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***Jugaad* as Frugal Innovation in Street Entrepreneurship at the Bottom of the Pyramid**

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Abstract

The research aims at jugaads involved in the Indian hawker markets at BOP and showcase them as frugal innovations based on dilapidated resources. Moreover, the markets are not only displayed as hawkers survival markets but exhibits a perfect class of Street Entrepreneurship. The paper reports analysis based on in-depth interviews with hawkers, who belongs to the BOP communities and earn their livelihood through local street markets in the four cities of Kolkata, Delhi, Mumbai and Chandigarh. Semi-structured questions persisting to various aspects of street entrepreneurship were framed and complimented with distant observations to add richness in the data. An overall sample data of 152 hawkers was collected and analyzed on various parameters persisting to street entrepreneurship. Several jugaads happening in street entrepreneurship at BOP are discovered that should presently be regarded not only as “making do” strategy but as a survival strategy. Four fundamental new retail formats were realized that were a result of frugal innovations in street entrepreneurship. Moreover the research significantly elaborates these markets on various parameters consequent in determining the utility of these markets among the big population of the country. The study shows that jugaad goes beyond being merely as a firm of “quick fix”, but is rather a methodology for survival at the BOP. The implications for managers primarily cater to involve and engage with BOP producers in these markets to co-create products and services that may prevail in the markets at BOP. Most of the markets explored adhere to informal and unrecognized structure and thereby the authorities should implement the necessary measures to identify these markets on formal grounds. Academicians and enthusiastic researchers may take up research in this specific amalgamation of jugaad and street entrepreneurship and investigate the historic efficacy available.

Keywords: Street Entrepreneurship, Bottom of Pyramid, Jugaad, Limited Resources

***Jugaad* in Street Entrepreneurship at the Bottom of the Pyramid**

According to *The Fortune at the Bottom of the Pyramid*, C.K. Prahalad, the four billion people living on less than \$2 per day are referred to what is called the Bottom of the Pyramid (BOP). The World Development Report (2001, p. vi) points out that at Y2K a full 4 billion of these individuals were consigned to what '(Prahalad, 2005)' has called the "Bottom of the Pyramid" (BOP). People at BOP are generally characterized by their low income, low literacy, low skills, limited infrastructure, limited resources and less freedom. One of the most comprehensive and in-depth studies that quantifies expenditures and spending among the world's poor is that by (Hammond et al., 2007), a co-publication by the World Resources Institute and the International Finance Corporation (WRI and IFC). . The main point of concern seems to be that BOP is severely constrained by lack of income and hence only certain products or services that are more utilitarian would be viable. If the cost of producing a reasonable quality product is still high, then BOP would be unable to afford it and hence there is no fortune at BOP '(Subrahmanyam, and Gomez-Arias 2008)'

Behind the entire philosophy and debate of treating BOP as markets, lies the fundamental notion of a BOP individual as a consumer, as well as a producer. The BOP individuals mostly depend on livelihood generation as street hawkers, house cleaners, construction workers, and such other petty jobs. However, at the crux of any activity at the BOP lies the fundamental notion of forced frugal innovation, due to severe constraints on resources. It is known that BOP communities do not have sufficient resources and infrastructure required for a standard livelihood and thus forced to opt for innovative ways of managing resources to meet their objectives. Despite such frugal resources, an interesting form of frugal innovation or what we know as *jugaad*, is practiced every

day on the streets of India. In this article, we focus on innovative forms of production of services in BOP, namely by the street entrepreneurs. In this study, we define *jugaad* as “*Low-cost sustainable frugal innovation in process, products, and/or services done locally, and with a strategic intent/purpose.*” We conduct a survey of 152 hawkers in four cities in India (Delhi, Kolkata, Mumbai, and Chandigarh) and highlight various parameters of *jugaad* as frugal innovation at the bottom of the pyramid street entrepreneurship.

Since previous literature on BOP is silent on *jugaad* as frugal innovation and the term only has recently started to appear in other streams of literature (such as strategy, and innovation literatures), our present study is also aimed to contribute to understanding *jugaad* as one form of frugal innovation at the base of the pyramid. We defined our research objectives as following:

Research Objectives

Our research aims at understanding and contributing to two important aspects at the BOP markets. First given the presence of dense populace in this BOP market in India, which also contributes to a huge informal market economy in India, understanding *jugaad* ways that are employed in these markets becomes important to suppliers to these informal markets, as well as to large firms trying to market their product and services to BOP consumers. Secondly, our research also strives to explain the rationale of the prevalence of these dense markets(street entrepreneurship). In our study we try to understand how the seller in the informal economy of India (often called India’s underbelly) face hardships as street entrepreneurs, and how they solve their common problems using *jugaad*. Our study therefore is aimed at helping policy makers to incorporate some of the findings in their policymaking and implementation. Traditionally, means of addressing this problem have largely included poverty-alleviation and developmental

assistance from government and non-government agencies, the corporate sector, and developed countries (e.g. Walsh, Kress, & Beyerchen, 2005), but the results from the research significantly states that the measures have not yet been able to provide a significant development in these markets. The study also reveals the various *jugaads* that are employed by the producers in the BOP markets that are not just a “making do” for them but a survival strategy in the street markets that are otherwise deprived of the legal facilities.

In the rest of the paper, we first review literature, and then discuss the methodology followed by us in surveying the street hawkers in four cities in India. We discuss our results, and finally provide implications for managers.

Literature Review

The World Resources Institute and the International Finance Corporation (IFC) did a detailed study of the BOP around the world and estimated that the market is about \$5 trillion in purchasing power parity (World Resources Institute, 2007). This market is currently served by the unorganized sector that is often inefficient and controlled by local monopolies, such as moneylenders and intermediaries (Prahalad, 2012). People at the BOP can be found residing in the rural as well as the urban setting, and therefore the markets at the BOP level also exist at multiple places-rural as well as urban domains. On the contrary, these BOP markets are yet too informal. Moreover, according to (Prahalad and Hammond, 2002), the market is a “missing market”, lying dormant, ignored by international and multination corporations yet worthy of attention for its potential to contribute to both economic and social prosperity. However, Karnani (2007) argues that such markets are a ‘harmless illusion’ and a ‘mirage’, claiming an exaggeration of actual size and opportunities for business at bottom of the pyramid (BOP).

Prahalad (2005) suggests that BOP offered significant market opportunities for multinational enterprises (MNEs), and hence there is an alarming need for the government, local societies, and developed organizations to tap these markets and inculcate in them the required entrepreneurial skill development to enhance and prosper the market sales, and thereby alleviating the sustainability levels of the community. Karnani (2007) argues that people at BOP should be viewed as ‘producers’ arguing that the role of job creation is pertinent for economic development, and consequently, it should be realized that the markets with these communities as producers are immensely developing and a definite attention towards their formal development, growth and progress should be recognized through the various media of opportunities available for such markets.

BOP Markets

Bottom of the Pyramid (BOP) is the term used to describe people living in absolute poverty who, despite economic limitations, can be “resilient entrepreneurs” and co-creators of new market opportunities that result in win-win situations for companies and consumers (Prahalad, 2004: 3). Moreover, BOP can be defined as those living on less than \$2 a day, covering nearly half the world’s population (Martin and Hill, 2012). Terms such as ‘in-work poverty’ (Spencer, 2008) and ‘nouveaux pauvres’ (Ulver-Sneistrup and Ostberg, 2011) have emerged to refer to those on very low incomes, struggling to survive in contemporary material world. Prahalad and Hammond (2002) draw an attention towards a “missing” market that is generally ignored by the corporations, government, as well as the society but sincerely possess a huge consumer market that can contribute significantly to the economic development of the nation. These markets

exclusively defined in this peculiar way are the very subject the paper deals about. The restrictions faced by poor people are myriad and can be felt in multiple ways including restricted choice, often of poorer quality products and services; reduced consumption capabilities and capacity; adverse marketplace forces; and negative effects (and pressures) of consumer culture (Blocker et al, 2012; WRI, 2007). These markets are a perfect consequence of these adversities. Through the presented research, such BOP markets are explored from producer's and/or a vendor's perspective. The street markets of these BOP producers not only target the BOP population, but also the wholesome middle class Indian families and thus contributing noteworthy economic prosperity to the land.

Jugaad

In India, traditionally *jugaad* refers to the jaloopies-cobbled together motorcycles, trucks, and cars that can take a larger number of passengers than a conventional car. The jugaad is part of the 'infrastructure deficit' '(Sharma, 2009)', a robust and cost effective solution to rough roads and poverty. As a new scientist report highlights: "Everywhere you go in India, you see Tata trucks, invariably overloaded, often with people riding on the top of the load, and bouncing over incredibly bad roads" '(Hanlon, 1978:35)'. Initially *jugaad* only referred to such vehicles, which are self made and specially designed in rural India and hence is now being termed as slang for a 'quick fix' or 'making do' '(Mitra, 1995:10)'. After this the word has also been considered as an alternate meaning for the low level, border line criminal activity in an informal economy '(Thomas, 2011)'. In social science, the term refers to bribery '(Krishna, 2003:1175)'. However, in business and management, such practices are evolving as innate, grass root level innovations

aroused due limited access to capital, resources, and infrastructure. Considering the overall concept, *jugaad* can be broadly regarded as a low cost innovation, a coping mechanism a quick fix solution and sometimes an unethical way of getting anything done.

The paper has aimed at exploring the *jugaad* taking place at the BOP in the rural areas as a consequence to their dilapidated resources, limited infrastructure, and financial constraints. BOP has considered *jugaad* as a low cost innovation that suits their low income, acts as a coping mechanism with their limited resources. People at the BOP neither consider the ethicality of a *jugaad* nor as a time-saving mechanism. The prime and foremost reason for the *jugaad* at BOP is rooted in the cost constraints.

Jugaad in this paper, based on the observations, case studies, and interviews, refers to innovations in products, and/or processes, carried out by people under resource constrained (resources may include economic resource, time resource, human resource, any other resources or any combination of these resources) environment, and often under hostile surroundings. The paper aims to highlight and discuss the various sorts of *jugaads* employed by the producers, vendors, hawkers who primarily belong to the BOP community and thereby cannot afford a fully fledged market-style but tries to incorporate his market through *jugaad* approach and what consequently is termed as the street Entrepreneurship.

Street Entrepreneurship

Street entrepreneurship primarily includes earning one's livelihood by the art of doing a business on the local streets, railway platforms, footpaths etc. From vegetable seller, to the newspaper distributor, everyone can be termed as street entrepreneur. According to the Hawker Unions'

study, 2005, there are 275 thousand hawkers, inclusive of 110 thousand food hawkers with an annual business of Rupees 7 billion in Kolkata.

Research Methodology

The paper reports analysis based on in-depth interviews with producers, vendors, hawkers, who belongs to the BOP communities and earn their livelihood through such markets in different localities in four different cities of Kolkata, Delhi, Mumbai, and Chandigarh. Structured questionnaires pertaining to more than 15 different aspects of street entrepreneurship such as the rental issues, permissions concern, bargaining, time of operations, economic considerations were used to collect the responses. The questionnaires were subjective and were not directly filled by the respondents due to the literacy limitations at the BOP. Interviews were also complimented with distant observations to add richness in the data covering various sectors. An overall sample of 152 hawkers was collected and analyzed on various parameters persisting to markets in street entrepreneurship.

Results

Our results indicate very interesting trends in this form of frugal innovation. Approximately 78% of the hawkers in Delhi, and 84% of the hawkers in Mumbai, open their markets in morning, while only 20% and 6% of them opens in evening respectively in the two cities. An interesting factor discovered, directed that there are certain vendors, who operate their enterprise twice in a day, with certain hours in the morning, while certain hours in the evening. Approximately, 2%, 10%, 4% and 20% of the vendors interviewed Delhi, Mumbai, Chandigarh and Kolkata

respectively indicated such method. Figure 1 represents an indication of the trends in the time at which these markets open in a day, with 4 major cities of India.

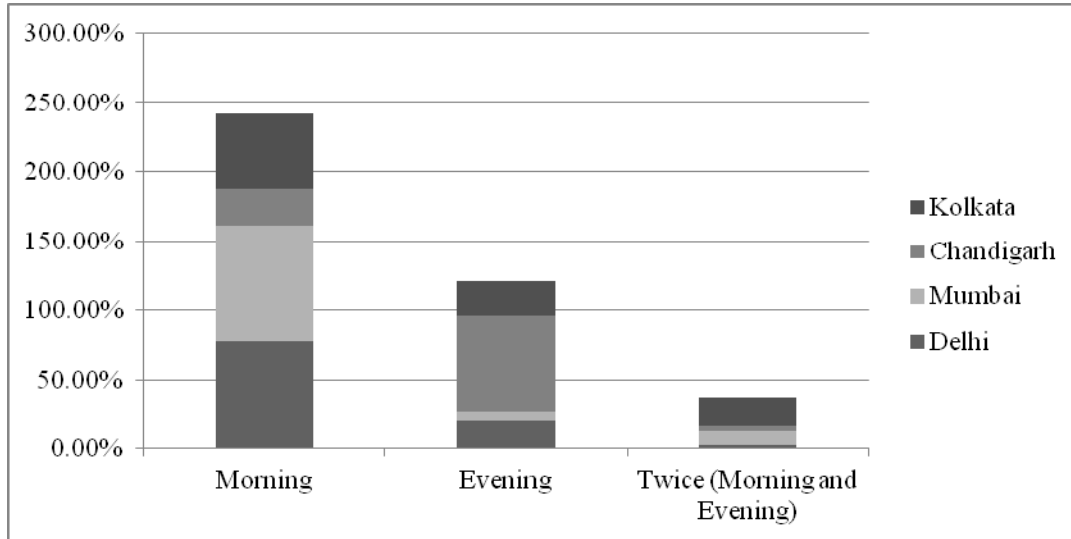


Figure.1: Trends in the time at which the various Street Markets operate

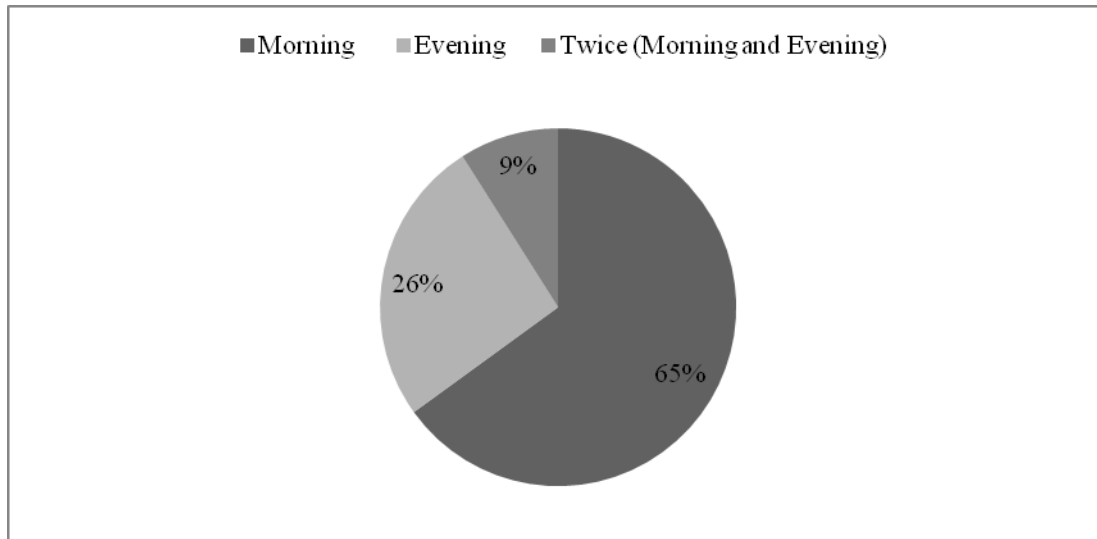


Figure.2: Percentage of Vendors opening markets in Morning, Evening, or Twice in a day

Figure 2 points out at the cumulative data of the four cities, and signifies that approximately 65% of the vendors interviewed in total, open their markets in the morning only, while 26% of them

open it in the evening. A good number of 9% hawkers operate them twice a day in two different time slots, may be at a same place or different locations.

Markets in such practice, includes all sorts of items that are regularly consumed, utilized, or required by people from the major sections of the society. The items majorly include eatable stuff such as Fruits, Vegetables, Tea, food, juice, tobacco, etc. They also serve as a perfect market for purchasing clothes, utensils, etc and provide regular facilities such as hair cutting, ironing clothes etc. Moreover, a major section of the hawkers interviewed in the survey lived nearby there market area so as to save their money on traveling, and transporting items. These markets play a vital role in the lives of a significant section of the society that primarily includes the middle and lower class families living in the residential areas nearby the markets, company workers and laborers, passing by passengers, and travelers.

Markets of this kind in India are not successfully being accepted by the government as legal, and thereby exist on temporary basis with permissions of the state municipal cooperation, local police, market area presidents, land owners etc. on payment of certain monthly, or daily rent, though government has recognized certain areas in different cities applicable for such markets to Operate with a requisite license. Figure 3 showcase the percentage of hawkers who require a permission to perform their business.

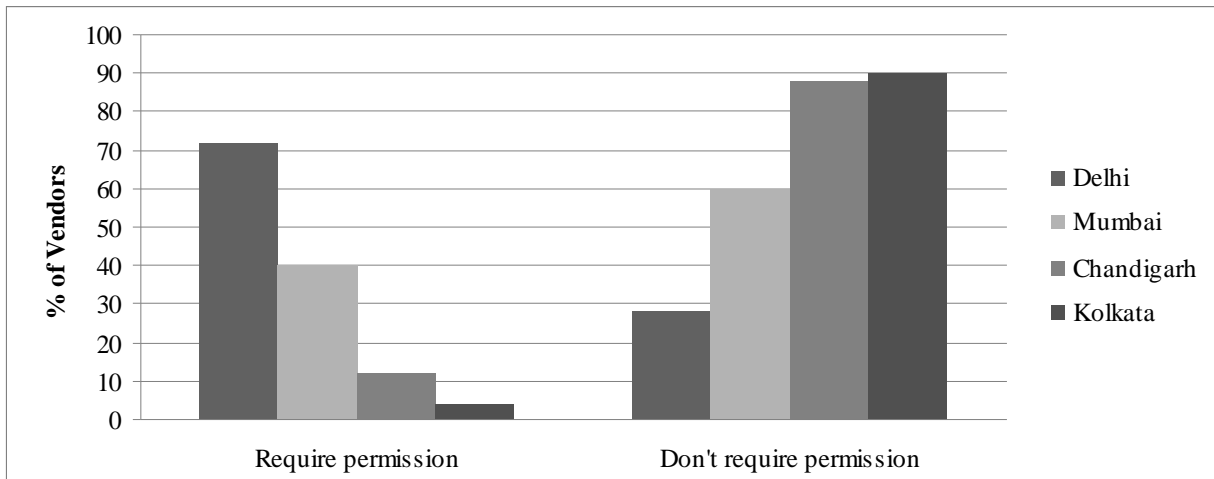


Figure.3: Percentage of vendors in different cities that require and do not require permissions

A very clear picture emerges depicting a gradual shift from illegal markets requiring permissions for their setup, to legalized market areas with no monthly or daily permission requirement.

Approximately 28% of the hawkers interviewed in Delhi do not take any permission for their enterprise, while an enormous 60%, 88% and 90% of the hawkers interviewed in Mumbai, Chandigarh and Kolkata respectively require no permissions to conduct their businesses.

Even after, the permissions, and rent payments, the collected and analyzed statistics report that out of 152 vendors, interviewed, 20% vendors face regular problems from the authorities. These problems majorly include removal of the vendor stalls, from the markets during any official inspection, resulting in zero sales for the entire week. Moreover, sometime, the police authorities capture these stalls, and the same have to be freed after paying a huge fine. All this happens, even after the hawker pays a regular daily or monthly rent.

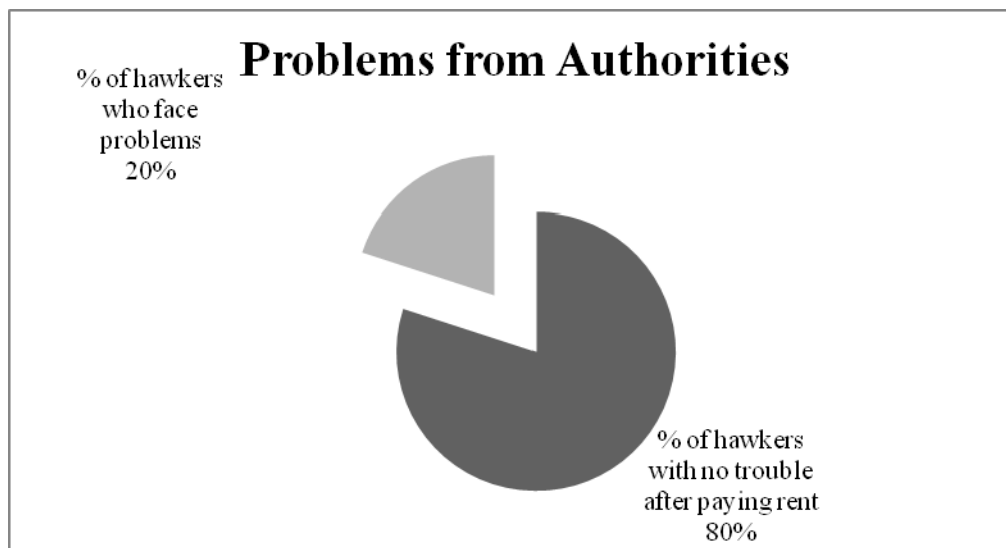


Figure.4: Percentage of vendors who face problems from the Authorities

Permissions from the authorities to perform business, many a times include paying a rent to these authorities. These rents are no legal, or authorized but a necessity at in street entrepreneurship for a smooth conduct of the business. No official payment receipt is provided to the vendor, and the entire chain runs on unethical terms.

As per our study, 35% of the vendors open their market in evening, and therefore the study indicates a good percentage of hawkers who depend on street lights for their work. Figure 4 indicates that 70% of the hawkers interviewed in Delhi do not have their own electricity system, while this number is 40%, 100% and 67% in Mumbai, Kolkata and Chandigarh.

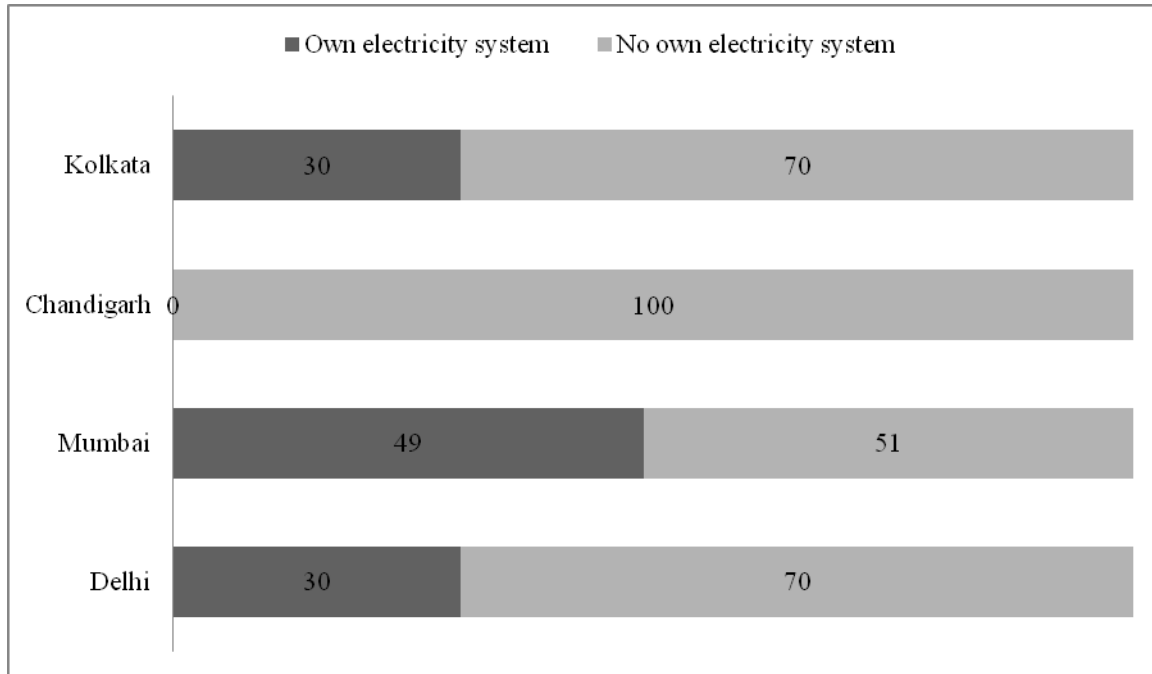


Figure.5: Percentage of Entrepreneurs with/without personal electricity system

Figure 6 shows the percentage of hawkers that were interviewed and mentioned a dependence on streetlights for their occupation. An approximate 48% of the total hawkers, who do not own an electricity system, depend on the street lights.

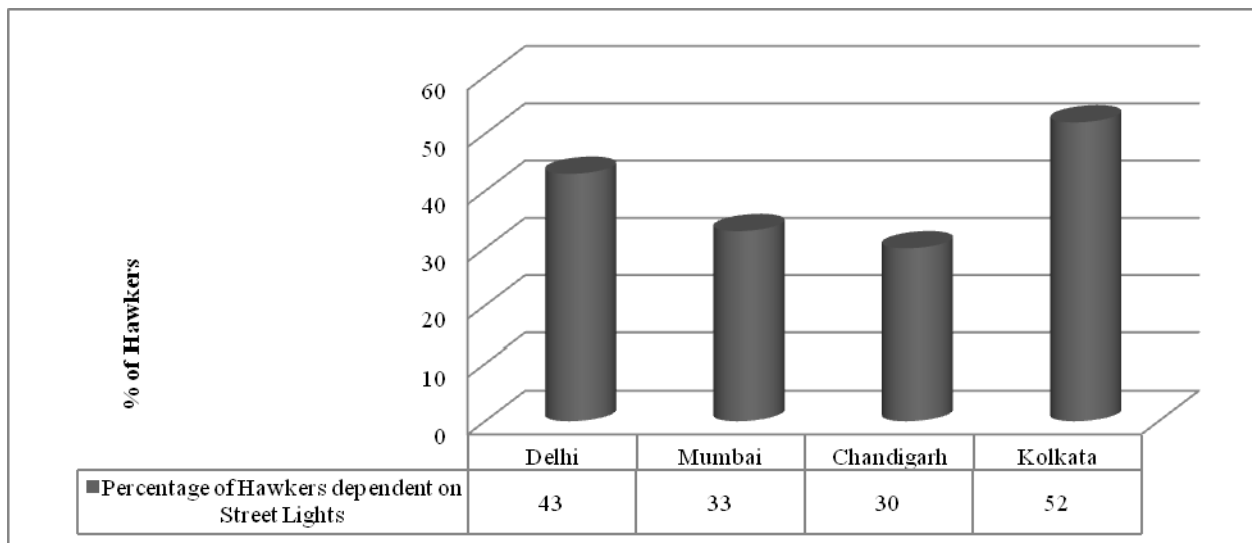


Figure.6: Percentage of hawkers dependent on Street Lights for operations

A common observation in all the cities also signifies that some entrepreneurs in this domain, due to a temporary kind of market, and rent payment issues, do not install themselves at a fixed place, and instead prefer to change their locations depending upon the customer number, area and the depending type of consumptions, and variance of the market value of the same product in different areas.

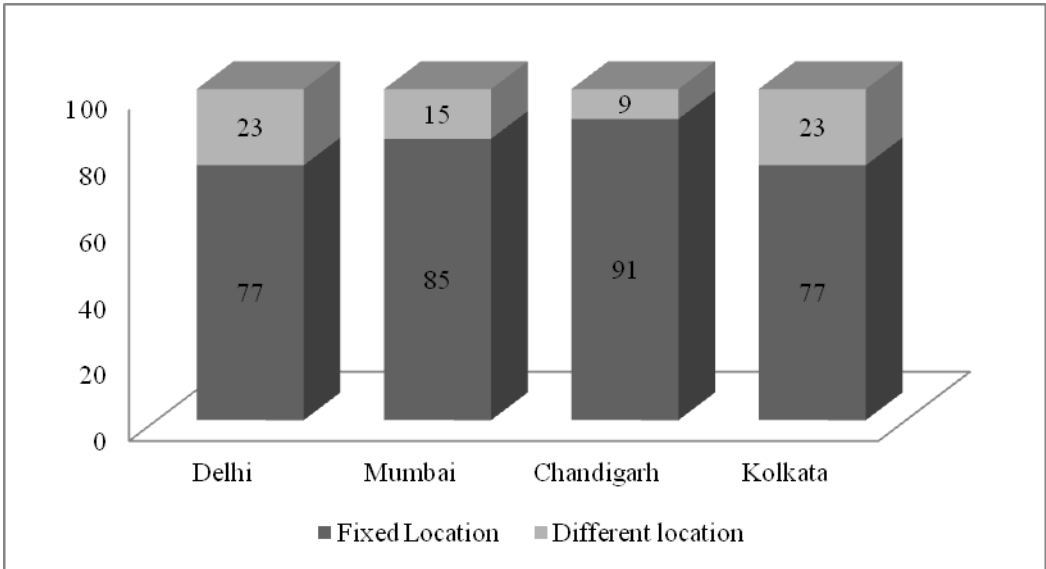


Figure.7: Percentage of Vendors who sit at fixed/different locations in 4 cities

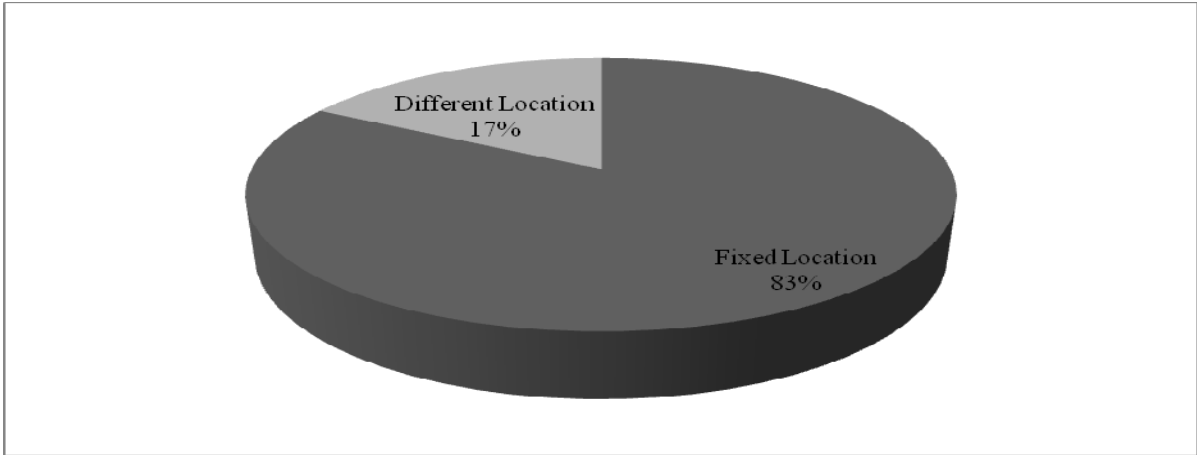


Figure.8: Street Entrepreneurs who sit at same/different locations

Out of the 152 vendors interviewed, 17% of them change their locations every day, and establish themselves in different markets so as to cover the maximum customer base possible.

Data analysis at the street entrepreneurship also reveals the act of bargaining that is prominently done in these markets. The reduction in amount of item may vary according to the amount of purchase, cost of purchase, regularity of the customer, and the trend of price in the markets. An interesting comment by a hawker in Delhi revealed that due to the bargaining trend in the society, the first price that is conveyed to the customer is always a hiked price, and as the customer would insist on reducing it, they ultimately drop down to the genuine price at which they want to sell.

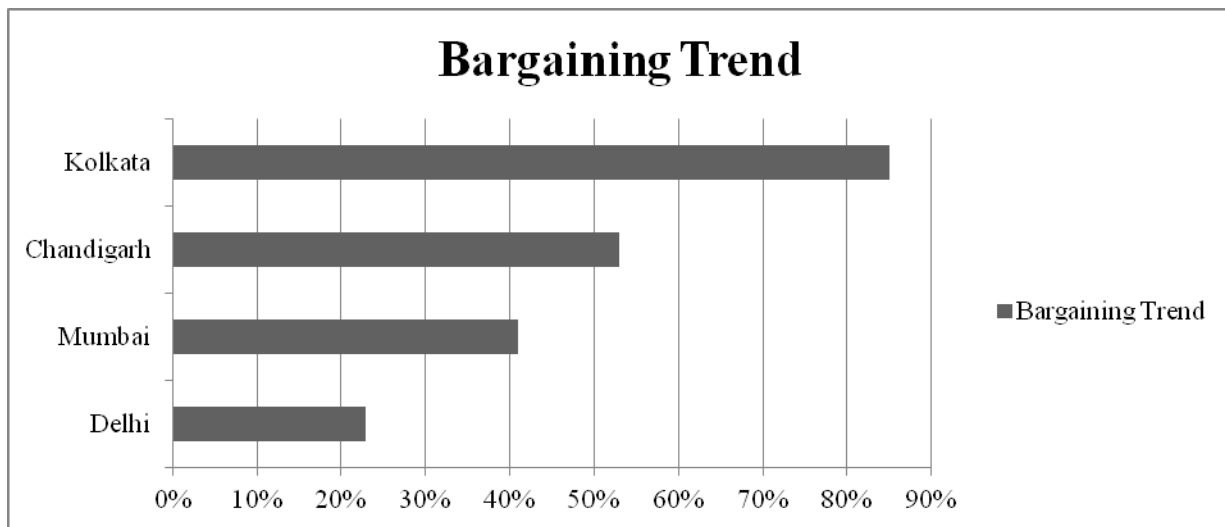


Figure.9: Bargaining trends in Street Entrepreneurship in 4 cities

Around 23% of the hawkers interviewed in Delhi, while 41%, 53%, and 85% of the hawkers interviewed in Mumbai, Chandigarh and Kolkata respectively report that bargaining in the street markets prevails magnificently. This sometimes, though indirectly affects their daily sales, and profits.

***Jugaad* in Street Entrepreneurship**

Jugaad is used as a surviving strategy at the bottom of pyramids due to unhealthy financial conditions, unavailability of infrastructure and limited resources. Though the understanding of the street entrepreneurship comprised on surveys in four major cities of India, including Delhi, Mumbai, Chandigarh and Kolkata, however, the research corresponding to *jugaads* in street entrepreneurship was primarily focused on the hawker markets in Pailan in Kolkata. Pailan is a small place just 1.5 km away from the Indian Institute of Management, Calcutta. The Market deals in varied products inclusive of daily grocery, clothes and draw 500-1000 customers approximately every day. The market is a magnificent example of street entrepreneurship and expertise in the *jugaad* of street business. An illustration of the initial expenditures and the monthly expenses of the different type of hawkers are tabulated in Table I. It showcases an example of an approximate expenditure of each hawker in the following described four sorts of street entrepreneurs.

Common hawkers in the *Pailan Haat* are “*Cubical Retailers*”. They are characterized by their small 5ftx4ft land covered with a plastic sheet supported by four bamboo sticks. Some retailers have small steel cubicles in which they arrange all their products. These types of shops are very common in rural areas situated in the outskirts of the cities so that the people residing in such areas need not travel to the heart of the cities to buy their daily grocery items thereby reducing the expenditure on transportation and other unnecessary affairs.

The second area of research for street Entrepreneurship was Thakurpukur. It is a locality on the diamond harbor road near Joka. The markets here included the “*Marketers on Foot*”. These vendors along with their merchandise usually sit on the pavements. These sellers are often

observed selling different products at different places as per the demands of the residents of the locality.

The sellers in these markets also revealed the strategies for selling the old products. The two most common *Jugaads* in this includes selling the old products at a lower price and mixing these old products in the fresh ones and selling them again on the next day. Although unethical, even the customers at the BOP are observed demanding for the stale products to minimize the prices.

The next category of vendors is tagged with the “*Business on Wheels*”. These hawkers are distinguished with their *jugaad* vehicle. They are not stationed in a particular market but travel in different localities with varied products. Generally, the vehicle, often referred as *Thela*, is rented to the seller by its owner on the terms of revenue sharing.

The final type of street entrepreneurs common in the BOP markets are the “*Head and Shoulder Sellers*”. They are commonly found around the railway stations and bus stands with their products on their heads or shoulders. Their expenses only include the products’ costs and the transportation cost. Such hawkers are generally observed selling toys, balloons etc.

Another category added to the “Head and Shoulder” entrepreneurship includes “*no cash in return*”. These sellers are women selling utensils in return for old clothes instead of cash. They generally visit different residential localities for the sales. This is purely an innovative concept, which is prevailing from quite a long time in the Indian markets. The Table I shows an estimate of initial investment and Monthly expenditure in different types of marketers involved in street Entrepreneurship

Policy-Level Contributions

The study comprehensively contributes to the fact that there is a wholesome existence in India, of the street-level markets that play a vital role from the vendors' as well as the consumers' point of view. The research, tries to bring out the scenario that highlights the tremendous potential of these markets, and significantly establishes a need for a more structured, legalized, and ethical marketplace to accommodate the street entrepreneurs, thereby providing them with a more sustained livelihood, thus contributing to the overall development of the nation. The results also mark the realization that the current situation of these markets will also contribute to an unnecessary inflation.

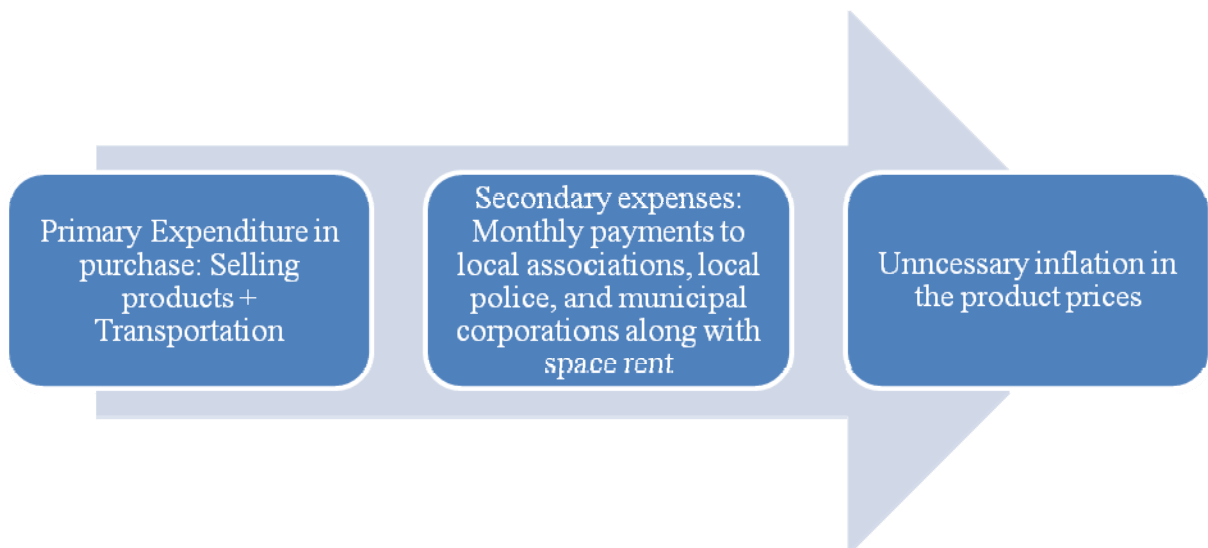


Figure 1: What leads to *Jugaad* at Street Entrepreneurship in India

Therefore, it becomes the urgent responsibilities of the governing bodies as well as the developed organizations to initiate steps that would eradicate this unethical practice and thereby control inflation.

Moreover, the results elaborate the *jugaads* that are employed in these markets. These *jugaads* range from *jugaads* in physical infrastructures, to social *jugaads* such as bargaining. These *jugaads* are also a consequence of the unauthorized practices in these markets that subsequently have led to the *jugaad* ways of selling and purchasing in the street markets. Therefore, the study comprehensively displays the current survival strategy, necessities, and techniques, through which a BOP entrepreneur survives, and urges for the necessary initiatives from the authorities towards developing an organized street entrepreneurship.

Theoretical and Managerial Implications

Through this paper, we have explained the concept of *jugaad* from a BOP point of view, just not as a quick fix, but as an efficient and effective way of survival at the BOP. The paper discusses the concept of *jugaad* apart from its conventional definition of “making things do”. *Jugaad* as discussed is present at the grass root level of the BOP and has impacted their way of living. Our exploratory study suggest that "jugaad" is not just a frugal innovation system, but a strategy for survival, by stretching resources by the poor, to extract more value from less resources.

Moreover entrepreneurial activity has been suggested as a pathway out of poverty (Prahalad, 2004), and the same is perfectly depicted among the communities at BOP that are engaged in the various local street markets. The paper also likes to draw the attention towards the issue of informal practices that prevail in these markets where, no vendor is a registered practitioner of its work, and thus the entire loop of rent collecting policy becomes perfectly informal with no official record. There may also be increased likelihood of engagement with dysfunctional entrepreneurial activities such as illicit income from informal work, and illegal activities (Hill and Stephens, 1997).

Marketing managers should need to recognize that *jugaad* way of life at BOP is for real, and design the product and service offerings that are attuned to this *jugaad* way of life at BOP. Moreover, if these informal markets are tactically tapped, they may provide a wide customer markets to the companies that were unavailable through the conventional marketing techniques. On another note, the authors also appeal to those scholars who refer to innovation in such markets, especially in developing markets as ‘reverse innovation’. We suggest that use of such terms make the consumers and marketers in developed markets central to the discussion on frugal innovation, where as it should be vice-versa. Frugal innovation is not dependent of the level of development of the market. It is a different reality that resource-starved BOP markets compel vendors and suppliers to go for *jugaad* and other forms of frugal innovation. On the other hand, resource-rich marketers and producers in developed markets over-invest resources to develop innovative products and services, which put more pressure on them to recover their costs over a longer time period. Companies should now focus on this section of the society and provide products at a similar *value-points* (term coined by authors), but lower price-points. We implore marketing practitioners to experiment with potential value-points rather than merely flirting with lower price points (e.g., Rs 5 that has become a beloved price-point for BOP products/services). Innovations such as modifications in the size/weight of the sachets to be availed at the BOP markets through a strategically coupled method is only the top of the iceberg(of possibilities). Following Yeung (2009: 332), we also implore that suppliers and consumers in BOP become more strategically coupled. This means that the local producers and consumers in BOP markets and MNCs might become mutually dependent on one another. The government should look into the allotment of formal and registered status to these markets and thereby halting all the illegal practices that exist in the concerned domain. The markets

display a significant potential from consumers' as well as producers' outlook and thereby an emergent requirement is there for their recognized identity. At the same time, while governments and institutions seek ways to intervene to alleviate poverty, there may also be a danger of continued cycles of poverty (Varman et al, 2012), especially for those lacking in the entrepreneurial confidence and skills to engage with the initiative.

For academics, future research can focus on developing various perspectives on the *jugaad* way of life in BOP markets, and observe its affects on the social and psychological well-being of the BOP individual producers and consumers.

We conclude that apart from an immediate and low cost solution, *jugaad* is emerging with an entire new concept as a “strategy of survival” at the BOP markets and street entrepreneurship.

We implore scholars in the strategy discipline to research this under-researched domain which has the potential to become a new emergent and vital opportunity for entrepreneurs at the BOP.

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