Analysis of Motivation Issues and Link with Profitability: Case Study of Entrepreneurial Firms in a Rural Cluster in West Bengal, India

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Abstract
Analysis and assessment of motivation factors of small scale entrepreneurial firms is very important in the context of developing countries where unemployment is at high level. A case study is conducted in the case of fish hook producing small scale clustered firms in West Bengal, India. In this context, a comparative analysis is made of the ranking of various items of motivation as perceived by the respondents in the cluster, reliability of various items of motivation is judged by using Cronbach’s Alpha test and an index of motivation is developed on the basis of principal component technique to find the level of association between motivation index and firm performance level. The results reveal reasonable degree of reliability among motivation items, indicate moderate degree of association between motivation index and per-capita firm profitability. Govt. should take certain steps for promoting motivation and attractiveness of entrepreneurial work among young generation.

Keywords: Cronbach’s Alpha; Motivation index; Principal component analysis; Regression

Introduction
It is often said that fulfillment of a person’s desire to undertake some new venture is influenced by how deeply he likes to be involved in it, his willingness and intention to go ahead and flourish in the business world. Success of the prospective entrepreneur depends on how he copes with the odds and seizes the opportunities that may be coming on the way. Sensing the emerging opportunities and grabbing them at the appropriate time, putting efforts at consolidating the resources and designing the mechanisms for pursuing the goal – all depend on how intensively the entrepreneur feels to follow his course of action and his willingness to play the game. This is linked to factors like traits, attitudes, determination of human agency which can be clubbed under the view of entrepreneurial motivation. Thus Aldrich and Zimmer [1], write, “Entrepreneurial activity can be conceptualized as a function of opportunity structures and motivated entrepreneurs with access to resources”.

Plehn-Dujovich [2], states that the decision to start a business is based on two bases: rational and motivational. The rational basis stresses the objective factors (including the environmental conditions) to undertake the task, that support or punish certain behaviors [3] while the motivational basis refers to subjective factors that reflect the decision maker’s inclinations and expectations. Further the limitations of rational model (because of lack of information) to predict human behaviour prompted Simon [4] to propose motivation for supplementing the explanations of human behavior: According to his arguments an individual’s behaviour is influenced by accepting a priori set of assumptions which are governed by the motivation and impulse to act in a specific manner.

Evidence [5-8], suggests that entrepreneurial motivation matters in shaping firm performance and strategic decision which influence the business outcome. Differences in entrepreneurial motivations also influence the differential in firm performance, entrepreneurs’ investments in their firms, the relative success in turning start-up efforts into operative fruitful business venture. The emerging studies in this area as well as existing studies point to the importance of entrepreneurial motivation from the viewpoint of both research and policy initiative.

In the context of highly populated developing countries, this motivation factor assumes great significance. This is because in such countries like India there exists huge scale of unemployment and lack of opportunities for white collar jobs. Hence adopting business/setting up industrial production units happen to be a major avenue for earning for a big chunk of unemployed population. But often there does not exist the appropriate mindset among the youth for taking to these entrepreneurial activities. Hence the analysis and assessment of the motivation factors that drive at least some part of the population to these enterprising occupations, seems extremely imperative for replication and extension to the society at large. And this assumes special importance specially in case of clustered small and medium scale firms. In this context it seems imperative (a) to have a comparative analysis of the ranking of various items of motivation as perceived by the respondents in an industrial cluster (b) to analyse the reliability of various items of motivation for assessing their consistency (c) to develop an index of motivation on the basis of principal component technique and find the level of association between motivation index and firm performance level.

Different Views of Motivation
There are different analytical views on the concept of motivation contributed by different people at different times. For instance Vroom developed the expectancy theory in 1964 pertaining to factory-site motivation. According to expectancy theory, human beings act according to their conscious expectations that a particular behavior will lead to achieve a specific outcome. Three components of Expectancy theory are:

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Expectancy: The belief that a person’s effort will result in attainment of his desired goals.

Instrumentality: The belief by a person that a reward will be gained if the performance expectation is met.

Valence: The relative attractiveness of value of the reward to the person.

Again there is a view that motivational variables are only a subset of certain kind of variables that influence the success of SMEs. These variables are (1) the psychological and personality traits of entrepreneurs, (2) the managerial skills, training and intelligence of entrepreneurs and (3) the external environment [9]. Psychological factors like entrepreneurial traits, spirits and innovative outlook and attitude toward challenges in life have been observed to be related to success [10], and this motivation factor assumes great importance, particularly in dealing with a difficult business environment. Thus human action is assumed to be shaped by individual drivers including both motivation and cognitive elements including ability, intelligence, and skills [11]. Apart from individual drivers, there are contextual drivers like regional and national characteristics that combine together into external factors. These include the status of the economy (local political stability, currency stability, Govt. regulations etc.), the availability of venture capital, the forces of competition, credit availability and legal restrictions, which also shape the entrepreneurial functions. In order to segregate the impact of motivation on entrepreneurial action, there needs to be a control of these external factors which could have a causal relationship with entrepreneurial actions and outcome. There is either implicit or explicit agreement among economists about the need of control of these categories of factors in order to measure the effect of motivations on the entrepreneurial process.

Leaving aside the external factors as stated above, a two-way categorization of human motivation factors is proposed by Amabile [12] when he states that these factors can be divided into two broad terms, extrinsic and intrinsic. He interprets that people are intrinsically motivated if they seek independence, fulfillment of ambition, satisfaction of curiosity, self-respect or love to face challenges. On the other hand extrinsic motivation is related to attaining a goal from doing the work and not the work itself. This view finds support in the works of Deci [13], when he states that a person is intrinsically motivated when he/she conducts the activity without expecting any reward. Extrinsic motivation emerges from the desire for the result of the work, not based on the work itself. This classification includes financial and material rewards as extrinsic results of a business. These results are conditioned by the performance of the company and is attainable at a later stage after startup. On the contrary intrinsic rewards involve psychological gain of the entrepreneur from the very beginning, in terms of self-satisfaction, esteem in the eyes of the society, being in control of own destiny and bearing the challenges for success of the enterprise.

While there are a number of such characterizations of entrepreneurial motivation, there is no doubt that psychological inclinations of the entrepreneur can be decomposed into several dimensions accounting for the entrepreneur’s motivation to start the business.

For a rigorous analytical exposition it is viewed that the following six dimensions capture entrepreneurial motivation in sufficient breadth and depth:

- Achievement and challenge.
- Material well being.
- Independence & autonomy.
- Creativity.
- Leadership and social status.
- Family and Roles.

Overall seventeen motivational variables linked with the aforesaid six dimensions, are considered based on prior research on human motives that are supposed to influence human decision regarding setting up of entrepreneurial ventures.

**Description of the Motivation Items**

Material well-being motive is linked with enjoying higher personal income and it also captures the tendency to combine financial success with family financial security. This is particularly manifest in studies of entrepreneurs in deprived and less developed regions in developed countries and studies in developing economies [8]. Hence this motive is decomposed into two items:

(i) Earning larger personal income.
(ii) Safety and security in consumption.

The motive of enjoying autonomy in work sphere can be considered as a psychological trait or a driver that enhances entrepreneurship. This can be viewed in terms of the following items:

(iii) Aspiration for doing independent work.
(iv) Greater flexibility in personal and family life.

Creativity refers to the inclination towards making something new and introducing innovativeness in the work process. This is viewed in terms of:

(v) Desire to do something new apart from stereotyped job.
(vi) Desire to introduce novelty in work.

Following McClelland [14,15], the need for achievement has been associated with a strong desire to do things well, or outperform others, for gaining self-satisfaction. People with a high need for achievement are likely to enjoy taking personal risk and responsibility and prefer quick, direct outcomes for their actions. This can also be linked with individual trait of identity fulfillment. The achievement and challenge taking motive can be factored into two statements.

(vii) Earning satisfaction from one’s own work and
(viii) Facing challenges in life.

Recognition and social status: This dimension refers to the motive of gaining social status in terms of recognition for leadership and respect from friends, family and society at large. This can be further viewed in terms of the following separate five indicators.

(ix) Earning respect in the eyes of the society/fellow producers.
(x) Ambition to excel others through leadership development.
(xi) Desire to dominate and influence others.

(xii) Desire for social interaction through working in a group.
(xiii) Deontic motive which implies one’s duty or obligation or commitment to assume (entrepreneurial) task and responsibility for others’ interest. It is supposed to emerge from a sense of duty and/or a feeling of obligation.
Family and role models imply some sort of embeddedness in family or friend circle from which motivation emerges. This dimension refers to the aspiration to maintain a family tradition as well as pursue the instance of some role models in the society. Sometimes this dimension also stresses the need for building a family legacy. This can be structured in terms of the following components.

(xiv) Continuing a family tradition.
(xv) Emulating successful fellow entrepreneurs.
(xvi) Gaining respect from friend.
(xvii) Building business for future generation.

Data and Method
For purpose of study, data were collected from all the clustered firms producing fish hooks in Barjora region of Bankura district in the state of West Bengal in India. Since only 16 firms were located in the cluster, all of them were covered in the study on the basis of face to face interview with the owner of the firms, based on a pre-structured questionnaire. The owners were favoured as respondents to the questions, since they shouldered the day-to-day management responsibility and actively participated in overall decision making process.

For analytical understanding of variation in motivation factor across the entrepreneurs, it seems important to construct a single index based on diverse motivational items. Preparing an overall motivation index based on the reported data by the respondents requires the consideration of individual sub-indices of motivation viz. Material well-being, Autonomy, Creativity, Identity fulfillment, Social status and embeddedness. These respective sub-indices again are based on several components pertinent to specific sub–index category. Both the overall motivation index and sub-indices are considered as latent or unobserved variable. Here the problem is the weight assignment to the indicators or sub-indices which is critical to maximize the information from a data set included in an index. A good composite index should comprise important information from all the indicators, but not be strongly biased towards one or more of these indicators. Taking a cue from Camara and Tuesta, we apply two-stage principal components methodology to estimate the degree of motivation as perceived by the different entrepreneurs. Since the sub-indices are likely to contain inter-correlated indicators, we estimate the sub-indices first, rather than directly estimating the overall index.

First of all, the six individual sub-indices are constructed by using principal component method. Second, we estimate the dimension weights and overall motivation index by using the dimensions as explanatory variables.

Hence we assume that the latent variable like overall motivation index (OMI) can be expressed as a linear function as follows:

\[ OMI = \alpha_1 I_1^* + \alpha_2 I_2^* + \alpha_3 I_3^* + \alpha_4 I_4^* + \alpha_5 I_5^* + \alpha_6 I_6^* + \epsilon \]  

Thus for instance, material well-being index (Iw) as a latent variable, which is unobserved. In linear form it is represented as

\[ I_w^* = \gamma_{w1} Y_{w1} + \gamma_{w2} Y_{w2} + u_{w} \]  

Further in case of creativity we consider the corresponding index as a latent variable linearly determined by two relevant components. The components are denoted as Z_{ni} (Desire to do something new apart from stereotyped job), Z_{ni} (Desire to introduce novelty in work) respectively.

In latent form this is expressed as:

\[ I_c^* = \delta_{c1} Z_{c1} + \delta_{c2} Z_{c2} + u_{c} \]  

Similarly for identity fulfillment, social status and embeddedness we consider latent variables as I_l^*, I_s^*, and I_e^* respectively.

These are written as

\[ I_l^* = \sigma_l U_{l1} + \sigma_l U_{l2} + u_{l} \]  

\[ I_s^* = \theta_1 V_{s1} + \theta_2 V_{s2} + \theta_3 V_{s3} + \theta_4 V_{s4} + u_{s} \]  

\[ I_e^* = \lambda_1 W_{e1} + \lambda_2 W_{e2} + \lambda_3 W_{e3} + u_{e} \]  

We denote \( \lambda_{wi} \) (j=1, 2) as the jth Eigen value in case (1), \( \lambda_{si} \) (j=1, 2) as the jth Eigen value in case (2), \( \lambda_{ci} \) (j=1, 2) as the jth Eigen value in case (3), \( \lambda_{li} \) (j=1, 2) as the jth Eigen value in case (4), \( \lambda_{si} \) (j=1, 2, 3, 4, 5) as the jth Eigen value in case (5), \( \lambda_{ei} \) (j=1, 2, 3, 4, 5) as the jth Eigen value in case (6). Subscript j refers to the number of principal components in each respective case that also coincides with the number of corresponding indicators. Noting that the values of \( \lambda_1 \) gradually falls as the suffix increases in each case, we denote \( P_{wi} \) (j=1, 2) as the jth principal component in case (1), \( P_{si} \) (j=1, 2) as the jth principal component in case (2), \( P_{ci} \) (j=1, 2) as the jth principal component in case (3), \( P_{li} \) (j=1, 2) as the jth principal component in case (4), \( P_{ei} \) (j=1, 2) as the jth principal component in case (5) and \( P_{ei} \) (j=1, 2, 3) as the jth principal component in case (6). We get the corresponding estimator of each dimension according to the following weighted averages:

\[ P_{wi} = \sum_{j=1}^{2} \lambda_{wi}^j P_{wij} \]  

\[ P_{si} = \sum_{j=1}^{2} \lambda_{si}^j P_{sj} \]  

\[ P_{ci} = \sum_{j=1}^{2} \lambda_{ci}^j P_{cij} \]  

\[ P_{li} = \sum_{j=1}^{2} \lambda_{li}^j P_{lij} \]  

\[ P_{ei} = \sum_{j=1}^{5} \lambda_{ei}^j P_{eij} \]  

Although usually the whole set of causal variables is replaced by a few principal components, which account for a substantial percentage of the total variation in all the sample variables, here we consider as many components as the number of explanatory variables. This is due to our concern to estimate accurately the sub-indices of motivation rather than truncating the data in order to avoid discarding information that...
could affect our estimates. Thus this procedure accounts for 100 % of the total variation in the data.

Second stage principal component analysis is run to compute the overall motivation index (OMI) by following the steps outlined above, whereby we get

\[ OMI = \frac{\sum_{j=1}^{6} \lambda_j P_j}{\sum_{j=1}^{6} \lambda_j} \]

The highest weight, \( \lambda_1 \), is attached to the first principal component since it accounts for the largest proportion of the total variation in all explanatory variables. As the suffix increases the proportion of covariance explained by the respective principal components decrease. Using algebra, each component, Pj can be expressed as a linear combination of the six sub-indices as

\[ P_j = \theta_1 I^{\text{L}} + \theta_2 I^{\text{S}} + \theta_3 I^{\text{E}} + \theta_4 I^{\text{C}} + \theta_5 I^{\text{F}} + \theta_6 I^{\text{O}} \]

Hence overall motivation index can be expressed as:

\[ OMI = \frac{\sum_{j=1}^{6} \lambda_j (\theta_1 I^{\text{L}} + \theta_2 I^{\text{S}} + \theta_3 I^{\text{E}} + \theta_4 I^{\text{C}} + \theta_5 I^{\text{F}} + \theta_6 I^{\text{O}})}{\sum_{j=1}^{6} \lambda_j} \]

Results and Discussion

Relative perceived importance of motivation items

The following Table 1 gives a brief view about the various components of motivation. The mean and corresponding rank values indicate the relative perceived importance of the motivation items. From top three items, it clearly appears that income earning is the most important item in influencing an entrepreneur to start his enterprise. Next most important issue appears to be ensuring safety and family’s present and future financial security together with the desire for doing independent work. Earning satisfaction from doing own work, happens to be the third most important item from the top. Similarly the least important item from bottom appears to the desire to dominate others. Gaining respect from friends happens to be the next least important item while desire for social interaction occurs as the third least important item of motivation. Excepting four items like deontic motive, desire to do something new, desire to introduce novelty in work and emulating successful entrepreneurs, in all other cases a great % of entrepreneurs had a high motivation value greater than or equal to mean.

**Motivation indices**

Based on the first stage principal component method, the individual sub-indices of material well-being, autonomy, creativity, identity fulfillment, social status and embeddedness are presented in the columns 2 to 7 in Table 2. The eighth column represents the overall motivation indices based on two stage principal component method while column nine represents per capita profitability from entrepreneurial work. It is observed that creativity index has the highest standard deviation while embeddedness has the lowest across the 16 respondents. It is so because people have varying knack or attitude towards introducing novelty or undertaking innovative enterprising work. Further they are mostly motivated by earlier family tradition, neighbours or friends doing similar work (Table 2).

**Internal consistency of motivation items**

The reliability of the instrument used for measuring motivation items is provided by the Cronbach’s alpha coefficient which reflects the level of internal consistency of the indicators. It is computed by correlating the score for each item with the total score for each observation and then comparing that to the variance for all individual indicator scores.

Where \( \alpha = (k / (k-1))(1-\sum \sigma_i^2) / \sigma_i^2 \), Where k refers to the number of motivation items.

\( \sigma_i^2 \) indicates to the variance associated with indicator/item i.

| Motivation Item                                      | % of entrepreneurship with high motivation value greater than or equal to mean | % of entrepreneurship with high motivation value less than mean | Mean   | Rank |
|-----------------------------------------------------|--------------------------------------------------------------------------------|----------------------------------------------------------------|--------|------|
| Larger personal income                              | 62.5                                                                          | 37.5                                                                 | 4.5625 | 17   |
| Safety and security motive                          | 68.75                                                                         | 31.25                                                               | 4.5    | 15.5 |
| Aspiration for doing independent work               | 62.5                                                                          | 37.5                                                                 | 4.5    | 15.5 |
| Earning satisfaction from one’s own work            | 43.75                                                                         | 56.25                                                               | 4.3125 | 14   |
| Greater flexibility in personal and family life      | 50                                                                            | 50                                                                   | 4.25   | 12.5 |
| Deontic motive                                      | 43.75                                                                         | 56.25                                                               | 4.25   | 12.5 |
| Desire to do something new apart from stereotyped job| 43.75                                                                         | 56.25                                                               | 4.125  | 9.5  |
| Desire to introduce novelty in work                 | 25                                                                            | 75                                                                   | 4.125  | 9.5  |
| Emulating successful fellow entrepreneurs           | 37.5                                                                          | 62.5                                                                | 4.125  | 9.5  |
| Build business for future generation                | 50                                                                            | 50                                                                   | 4.125  | 9.5  |
| Facing challenges in life                           | 68.75                                                                         | 31.25                                                               | 3.9375 | 6.5  |
| Earning respect in the eyes of the society/fellow producers | 81.25                                                                     | 18.75                                                               | 3.9375 | 6.5  |
| Ambition to excel others through leadership development| 68.75                                                                       | 31.25                                                               | 3.875  | 4.5  |
| Continuing a family tradition                       | 68.75                                                                         | 31.25                                                               | 3.875  | 4.5  |
| Desire for social interaction through working in a group| 75                                                                         | 25                                                                  | 3.75   | 3    |
| Respect from friends                                | 68.75                                                                         | 31.25                                                               | 3.625  | 2    |
| Desire to dominate and influence others             | 68.75                                                                         | 31.25                                                               | 3.5    | 1    |

Table 1: Mean value and % of respondents with high value of motivation.
Regression results

It may be noted that the performance of an enterprising firm can be measured by the profits that it earns during its functioning or by the value of per capita earnings from the enterprise. The simple correlation of per capita earnings from the enterprise. The simple correlation of per capita profitability. At such disaggregated level, these variables are expected to influence the variation in per capita profitability in a linear form of the regression model. The corresponding results are tabulated in Table 4. It is observed that the coefficient of sub-Index W has expected positive sign and is moderately significant at 1% level; while Sub-Index C is significant at 1% level with expected positive value of its coefficient. Others appear to be insignificant. The Overall regression is observed to be more or less good fit as evident from the value of R² which is 0.736 and the F statistic being 4.185 which is significant at 3% level (Table 4).

Concluding Remarks

The study reveals that entrepreneurs in the concerned region are primarily mostly motivated by the desire to earn some income from this occupation in the absence of alternative job prospects or acquired skill, they are pressed by the responsibility of providing financial safety and security of the members in the family and pleasure of doing some independent work. Given the fact that income earning opportunity in a vastly populous developing country like India is relatively low, and hence people are greatly concerned about how to provide financial security of family members through independent work, this finding is in coherence with what might be expected in such condition.

The significance of sub-Index_W and sub-Index_C influencing...
profitability have multiple implications. As a composite of several individual items, this suggest that, larger personal income, safety and security motive, desire to do something new and desire to introduce novelty in work, have in a round-about way substantial influence in determining the profitability per capita for the entrepreneurs. Again Govt. in a developing country cannot ignore its responsibility in motivating young generation people to undertake entrepreneurial operation. For this purpose, Govt. should take active steps in organizing seminars, symposia, workshops in order to disseminate the urge for adopting entrepreneurship as a career and motivate more and more people to do something new apart from stereotyped white collared job. In allocating the budget, high priority should be given to attract unemployed youth to this option and this might at least partially solve the unemployment problem in India.

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Table 4: Results of linear regression.