgrade their assessment practices. This is a big gap and a problem too.

Furthermore, K-12 institutions are reluctant to overhaul their education system. The pattern of assessment is not predictable. Few K-12 institutions conduct two formative and two summative in a single academic year. At the same time, few institutions conduct four-unit tests, one half-yearly and one annual examination, while others believe in continuous

assessment and only conduct term-I and term-II assessments. K-12 institutions charging exorbitant fees are focused more on the development of entrepreneurial skill sets. The lesser one in the chain category of K-12 schools, with lower infrastructure despite having qualified employees (Dhillon and Nguyen, 2020), continued to use traditional classrooms and teach traditional subjects. Skills like problem-solving (Joshi, 2007) and managing VUCA conditions impact all categories of K-12 institutions. The approach by another set of cohorts with a vision of imparting entrepreneurial education and shaping future entrepreneurs has a promising journey. They are engaged in bringing a transformation in students in terms of developing entrepreneurial skills and handling VUCA circumstances in overcoming challenges.

K-12 institutions that charge high student fees and have visionary administration spend more on research and development in building future entrepreneurs. Management participates in constant and rigorous academic understanding in producing future entrepreneurs with predicted skill sets. Students were taught differently through the course book to prepare them for confronting future VUCA conditions. It had a mix with no uniformity. If the recruitment and training of educators from these K -12 schools were undertaken with adequate thought processes contemplating the outcome to meet the projected future goals, the results might be encouraging. K-12 institutions, on the other hand, with limited funds, cling to old and conventional teaching and learning (Czuchry and Yasin, 2008) approaches and for this, it is an inconvenient situation.

Implication of Study

This research highlights the significance of implementing entrepreneurial education at the K-12 level. K-12 schools must rethink their curriculum and incorporate entrepreneurial education to prepare the next generation of entrepreneurs while competing in a VUCA environment. Individuals are beginning to recognize the significance of being entrepreneurs and safeguarding their future (Pittaway et al., 2015). Launching an immersive e-club for middle school pupils is a novel strategy (Ehsani and Osiyevskyy, 2022) to achieve this goal. These clubs for entrepreneurship provide students with hands-on learning opportunities that include enjoyable activities and practical experiences. Field trips or visits to businesses in the real world provide immersive experiences for students increasing the probability of assisted learning. Middle school students can be supported with a conference lasting 60 to 90 minutes during which they can discuss their on-the-ground learnings and deepen their interest in entrepreneurial thinking. Entrepreneurial education, in conjunction with conventional subjective education, improves the ability to correlate phenomena. A proper demand-supply balance can be accomplished. The application of Artificial Intelligence in an extremely futuristic manner introduces extra elements to emerging entrepreneurial circumstances. By embracing the usage of technology (Bradley et al., 2015; Johansen, 2020), new accomplishments are propagated.

Conclusion

Some K-12 institutions were intensively concerned with developing future entrepreneurs in a VUCA environment through adequate research and planning. They have been supported by the management in terms of adequate resources and capabilities. On the contrary, some were left behind due to defunct processes, reduced resources, and capabilities. On the other end, some remained silent in following traditional norms of education compromising on deliveries and intent. These kinds of institutions are large in number and impede in nurturing of future entrepreneurs. Their limited foresightedness (Chauhan et al, 2019) can be a deterrent combined with the dynamic capabilities required to exist in 21st-century skills. Assembling future entrepreneurs entails identifying capabilities and providing guidance to help the skill thrive in a VUCA world.

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