



## EXPLORING INNOVATIONS SHAPED FOR NON-AFFLUENT CUSTOMERS: A PERSPECTIVE OF ENTREPRENEURS WORKING IN INCUBATION CENTERS OF PAKISTAN

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### ABSTRACT

The underprivileged class of society faces challenges like health, energy issues, poor sanitation and water resources, education, lack of employment, and many more. There is a need to know the prevailing or pitching new innovative ideas are designed to address these issues of the penurious sector of society. For this purpose, the current study aims to explore the entrepreneurs' innovative ideas and motivation behind these ideas in the context of non-affluent customers. Their smarter innovations can be a way to address some of these issues that can satisfy the immediate needs through sustainable practices. Entrepreneurs can provide low-cost, sustainable solutions without compromising the quality of products or services. Considering this, the present study contributes to the literature by analyzing main smarter innovation features, i.e. affordable innovation, core functionalities, less technological complexity, and sustainable solutions. An extensive literature review is conducted to explore and define the characteristics of these innovations shaped for the impoverished class of economy. A qualitative research approach explores these innovations' characteristics and entrepreneurs' motivation to design such products and services. Through snow-ball non-probability sampling technique, 10 entrepreneurs affiliated with different incubation centers of Pakistan have been selected to conduct semi-structured interviews. Thematic analysis showed that most entrepreneurs consider that innovation as a solution to the problem either a new or existing one. The findings also revealed that most entrepreneurs reported cost efficiency, user-friendliness, and core functionalities as central innovation features for non-affluent customers. In contrast, very few entrepreneurs included time efficiency and quality as the features of innovation designed for middle and lower-middle class.

**Keywords:** Entrepreneurs, Smart Innovation, Non-Affluent Customers, Innovations

**JEL Codes:** P12, O30

### I. INTRODUCTION

The economic upsurge of developing countries brings a rapid growth of the world's intermediate layer, which will grow from approximately 5 billion humans in 2010 to triple that number by 2030 (Credit Suisse AG, 2010; Ernst & Young, 2011, 2013). However, 85% of this overall increase will come from the Asian continent (OECD, 2010; Roland Berger, 2013). These emerging mass markets comprised a poor and non-affluent community that demands low-cost products and services adapted and designed according to the needs of local populations. Such customized innovations are named in literature as Frugal Innovation (Basu et al., 2013; The Economist, 2010). Frugal innovation is a complex and overlapping concept where scholars are not confined on a single definition of frugal innovation. However, Frugal Innovation is a resource-constrained solution which is developed under technological, financial, or any other scarce resources. This innovation produces a good-enough impact to satisfy the needs of underprivileged customers who are otherwise unable to use the existing services or products to meet their needs (Hossain et. al., 2016). Innovations designed for poor economy are distinguished by functionality, low costly, high robustness and user friendly (Roland Berger, 2013). However, such customized innovations are not limited to newly industrialized zones and developing nations. Price-sensitive customers' numbers in industrialized nations demanding frugal products and services will also increase (A.T. Kearney, 2012; Bhatti & Ventresca, 2013). Recently, there has been a growing concept of developing more affordable products in new emerging markets (Ravishankar & Gurca, 2015). Through entrepreneurial bricolage, creating something new from scratch is a newly developing concept in emerging economies (Baker & Nelson, 2005). There is a shift in entrepreneurship under grass-root entrepreneurs having little formal education, technological know-how, living and working in destitute environments. Resource scarce entrepreneurs serve

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unmet and penurious consumers, craft environmentally friendly solutions with low overall ownership cost and use local material. These low-cost and effective solutions have long-term impacts through sustainability, enhanced productivity, poverty reduction, and inclusion (Pansera & Sarkar, 2016).

Pakistan is a developing nation with 38.3% multidimensional poverty index (MPI) based on 2017/2018 data and a human development index (HDI) of 0.557 based on 2019. Compared with other South Asian Nations like Bangladesh and India on these dimensions having MPI 24.6% and 27.9% respectively, Pakistan is on a higher side than her neighboring nations. These statistics reveal that country is emerging as a resource-constrained population (UNDP, 2020). This underprivileged class of society faces challenges like energy issues, poor sanitation and water resources, education, lack of employment, and many more. There is a need to know the prevailing innovations are designed to address these issues of penurious sector of society. Yet, how entrepreneurial innovators or inventors operate in developing countries with limited resources and their implications under the complex development process of sustainability is under researched. Many researchers take interest in the study of innovation and entrepreneurship to address the issues that impact the lives of those who live at the Bottom of the economic Pyramid (BOP) (Pansera & Sarkar, 2016). The current study aims to explore the entrepreneurs' innovative ideas and motivation behind these ideas in the context of non-affluent customers in developing countries like Pakistan. In this paper, we organize the theoretical background to focus on entrepreneurs regarding innovation and its features designed for non-affluent customers. Then, we explain the adopted research design, research methodology, and qualitative approach. In third part of the paper, we elaborate on the research findings and their implications from the perspective of Pakistan. In the end, we give concluding remarks by indicating the limitations of the current research and finally propose recommendations for future research.

## II. LITERATURE REVIEW

It is observed either in the academic field or in the practiced world; it is normally considered that developed nations maintain a distant advantage in developing innovative capabilities compared to emerging economies. Porter Diamond Theory of National Advantage elaborates that Taiwan, South Korea, Israel, and Ireland emerged as new centers of creative capacity building. However, the importance of innovations in emerging nations cannot be ignored or devalued for long. Many scholars and researchers point out that it is due to the focus of innovation research have mostly on developed and mature markets instead of emerging nations (Drazin & Schoonhoven 1996).

Schumpeter as a researcher, found entrepreneurs as individuals coming up with new ways of combination of factors of production, which in turn are essential to economic growth (Carland et al., 1984, 354). Schumpeter, in his theory, puts the entrepreneur's activity and possibility, resulting from the discoveries of inventors and scientists, in creating new opportunities for growth, investment, and employment. It is worth considering that according to Schumpeter, "The pure new idea is not adequate by itself to lead to implementation .... It must be taken up by a strong character (entrepreneur) and implemented through his influence" (Schumpeter, 1912). Innovation does not become a reality merely through the power of ideas but the power to get things done makes the innovation a reality. He divided the innovation process into four dimensions: invention, innovation, diffusion and imitation (Burton-Jones, 1999) and put the entrepreneur into the middle of his analysis (Schumpeter, 1912). Schumpeter puts the innovation as essential to explain growth of the economy, and the "entrepreneur" is the main innovator. In the modern world, the more emphasis is on the inclusive innovation designed for the wellbeing of the disenfranchised members of the emerging economy. George et al., (2012) defined inclusive innovation as "the development and implementation of new ideas which aspire to create opportunities that enhance social and economic wellbeing for disenfranchised members of society".

There is a need for political stability, consistency in development policies, development of skilled human power, better infrastructure, and transparent monitoring in the country for the smooth development of any emerging economy. However, in the absence of the prerequisites mentioned above, there is a need to undergo such changes and bring innovative business models that effectively run the emerging economies. To obtain such changes, scholars and researchers believe that innovations designed under constrained resources and formulated under frugal mindset can meet the needs of the under-served or un-served consumers (Bhatti, 2012; Radjou & Prabhu, 2015; Simula et al., 2015). In this regard, Pakistan is far behind the other emerging economies due to a lack of inclusive innovation mechanism.

A framework describing frugal innovation along with institutional innovation, social Innovation, and technology innovation is developed by Bhatti (2012). According to (Basu et al., 2013; Radjou and Prabhu, 2014) resource-constrained innovation can craft social value by way of boosting living standard of local communities at individual level to the next-better level. Frugal innovation is social in terms of meeting the needs of citizens and

designing the suitable solutions for their wellbeing (Basu et al., 2013). However, there is an immense difference in the product development in and for resource constraint consumers from the product development occurring for the developed nations. Innovations designed for emerging economies required features that serve the needs of large middle and lower social class demands. If the top-down R & D innovations with the innovations that emerged in the developing economies need to employ human centric, bottom-up, locally cost-efficient and appropriate in performance through processes like bricolage, design thinking, creative, improvised solutions, and reverse engineering. Emerging nations may seek innovations in different contexts that address their contextual factors, local demands, and constraints (Bhatti & Ventresca, 2013).

Compassion is an essential aspect of entrepreneurship as it derives from the entrepreneurs' intentions (Bacq & Alt, 2018). It would help identify the pro-socially behavior of social entrepreneurs towards solving the issues of the local community for their wellbeing, for example, the desire to lessen the other's suffering after disaster or catastrophe events (Rodriguez et al., 2006; Williams & Shepherd, 2016) and aspiration towards elevating poverty (Sutter et al., 2019). Pan et al., 2019; Santos, (2012) describe that social entrepreneurs have the motivation to alleviate the sufferings of the people instead of merely focusing on the gains or their financial benefits. To create social impact, entrepreneurs identify the positive social opportunities to develop compassion (Agafonow, 2014; André & Pache, 2016; Dey & Lehner, 2017).

However, the role of empathy as a motivation to lead towards pro-social opportunity recognition has been overlooked for many years (Saebi et al., 2019). Another study points out that how entrepreneurs learn to invent new opportunities and discover existing remain unanswered research questions (Zahra and Wright; 2016). The literature on entrepreneurship mostly focused on goal settings that determine the task performance and self-efficacy under cost-benefit analysis (De Dreu et al., 2000; Hechavarria et al., 2012; Locke, 2000; Meglino & Korsgaard, 2006) which is ineffective to understand the motivation behind entrepreneur's innovations for the wellbeing of the society.

### **III. METHODOLOGY**

Qualitative research such as grounded theory (Pansera & Owen, 2015), Organizational Ethnography (Dey, Binsardi, Prendergast, & Saren, 2013) and interpretative case analysis (Ramachandran et al., 2012) among others as compared to quantitative approaches are considered more favored approaches in the way of investigating the complexities lies under informal economies. Underlying benefits of the qualitative research methods are the study of people's experiences in detail, producing descriptions and explanations of different concepts while understating the meaning and interpretations of people for the various attitudes, behaviors, and events (Hennink et al., 2020; Neuman, 2013).

Under this context, by considering the study's objectives, a qualitative approach has been used to explore the innovation designed for non-affluent customers. The current study used the semi-structured interview protocols as a data collection tool from the population of entrepreneurs registered under 59 incubation centers, other entrepreneurship support organizations, and 41 universities' Business Incubation Centers all over Pakistan (ideagist.com). Here for this study Incubation Centers includes all accelerators, venture capital firms and other supporting institutes working to develop entrepreneurial activities. First of all, we seek the entrepreneurs' perception regarding innovation. It is because obtaining their general concept regarding innovation helps to get them on track. Then, in-depth semi-structured questions, including probing their cases in-depth about the motivation behind their innovative ideas designed to address the needs of local community belonging to the middle or lower middle class of the economy, have been asked.

The entrepreneurs have been approached through snowball sampling technique based on respondents' references knowing the entrepreneurs have innovative ideas with a strong impact on the middle and lower class living standards. Verbal prior permission has been sought to conduct interviews by describing the purpose of the present study. After getting verbal approval from the entrepreneurs and fulfilling the Covid-19 SOPs, an online medium has been utilized to capture the informants' responses through semi-structured interviews. Interviews have been duly recorded and notes have been taken. Recorded interviews and notes have been transcribed first and this data has been utilized in the NVivo QSR 12.00 Version to extract themes.

### **IV. ANALYSIS AND DISCUSSION**

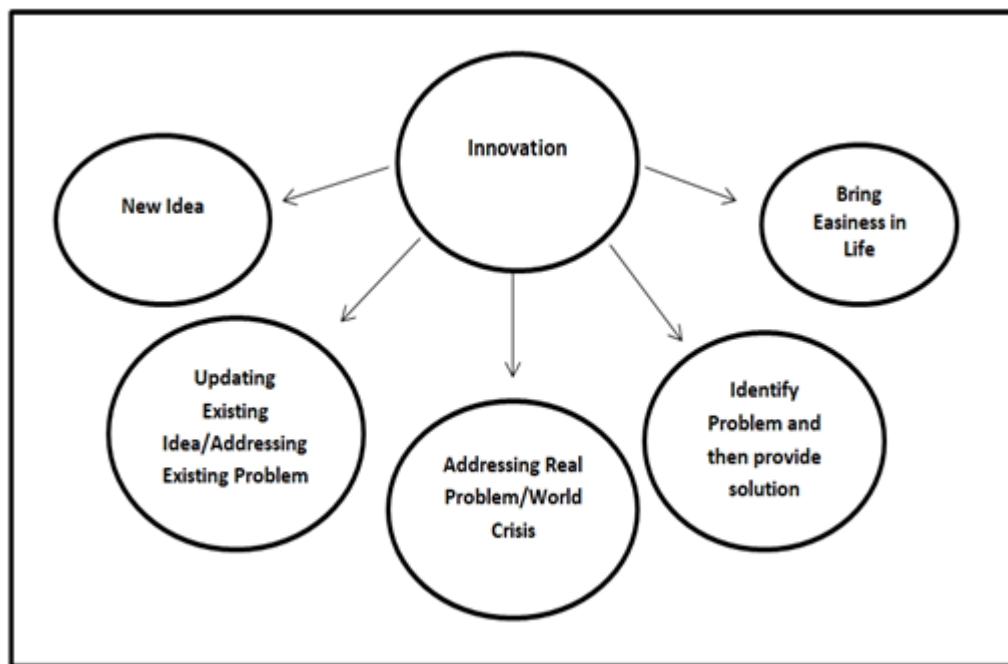
This section explores the prevailing innovative ideas of different entrepreneurs working under various incubation centers of Pakistan in the context of non-affluent customers' needs and their motivation through thematic analysis. The first question asked from the entrepreneurs is about how they define innovation before asking about their innovational focus particularly when asked about the under-privileged class of society. The respondents of the study are asked about the features of innovation designed for middle class or lower middle

class of society, main objectives/ goals to bring comfort of life and at least what motivates them to move ahead in spite of hurdles while coming up for smarter solutions of the problems of the society especially for non-affluent society.

#### IV.I. INNOVATION

In this study, prior to asking about respondents' innovative focus under the context of non-affluent part of society facing many issues regarding their basic need's fulfillment, the respondents are asked to tell about what is innovation in their point of view. The themes extracted under this question are given in Fig.1 below:

Figure 1: Innovation in the Entrepreneurs' Perspectives



Entrepreneurs pitching their innovative ideas into different incubation centers of Pakistan define innovation according to their own perceptions. However, most of the entrepreneurs are of the view that innovation is what that brings updation into existing ideas or address prevailing problems in the society. Where else very few respondents are of the view that innovation is a new idea that brings something new that is not based on already any existing idea. Among them, some consider both conditions for innovation. Respondents have the point that innovation is what which addresses the real issues or world crisis instead of just for the sake of additive features of a product or service etc. among respondents, Others consider innovation is what that brings easiness in life for example one respondent has said, *Innovation is anything which makes the life easier. In past times, it is a challenge to serve the hot meal anytime, afterword, oven is invented and it is no more a challenge now. Similarly, in ancient time, there are no light, people used to oil lamps for lighting. However with the passage of time, electricity is invented and light makes the life easier. It means anything which brings easiness in the life of human i.e. human centric, by using any combination or by any means, is innovation.*

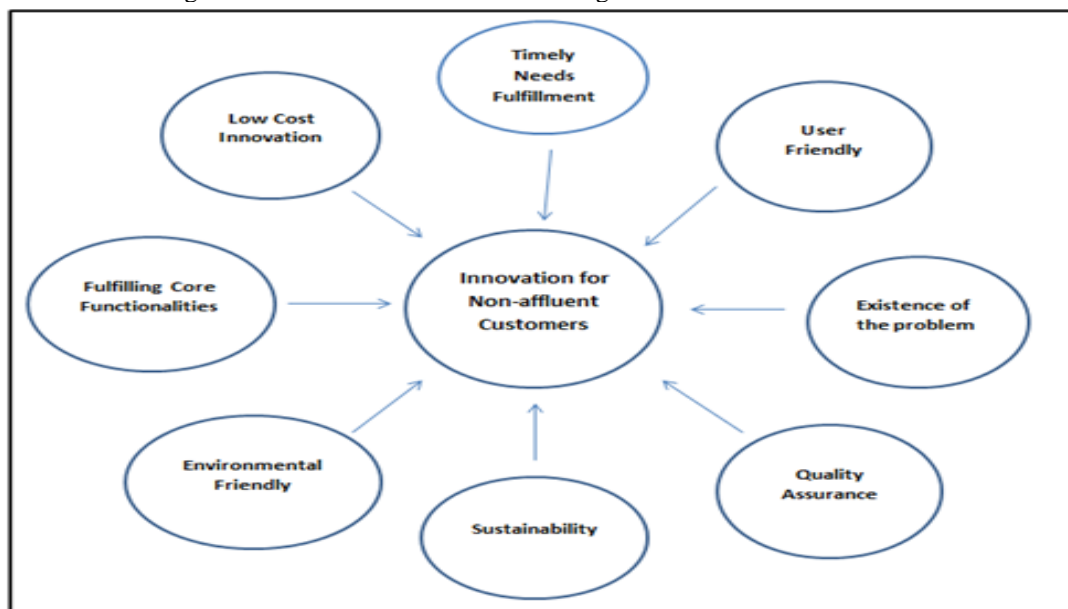
#### IV.II. INNOVATION CHARACTERISTICS DESIGNED FOR NON-AFFLUENT CUSTOMERS

The response on the question asked from the respondents that what constitutes innovation for non-affluent customers. Different responses have been received explaining the core characteristics of the innovation designed for the penurious sector of the society. The following themes have been extracted from the responses, which are shown by the figure 2 below.

There are eight extracted themes from the responses. Most respondents consider that **low-cost innovative** products and services attract the middle and lower-middle class as these innovative products and services come under their affordability limit. However, with cost-effectiveness, most of the respondents consider **core functionalities** with **ease in use** a product or service, and inclusive feature of innovation for the underprivileged class of society. According to Weyrauch and Herstatt (2017), "innovations are frugal if they simultaneously meet the criteria substantial cost reduction, concentration on core functionalities, and optimized performance level." One of the respondents says, *"It should be low cost and serve their needs and be more users friendly"* and another respondent endorse the sayings as, *"For non-affluent customers, innovation must be within their financial capacity and serve the purpose of their needs. These are two primary characteristics of innovation if*

*we want to innovate something for non-affluent customers". One respondent is of the view that the **existence of a problem** that basically hits the lower-middle class must be the element before providing the solution to that problem. So, when one starts working on any idea that is basically for the benefit of society's penurious class, this element must be fulfilled. Many innovations are just providing the additional functions with better facilities without considering the core issues are not innovation for that sector you are targeting. Respondent has a belief, "frugal products/ services exist only when there is a problem. If a problem exists, then to solve that problem, people move towards economic solutions in the shape of either product, service, business model, etc. but first, the existence of the problem is essential. We see many innovations that do not have any core problem, and we can't say these inventions or innovations are frugal for many".*

Figure 2: Innovation Characteristics designed for Non-affluent Customers



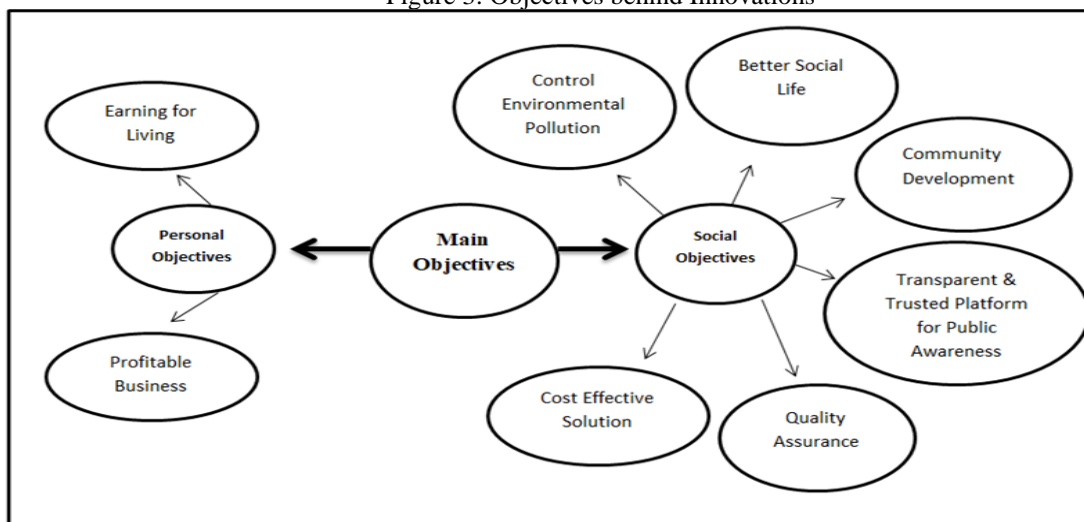
Another, respondents pinpoint **environmental friendly** innovation as the part of innovation designed for, bottom of pyramid (BOP) who are poorest social-economic group of the society, as to meet the global standard on SDGs and also the requirement of every innovation especially when you are innovating for the benefit of the society. Respondent elaborates as, "*it is the innovation designed for the wellbeing of our society helping to restore our ecosystem from pollution. We are introducing an environmental-friendly project, and we are also giving awareness to people on how to dispose of trash. In this way, we can solve environmental pollution by awareness and involve the community to participate in it.*" Rosca. E, (2017) explains in his study about the ecological impact in local communities can be enhanced further by creating ecological awareness in the BOP consumers. Bendul et al. (2016) found in his research that a little ecological awareness at poorest social-economic level of the society and approaches to sustainability towards environment are mainly driven by affordability constraints instead of explicit ecological orientation.

Some respondents also consider **sustainability** as the characteristics of innovation shaped for low-income groups. Sustainable innovative solutions are conceptualized as sustainable innovation that combines the wellbeing of people, competitiveness, and inclusive solutions (Oksanen & Hautamaki., 2015; Haider & Ali, 2015; Kaseem et al., 2019; Sajid & Ali, 2018; Roussel et al., 2021; Senturk & Ali, 2021; Audi et al., 2021). In modern era, without sustainability, any concept or innovative idea will be vague in its pervasive contribution to society. One of the respondents explains importance of sustainability as, "*To provide sustainable and affordable solutions to non-affluent community are the main challenge of any innovative idea and we are committed to it*". Only a few respondents consider **quality assurance** and **timely needs fulfillment** of the people living under low-income slabs as an innovative product or service designed for them. The cost-conscious economic part of society in emerging markets demands quality products and services to adopt better living standards (Rao, 2013).

#### IV.III. OBJECTIVES BEHIND INNOVATIVE FOCUS

Respondents are motivated to pursue their ideas into a successful venture while keeping some objectives and goals in mind. These objectives/goals have two main themes that are the driving force pushing them towards entrepreneurship. These two main themes have further sub-themes as figure 3 depicts below:

Figure 3: Objectives behind Innovations

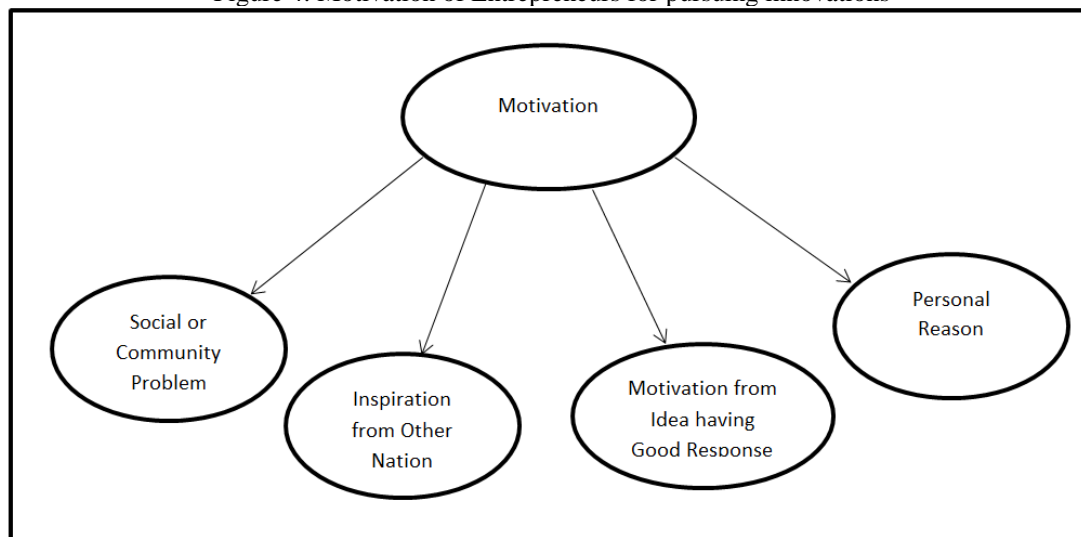


While inquiring about the entrepreneurs' objectives behind these innovations, most of the respondents argue that while working on their innovations, they kept in mind how to solve problem/issue which they noticed in different social contexts. Most entrepreneurs are working, to solve the problems of different suffering local communities (like farmers, blinds, deaf etc.), to control environmental pollution, to provide a safe and transparent platform to local communities for their lifetime investments, providing quality solutions and most of the above under cost-effective solutions to their problems. Though few say, they have their objectives in their mind to make either their own life better or to earn profit by establishing a successful business venture.

#### IV.IV. MOTIVATION BEHIND ENTREPRENEURS' INNOVATION

The role of motivation is critical for successfully completing the target set by the entrepreneurs to achieve. In this awe-inspiring and crushing journey towards success, entrepreneurs needs motivation that helps them to keep themselves be focused and on track. Figure 4 below illustrates the main motivational element that keeps the entrepreneurs dedicated to their innovations under cost constraints of the low-income group of the economy;

Figure 4: Motivation of Entrepreneurs for pursuing innovations



The above diagram explains that most entrepreneurs are motivated by their own lack of opportunities, regrets, and self-efficacy that develop based on their past good or bad experiences. One of the respondents said: *"When one is facing scam/ cheating in one's lifetime investment, they directly affect. However, at that time, I have had discussions about site validation issues with different people, where I realized that this problem is severely affecting people because the contractors or uneducated property dealers who are showing themselves as contractors are involved in scamming people. I learned how they make little investment on construction and make massive money by looting the people. This problem is become my inspiration to come here with this idea"*

*to address these issues because I don't find any forum where one can get the validation of the plot or properties where you are going to invest huge money. Even we don't know about the legal requirements regarding constructing the property and it is the reason that I started working on it."*

Another respondent has said!

*"....I worked one of my project on Fuel Track System to counter scamming on Petrol Pump. .... when you fuel up your vehicle at the petrol pump for Rs. 200, the sensor showed it that liters is added (for example 1 liter= Rs. 100) but actually in backup coding, you paid Rs. 200 and petrol filled is about 1.8 liters or 1.7 liters, not 2 liters. On average at every one litre, they make 40% deductions approximately."*

Another essential factor to keep the entrepreneurs motivated is the personal observation regarding social or community problems in close relationships/contacts having greater impact towards working on cost-effective solutions. As one of the respondents reported that;

*"We are three persons ... working in a telecommunication company in Pakistan. We observed a problem there: Wamiq did not find any interpreter within the organization and even outside the organization; ..... He cannot participate in the meetings; and the main problem; they are facing is that what their management wants them to work, is not correctly communicated to them. .... This motivates me to work on it and develop such App that will resolve this issue and help the deaf community by breaking the communication gap."*

However, only few respondents reported the inspiration from other nations as motivation for their cost-effective innovative idea. Inspiration from other nations can also be a factor to motivation as quoted by one respondent as;

*"I got motivation when I traveled Europe in 2018. .... There is not concept to dispose of the garbage in streets or open places. They have developed a proper mechanism there which I want to introduce a similar mechanism in our country. They educate their children from start that how to dispose of plastic and other kinds of trash."*

Only one respondent explained that how he tried different ideas but which idea gave me a good response while pitching these in different forums. So Idea having good response is also a factor to motivate towards finding innovative solution. As quoted by one respondent as;

*"It varies case to case, as I already tried two other ideas, but they did not work, then I switched towards here."*

## **V. CONCLUSION**

The whole study describes the innovations/ inventions designed for those cost-conscious consumers in the perspectives of entrepreneurs working in different incubation centers, accelerators, and venture capital firms just to seek what they consider innovations, especially innovations for non-affluent customers. The whole story elaborates the penurious sectors; needs and the innovative ideas to address their needs while living in the constrained environment. To coop-up these resource-constrained environments to successfully invent something productive for society. Based on qualitative data analysis, the current study explores the features of innovations designed for non-affluent class of society and elaborates the motivation behind these innovations to keep them on track. From different entrepreneurs' perspectives, any new idea or updating in the existing idea, solving the existing problem and doing for the betterment of society can be characterized as innovation. This study finds that cost-conscious consumers desired those innovative products and services which are less costly, can perform core functionalities, provide sustainable solutions, efficiently solve the basic needs in less time and simple in use as many of the emerging consumers are not equipped with well-versed knowledge to handle the complexity of how to make effective use of complex product and service' features. However, most entrepreneurs pointed out that cost-effectiveness and fulfilling core functionalities are necessary while inventing something for cost-conscious consumers.

While most of the entrepreneurs reported that their main objective is to serve the societal issues through their innovations. Most of the objectives behind entrepreneurs' startups are: to develop an trusted platform for others to tackle the challenges facing the local community in construction industry, development of the communities (blinds, deaf, farmers etc.), to tackle the pollution to curb the global warming challenge through environmental control electric vehicles or through by introducing the system for effective garbage dispose-off mechanism, and by producing a low-cost medical device. However, some entrepreneurs explained about their observations about other entrepreneurs' intentions to establish themselves either through earning for their living or by establishing a profitable business. However, in the journey of converting these ideas into reality, the main motivational factor is the personal past experience or regrets self-efficacy when most entrepreneurs share their motivational force behind the idea. However, the other most noticed deriving factor is the problem that friends/family or community face that motivates them to work on their invention. Other noticed deriving factors are inspirations from different cultures/ nations and working on the idea of having a good response. This study highlighted some of the core motivational factors in the perspective of entrepreneurs contributing to these initiatives taken by many entrepreneurs to make society an enabling environment. This study aims to contribute to academia and researchers in defining the innovation for non-affluent customers specifically in emerging

economies like Pakistan, and provide the way forward for empirical research under this construct. This study aims to contribute policymakers to formulate policies to better develop an innovational ecosystem in the country that is supportive to more empower the entrepreneurial frugality in the country while working for the betterment of the non-affluent class through their inventions

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ANNEXURE A. WORD CLOUD



ANNEXURE B: TEXT SEARCH QUARY

