

# A Framework to Identify the ‘Motivational Factors’ of Employees; A Case Study of Pakistan IT Industry

MUHAMMAD WASIM BHATTI  
mwasim\_bhatti@yahoo.com

ALI AHSAN  
al\_ahsan1@yahoo.com

ALI SAJID  
alisajid61@yahoo.com

**Abstract:** - Employee motivation is one of the key drivers of success in today’s competitive environment. Relevant literature generally explains that motivated employees can perform their tasks much better than demotivated workers. It is due to this reason that there is always a requirement of a comprehensive framework that should be able to provide complete guidelines with the help of which supervisors\* should be able to identify core factors that motivate employees. Keeping in line the requirement stated earlier, this research paper presents a self formulated† framework i.e. ‘Imperative Motivational Factors Framework’ (IMFF). This proposed framework familiarizes necessary stakeholders with the core motivational factors’ identification process. The framework takes into account very generic factors identified from various motivational theories, society and industry. Once the generic factors are identified then the framework formulates specific factors for a group of employees and / or for individual employee‡.

**Key-Words:** - Employee Motivation, Framework, Case Study, Pakistan’s IT Industry, Satisfaction, Soft Issues

## Abbreviations

| Abbreviation        | Definition                                |
|---------------------|---|
| IT                  | Information Technology                    |
| M                   | Factor marked as motivational factor      |
| S                   | Factor marked as satisfier factor         |
| MFact <sub>i</sub>  | Motivational factor                       |
| MFreq <sub>i</sub>  | Motivational factor’s frequency           |
| Avg MV <sub>i</sub> | Average motivational factor’s variance    |
| MS <sub>i</sub>     | Motivational factor’s score               |
| ML <sub>i</sub>     | Motivation level of employee              |
| ME <sub>i</sub>     | Motivational factor’s expectancy          |
| GM <sub>i</sub>     | Granted motivation                        |
| IMFF                | Imperative Motivational Factors Framework |
| Eq                  | Equation                                  |

## Acronyms

| Acronym      | Definition                   |
|--------------|------------------------------|
| Score        | Motivational Score           |
| Variance     | Motivational Variance        |
| Frequency    | Motivational Frequency       |
| Factors      | Motivational Factors         |
| Motivational | Factors Affecting Motivation |

|         |                    |
|---------|--------------------|
| Factors |                    |
| Table   | Motivational Table |

## 1 Introduction

**Preface:** - This research paper is written during the study of course; ‘Software Quality Management’, offered at CASE, Islamabad, taught by: Mr. Ali Ahsan in ‘Fall 2007’. The motivation of this research paper comes from one of the research question that is part of Mr. Ali Ahsan’s PhD Thesis. This paper presents extremely enhanced version of the paper “Required Level of Motivation to Revitalize the Workforce in Software Industry of Pakistan” which is included in the conference proceeding of “ADVANCES on SOFTWARE ENGINEERING, PARALLEL and DISTRIBUTED SYSTEMS Proceedings of the 7th WSEAS International Conference on SOFTWARE ENGINEERING, PARALLEL and DISTRIBUTED SYSTEMS (SEPADS'08), University of Cambridge, Cambridge, UK, February 20-22, 2008”. The enhanced version of the paper is presented here for inclusion in WSEAS journals.

\* Supervisors in IT industry of Pakistan!

† Formulated by the researchers!

‡ Group of employees belonging to society & industry!

**Background:** - Abstract stated above helps in understanding the basic concept of IMFF. In order to validate the full potential of this framework, it has been applied in IT Industry of Pakistan. Pakistan's IT industry is currently one of the top performers when compared to other industrial sectors within Pakistan.<sup>[3]</sup> As per the findings of Ahsan (2008), despite the fact that Pakistan's IT industry is competitive<sup>§</sup>, its true potential is yet to be unfolded. Ahsan (2008); states that Pakistan's so called competitive IT industry has to be in lined with the international performers<sup>\*\*</sup>. A simple proof of this statement can be obtained from the fact that Pakistan's general economy is 1/5th of Indian economy. This must be true for IT sector of both the economies as well, which, unfortunately is not the case as because Pakistan's IT sector is currently 1/27th of the Indian IT Sector.<sup>[3]</sup> Ahsan (2008) believes that partial reason of this unwanted difference may be revenue models, business practices and political situations of the two countries. Other than these Ahsan (2008) believes that several 'Soft Issues'<sup>[4]</sup> are also responsible for this industrial difference. Out of the many soft issues 'Motivation' is one such important factor.

One of the definitions of motivation is: *"The force that energizes behaviour, gives direction to behaviour, and underlies the tendency to persist"*.<sup>[1]</sup> Motivation has been considered as a force that initiates the decision making process for achievements of goals.<sup>[7]</sup> Employee motivation is also considered as a complicated management issue.<sup>[5]</sup> It is due to this reason that it is difficult to develop a consensus on common factors that are responsible for better motivation for employees. Researchers have opposing opinion regarding motivational factors. For example Vroom believes that money is one of the motivational factors.<sup>[1]</sup> Contrary to this, Liz Hughes believes, that it is not necessary that money motivates employees.<sup>[6]</sup> This concept seems relatively more appealing as motivation has been distinguished as intrinsic and extrinsic in nature.<sup>[8]</sup> It is believed that there exists relationship between extrinsic and intrinsic motivation.<sup>[9]</sup> Relationship in both types of motivations means that by addressing one type of motivation, the other type of motivation will also be addressed. This means that if the factors of extrinsic motivation are addressed then there is strong possibility that this change would bring positive changes in intrinsic motivation as well. Several

papers have been published that endorse the importance of employee motivation in organizational development and in overall industrial improvement.<sup>[12-20]</sup> Some frameworks and models have also been proposed that concern employee motivation. To start with 'Black-Box Model'<sup>[2]</sup> distinguishes between motivator and amotivator<sup>[2]</sup>. Wang An-you, Lei Ya-Lin & Guo Lin combines concept of "Value-Oriented Man" with motivation mechanism thereby proposing 'Double Circle Motivation Model'.<sup>[10]</sup> Finally in another study motivational factors have been identified and categorized in industry cluster of China.<sup>[11]</sup>

From all of the literature discussed above, we find that the basic element missing in the previous research work is that the motivational factors specific to individuals or specific group of people have not been addressed / dealt with. This means that there is a need of a framework that should be helpful in identifying the specific factors for enhancement of employee motivation. The framework proposed in this research paper, named as 'Imperative Motivational Factors Framework' (IMFF), identifies the common motivational factors, processes them and formulates a list of factors. The framework then uses the formulated list to further identify and scrutinize very specific and short list of factors.

## 2 Imperative Motivational Factors Framework (IMFF)

IMFF has been designed to identify the core motivational factors of employees. This framework has the ability to identify and distinguish the factors at the level of individual and group employee. It narrows from generic factors to the most specific factors and then identifies the set of factors at group level as well as at individual level.

IMFF can be applied in any industry<sup>††</sup> in order to identify those factors that can revitalize the work force of that industry.

### 2.1 "Factors Identification Domains" of Framework

For factors identification, IMFF uses three domains that are 'Motivational Theories', 'Society' and 'Industry'. Figure 1 explains:

§ Competitive with respect to other industries within Pakistan!

\*\* Particularly South Asian economies!

†† Specifically IT industry!

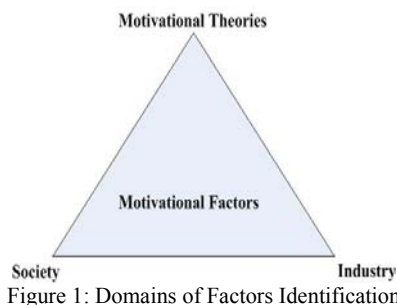


Figure 1: Domains of Factors Identification

## 2.2 Working Methodology of Framework

IMFF performs filter at two levels. Initially it uses the list of 'Motivational Factors' from most common factors identified from literature, society and industry. As a second level filter it then finds the 'Vital Few Factors' responsible for employee motivation.

Figure 2 explains:



Figure 2: Filtering Process of IMFF

## 2.3 Steps Involved in Using the Framework

IMFF can be used for individuals as well as for group of employees. The first two steps of the framework are common for individual and / or group. The third step, however, is specially meant for individuals. Subsequent steps are for groups only. Description of these steps is as follows;

**Step 1:** For any employee, there can be wide range of factors that can influence or contribute to his / her motivation. It is therefore necessary that initially motivational factors should be identified by literature review of motivational theories. Factors should also be identified from other two domains i.e. society and industry. All these factors should be maintained in a single list for further processing.

**Step 2:** List of factors should be grouped into two categories i.e. motivational and satisfaction factors. This task can be accomplished by simply carrying out a survey of group and / or individual employees. After distinguishing motivational factors from

satisfaction factors, motivational factors should be maintained in a list for further processing while satisfaction factors should be ignored.

**Step 3:** Factors that are not being fulfilled at work place should be short listed. These are the factors that need to be addressed in order to improve the motivational level of employees. These factors can be short listed by conducting survey of employees. If the framework is being operated for groups then this short list should also be maintained for further steps.

**Step 4:** From the list obtained in step two, short list the factors that are marked as motivational by maximum employees. In this way frequency of factors marked as motivational will be calculated. Factors with high value of frequency are important for maximum number of employees therefore this short list should be maintained for further steps.

**Step 5:** Lists of third and the fourth step should be merged and a new list should be formulated. The new list now contains the factors that address group level motivation of employees for a particular industry.

## 3 Detail Descriptions of Elements of Framework

Elements involved in IMFF have a wide range. It involves domain areas of 'Motivational Factors Identification' and statistical methods of short listing the motivational factors. Figure 3 shows the graphical representation of IMFF. The detail description of all these elements is given thereafter;

### 3.1 Motivational Theories / Literature Used by IMFF<sup>[1]</sup>

Many theories have been proposed on motivation (in general) and employees' motivation (in specific). These theories are classified as 'Need Theories', 'Cognitive Theories', 'Reinforcement Theory' and 'Social Learning Theory'. These theories are used by IMFF in factors identification process. Each theory focuses on motivational factors of employees from different perspective. All these factors should be part of initial factors list<sup>††</sup> of IMFF.

Literature review of these theories is as follows;

<sup>††</sup> Common list of motivational factors!

### 3.1.1 Literature Review of 'Need Theories'

According to need theories; our behaviour is mapped with the fulfilment of our internal needs. In Need Theories, 'Hierarchy of Needs Theory'<sup>[22-24]</sup> (proposed by Maslow) is one of the basic and the most important theory. This theory describes the 'Five-Level Hierarchy' of needs. These needs are 'Physiological Needs' (for instance food, water, and shelter etc), 'Safety Needs' (for instance safe and security from certain threats etc), 'Belongingness Needs' (for instance desire of affiliation with others etc), 'Esteem Needs' (for instance positive self image etc) and 'Self Actualization Needs' (for instance reaching full potential etc).

'Two-Factor Theory'<sup>[25-30]</sup> (proposed by Herzberg) distinguishes between 'Motivators' (for instance achievement, recognition and growth etc) and 'Hygiene Factors' (for instance pay, working conditions, and benefits etc).

'ERG Theory'<sup>[31-36]</sup> (proposed by Alderfer) describes the 'Three-Level Hierarchy' of needs. These needs are 'Existence Needs' (for instance food, water and pay etc), 'Relatedness Needs' (for instance families, and professional groups etc) and 'Growth Needs' (for instance creativity and innovation etc).

'Acquired-Needs Theory'<sup>[37-49]</sup> (proposed by McClelland) describes that needs are acquired on the basis of life experience. This theory addresses the 'Need for Achievement', 'Need for Affiliation', And 'Need for Power'.

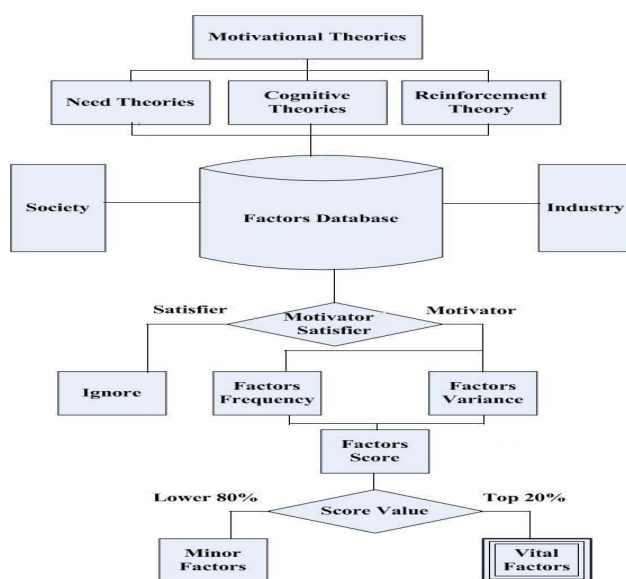


Figure 3: Graphical Representation of Imperative Motivational Factors Framework

### 3.1.2 Literature Review of 'Cognitive Theories'

Cognitive theories focus on the isolation of thinking patterns. These theories describe the forces following our decisions and behaviours in certain situations.

'Expectancy Theory'<sup>[50]</sup> (proposed by Vroom) is one of the cognitive theories. It addresses the issues that we consider before performing anything. These issues are 'Effort-Performance Expectancy' (for instance assessment of probability of achievement of required performance level), 'Performance-Outcome Expectancy' (for instance assessment of probability of achievement of certain outcomes) and 'Valence' (for instance assessment of anticipated value of results).

Some other cognitive theories also exist. For instance 'Equity Theory'<sup>[51]</sup> argues about the preference of situations of balance. 'Goal-Setting Theory' is also one of the cognitive theories. It argues that goal setting mobilizes effort to achieve them. 'Reinforcement Theory', another cognitive theory argues that consequences in environment affect our behaviour.

### 3.1.3 Literature Review of 'Reinforcement Theory'

'Reinforcement Theory' gives the concept of law of effect. It explains that behaviour with positive consequences repeat most of the time. According to this theory, there are four types of reinforcement.

These are ‘Positive Reinforcement’ (i.e. increasing behaviour that involves providing a pleasant consequence), ‘Negative Reinforcement’ (i.e. increasing behaviour that involves providing noxious stimuli), ‘Extinction’ (i.e. withholding of previously available positive consequences), and ‘Punishment’ (i.e. providing negative consequences in order to decrease a behaviour).

### 3.1.4 Literature Review of Social learning Theory

‘Social Learning Theory’ describes three ways of learning; these are ‘Continuous Reciprocal Interaction of Behaviour’, ‘Personal Factors’, and ‘Environmental Forces’.

## 3.2 Society

According to Wikipedia source, “*Society is a grouping of individuals which is characterized by common interests and may have distinctive culture and institutions.*”<sup>[21]</sup> Society is also one of the domain areas of factors identification process of IMFF. Authors believe<sup>§§</sup> that, every society has some influence on the needs and desires of individuals. Needs and desires set directions for behaviour, and behaviour leads towards those factors that can have positive or negative impact on motivation level of individuals.

It is believed that motivation of individuals can be effected by factors such as environment, economic conditions of a country, religion, culture and other social parameters. It is due to this reason that factors specific to society should be part of initial list of factors.

## 3.3 Industry

Third domain area of factors identification process of IMFF is ‘Industry’. In order to start the IMFF with initial factors list, factors from specific industry should also be part of initial factors list. It is believed by the authors<sup>\*\*\*</sup> that, factors related to working environment, nature of work, organizational culture and style of management of a particular industry influence the motivation level of employees. Therefore factors from these areas should also be part of initial factors list.

§§ Based on research using ethnography!

\*\*\* Based on research using ethnography!

## 3.4 Distinguishing Motivational and Satisfaction Factors

Distinguishing the motivational factors from satisfaction factors<sup>†††</sup> is difficult due to their overlapping nature. One factor may be motivational factor for one person but satisfaction factor for the other person. In order to address this problem, there should be a choice in the survey<sup>†††</sup> for the employees that must enable them to select a factor either as motivational or satisfaction factor. The person who is supposed to fill the ‘Motivational Table’ can mark a factor either as motivational or satisfaction, depending upon his / her preferences and choice.

## 3.5 Motivational Factor’s Variance (MV<sub>i</sub>)

Motivational factor’s variance (MV<sub>i</sub>) is a tool to measure the fulfilment of needs and desires of employees at their work place. In survey, data should be collected in such a way that, against each factor, ‘Expected Motivation’ (ME<sub>i</sub>) and ‘Granted Motivation’ (GM<sub>i</sub>) should be asked. By getting values in the range of -10 to 10 against ME<sub>i</sub> and GM<sub>i</sub>, ‘Motivational Variance’ (MV<sub>i</sub>) should be calculated for each factor. MV<sub>i</sub> for individual observation should be calculated by using following formula.

$$MV_{ij} = ME_{ij} - GM_{ij} \rightarrow \text{Eq 1}$$

Where MFact<sub>i</sub> is marked as M

j >= 1 & j <= N1

i >= 1 & i <= N2

‘Average Motivation Variance’ (Avg. MV<sub>i</sub>) for all individual motivational factors should be calculated by using following formula.

$$\text{Avg } MV_i = ( \sum_{j=1}^n MV_{ij} ) / n \rightarrow \text{Eq 2}$$

Where MFact<sub>i</sub> is marked as M

MFact<sub>i</sub> represents motivational factor

j >= 1 & j <= N1

i >= 1 & i <= N2

n >= 1 & n <= N1 depends upon MFact<sub>i</sub>

In above formulas; N1 is the ‘Number of Individuals Who Filled the Survey’, while N2 is the ‘Number of Motivational Factors Identified From the Survey / Quationnaire’.

††† Satisfaction is act of fulfilling a desire or need or appetite.

††† Survey conducted against the list of motivational factors.

### 3.6 Motivational Factor's %age Frequency (MFreq<sub>i</sub>)

'Motivational Factor's %age Frequency' (MFreq<sub>i</sub>) should be measure to assess the importance of a particular motivational factor for individuals. Employees mark a factor as 'Motivational Factor' depending upon their needs and desires. Therefore MFreq<sub>i</sub> can be calculated by using following formula.

$$\text{MFreq}_i = \left( \left( \sum_{j=1}^n \text{MFact}_{ij} \right) * 100 / n \right) \rightarrow \text{Eq 3}$$

Where MFact<sub>i</sub> is marked as M  
i >= 1 & i <= N2

N2 is the 'Number of Motivational Factors Identified From the Survey / Quotionnaire'.

### 3.7 Motivational Score (MS<sub>i</sub>)

'Motivational Score' (MS<sub>i</sub>) should be devised to have a combined list that should address both MFreq<sub>i</sub> and Avg MV<sub>i</sub>. MS<sub>i</sub> should be calculated by multiplying MFreq<sub>i</sub> with Avg MV<sub>i</sub>.

The formula for the calculation of MS<sub>i</sub> is as follows.

$$\text{MS}_i = \text{MFreq}_i * \text{Avg MV}_i \rightarrow \text{Eq 4}$$

Where i >= 1 & i <= N2

N2 is the 'Number of Motivational Factors Identified From the Survey / Quotionnaire'.

## 4 Case Study: Evaluation of Imperative Motivational Factors Framework in Pakistan IT Industry

IMFF has been evaluated in Pakistan's IT industry against group of people. All five steps have been performed to investigate the full potential / capabilities of framework. IMFF identified very valuable results. As a result it has been proved that IMFF has the capability to identify the core motivational factors of employees in any industry. The detail of all steps performed in IT Industry of Pakistan, in order to evaluate IMFF is given as follows;

#### Step 1:

Motivational factors were identified by literature review of motivational theories. Factors were also identified from other two domains i.e. Pakistan's social norms and IT industry practices. As a whole, 64 factors were identified.

#### Step 2:

In order to distinguish the 'Motivational Factors' from 'Satisfaction Factors', 'Motivational Table' presented a choice to all surveyed employees to select a factor either as motivational (M) or satisfaction (S) factor. The surveyed employee who had to fill the 'Motivational Table' could mark a factor either as motivational or satisfaction, depending upon his / her preference.

#### Step 3:

In Step 3, factors that were not being fulfilled at work place, in IT Industry of Pakistan were highlighted by calculating their variance. The variable 'Motivational Factor Variance' (MV<sub>i</sub>) was calculated against each factor of table, and 'Average Motivational Variance' (Avg MV<sub>i</sub>) was calculated against all results. The survey results were compiled and a histogram was drawn against the values of MV<sub>i</sub> to make the subgroups of calculated values. The histogram is shown in Fig. 4 and tells is that maximum numbers of 'Motivational Factors' had 'Motivational Variance' between range of numbers 1 and 2. Less numbers of factors had variance greater than 5. It also shows that maximum 'Motivational Needs' were being fulfilled at employees' workplaces<sup>\$\$\$</sup>.

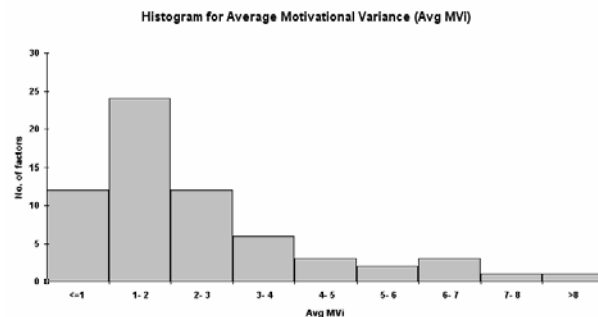


Figure 4: Histogram of Avg MV<sub>i</sub>

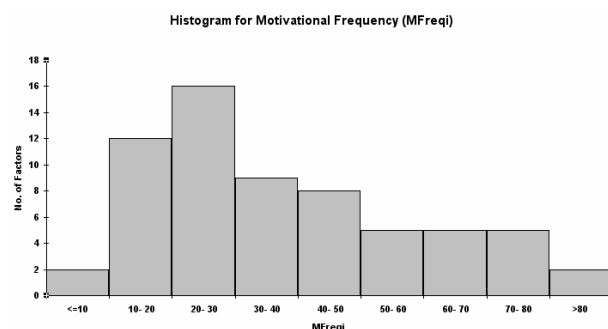
Through survey it was identified that, the value of 'Average Motivational Variance' (Avg MV<sub>i</sub>) varies from 0 to 8.77. Low value of Avg MV<sub>i</sub> indicates the fulfilment of needs related to that particular 'Motivational Factor' (MFact<sub>i</sub>). High value of Avg MV<sub>i</sub> shows the high difference between ME<sub>i</sub> and GM<sub>i</sub>. This indicates that the fulfilment of a particular MFact<sub>i</sub> was not accomplished. In order to improve the motivation of employees, it is necessary to address the MFact<sub>i</sub> that had high value of Avg MV<sub>i</sub>. Table 1 below shows the top 20% of the factors with highest Avg MV<sub>i</sub>.

<sup>\$\$\$</sup> Later analysis would further highlight corresponding issues.

| Sr. No | Motivational Factor   | Average Motivational Variance (Avg MV <sub>i</sub> ) |
|--------|---|--|
| 1.     | Pick and drop policy offered by office                          | 8.77   |
| 2.     | Foreign official tours  | 7.25   |
| 3.     | Excursion trips   | 7  |
| 4.     | Foreign trainings   | 6.92   |
| 5.     | Availability of policies like health/life insurance             | 6.48   |
| 6.     | Availability of perks (i.e. car, laptop, medical allowance etc) | 5.82   |
| 7.     | Availability of external trainings                              | 5.25   |
| 8.     | Availability of lounge/Rest area                                | 4.8  |
| 9.     | Hygienic food   | 4.77   |
| 10.    | Availability of internal trainings                              | 4.46   |
| 11.    | Availability of in-door games facility                          | 3.88   |
| 12.    | Interest taking customers                                       | 3.57   |
| 13.    | Good attitude of customers                                      | 3.33   |

Table 1: Motivational Factors with high Avg MV<sub>i</sub>**Step 4:**

‘Motivational Factors %Age Frequency’ was calculated against filled surveys. After calculations, a histogram was drawn to make the subgroups of calculated values. From the Figure 5, it can be observed that maximum factors had frequency (MFreq<sub>i</sub>) between the range of 20 % and 30 %. This means that very few factors were marked as ‘Motivational Factors’ by maximum people. This was an important finding as it helped us in identifying the true motivators for IT professionals in Pakistan.

Figure 5: Histogram of MFreq<sub>i</sub>

The value of MFreq<sub>i</sub> varied from 5.26 % to 92.10 %. Top 20% of the factors with high MFreq<sub>i</sub> are enlisted and shown below in a Table 2, along with their MFreq<sub>i</sub>.

| Sr. No | Motivational Factor   | Motivational Frequency (MFreq <sub>i</sub> ) |
|--------|---|--|
| 1.     | Availability of perks (i.e. Car, laptop, medical allowance etc) | 92.10 %                                      |
| 2.     | Good salary package   | 86.84 %                                      |
| 3.     | Good increment policy   | 78.94 %                                      |
| 4.     | High professional environment                                   | 73.68 %                                      |
| 5.     | Good attitude of boss/seniors                                   | 71.05 %                                      |
| 6.     | Foreign trainings   | 71.05 %                                      |
| 7.     | Good career path  | 71.05 %                                      |
| 8.     | Availability of policies like health/life insurance             | 65.78 %                                      |
| 9.     | Overall good appraisal system                                   | 65.78 %                                      |
| 10.    | Job security  | 63.15 %                                      |
| 11.    | Good position/designation in office                             | 63.15 %                                      |
| 12.    | Strongly jelled team  | 60.52 %                                      |
| 13.    | Empowerment   | 57.89 %                                      |

Table 2: Motivational Factors with High (Top 20%) MFreq<sub>i</sub>

The above 13 factors mentioned in Table 2 have high value of MFreq<sub>i</sub>. These factors can be termed as most important ‘Motivational Factors’ for employees working in IT industry of Pakistan. So in order to increase the motivation of employees there is a need to address the above mentioned factors.

**Step 5:**

From the Table 2 (MFreq<sub>i</sub>) and 1 (Avg MV<sub>i</sub>), we came up with two different lists of factors. One list focused on factors (MFreq<sub>i</sub>) that were ‘Motivational Factors’ for maximum people, while the other list focused on factors (Avg MV<sub>i</sub>) that were not being fulfilled at work places. In other words one list focused on importance while the other list focused on gaps. According to IMFF framework, there is a need to devise combined list that should address both MFreq<sub>i</sub> and Avg MV<sub>i</sub>. It is due to this reason that ‘Motivational Score’ (MS<sub>i</sub>) was calculated for each factor. After calculations of MS<sub>i</sub>, its relationship was calculated with other variables such as MFreq<sub>i</sub> and Avg MV<sub>i</sub>. The relationship between MS<sub>i</sub> and Avg MV<sub>i</sub> is presented in that scatter diagram of MS<sub>i</sub> and Avg MV<sub>i</sub> in Figure 6. Correlation has value of 0.821; it shows that there is strong relationship between both the variables.

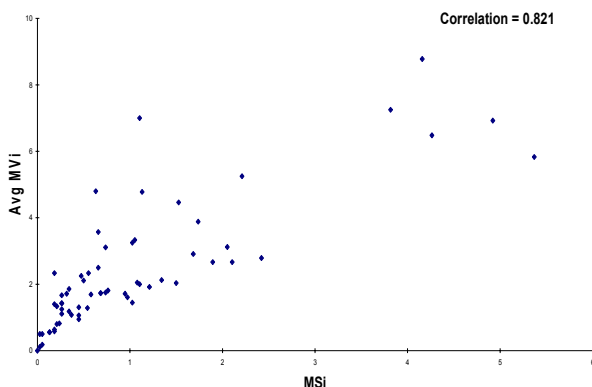


Figure 6: Scatter Diagram of MSi and Avg MV i

Figure 7, shows the scatter diagram between MS<sub>i</sub> and MFreq<sub>i</sub>. Positive correlation has value of 0.711. It shows that there is a strong relationship between both variables. This means that by changing the value of one variable the value of other variable will also be changed directly.

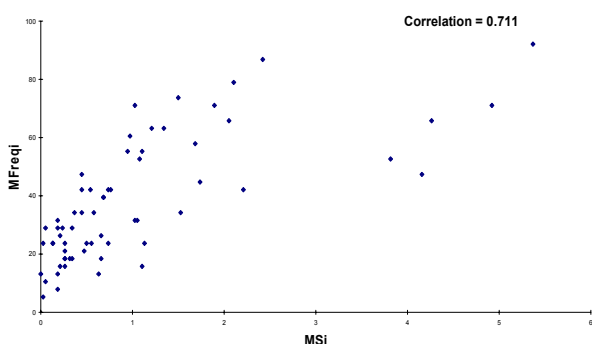


Figure 7: Scatter Diagram of MSi and MFreq i

The correlation of 0.821 between 'Motivational Score' and 'Motivation Variance' is higher than correlation of 0.711 between 'Motivational Score' and 'Motivation Frequency'. This therefore helps us understanding the fact that dependency of score on variance is higher as compared to frequency. In other words management first needs to take care of 'Motivational Factors' that have high variances. After this, focus must be given to factors with high importance. Factors with high value of Motivational Score are shown in Table 3.

| Sr. No | Motivational Factor   | Motivational Score (MS <sub>i</sub> ) |
|--------|---|---------------------------------------|
| 1.     | Availability of perks (i.e. car, laptop, medical allowance etc) | 5.36                                  |
| 2.     | Foreign trainings   | 4.92                                  |
| 3.     | Availability of policies like health/life insurance             | 4.26                                  |

|     |  |      |
|-----|--|------|
| 4.  | Pick and drop policy offered by office | 4.15 |
| 5.  | Foreign official tours                 | 3.81 |
| 6.  | Good Salary Package                    | 2.42 |
| 7.  | Availability of external trainings     | 2.21 |
| 8.  | Good increment policy                  | 2.10 |
| 9.  | Overall good appraisal system          | 2.05 |
| 10. | Good career path                       | 1.89 |
| 11. | Availability of in-door games facility | 1.73 |
| 12. | Empowerment                            | 1.68 |
| 13. | Availability of internal trainings     | 1.52 |

Table 3: Motivational Factors with High (Top 20%) MSi

## 5 Comparison of Imperative Motivational Factors Framework with Other Models

Motivational Theories<sup>[1]</sup> provide high-quality literature to identify the motivational factors; but these theories focus mainly on the generic factors. Contrary to this, IMFF narrows the factors from common factors to the factors list for a specific society and a specific industry. Above all motivational theories are one of the domains for factors identification process of IMFF; therefore IMFF gives more flexibility for identifying specific 'Motivational Factors'.

Chen Jian-an & HU Bei's 'Black-Box' model distinguishes the motivators and amotivators.<sup>[2]</sup> This model considers the process of motivation as a mystery and terms it as a Black-Box model. In this model focus is on two important dimensions of motivation i.e. employee satisfaction and job performance. IMFF on the other hand gives complete roadmap to identify the most important and very specific factors of motivation for individuals as well as for group of employees.

## 6 Findings

1. IMFF is a useful framework to identify the 'Motivational Factors' of individual employees as well as group of employees.
2. For factors identification process, IMFF focuses on three major domains i.e. 'Motivational Theories', 'Society' and 'Industry'.
3. After identification of 'Motivational Factors', IMFF starts the process of filtering and narrowing down the list of factors. Finally it gives the society and industry specific factors of motivation.



4. Framework has been applied in Pakistan's IT Industry. As a result most important factors of motivation were identified. Results from Pakistan's IT Industry are as follows;
  - a. 64 factors are identified in the factors identification process of framework.
  - b. As a part of filtering process, factor's list with high frequency has been formulated. It highlights those important factors which can have positive or negative affect on level of motivation of an employee. Some of these factors are as follows; 'Availability of perks, Good salary package, Good increment policy and High professional environment etc'
  - c. Factor's list with high variance is identified. It focuses on factors which are not being fulfilled and cause de-motivation in employees, working in IT Industry of Pakistan. Some of these factors are as follows; 'Availability of perks, Foreign official tours, Excursion trips and Foreign trainings'.
  - d. Motivational factor's score list is calculated. This step is also part of filtering process. It incorporates the characteristics of both variables (importance and gaps). So there is need to address the motivational factors with high value of motivational score. Some of the factor's with high motivational score are as follow; 'Availability of perks, Foreign trainings, Availability of policies like health/life insurance and Pick and drop policy'

## 7 Conclusions

Imperative motivational factors framework (IMFF) can be applied in any country and in any industry (preferably in IT industry). It provides guidelines to start with very generic factors of motivation and leads towards very specific factors. Its process of filtering guides the managers / supervisors to comprehend the core factors of motivation. This framework has been tested in Pakistan's IT Industry. Expected results were obtained in case of Pakistan's IT Industry. Now this framework is ready to be tested in any other industry and in any other country.

### References:

- [1] Kathryn M. Bartol & David C. Martin, 1998. Management. Third Edition.
- [2] Chen Jian-an & HU Bei, The Black-box Model to Distinguish between Motivator and

- Amotivator, College of Management, Huazhong University of Science & Technology, P.R. China, 430074. [Undated].
- [3] A. Ahsan, OD as a Revitalization Tool for IT Industry of Pakistan, [unpublished], PhD Thesis, Accessed Jan 2008.
- [4] A. Haider, Software Productivity: The impact of Soft Factors, Proceedings of International Conference on Software Engineering and Applications, organized by IEEE & Foundation University, December 31, 2004, Islamabad, Pakistan.
- [5] Michael Wilson, The psychology of motivation and employee retention, Maintenance Supplies, vol. 50,no.5,48-49, 2005.
- [6] Liz Hugbes, Motivating your employees, Women in Business, vol. 55, no. 2, 17, 2003.
- [7] Dean Tjosvold, Jane W. Moy, Managing employees in China from Hong Kong: interaction, relationships and productivity as antecedents to motivation, Leadership & Organization Development Journal, vol. 19, no. 3,147, 1998.
- [8] Deci E. L., & Ryan R. M, Intrinsic motivation and self-determination in human behavior, New York: Plenum press, 1985.
- [9] Bruno S. Frey, On the relationship between intrinsic and extrinsic work motivation, International Journal of Industrial Organization, no.15,427-439, 1999.
- [10] Wang An-you, Lei Ya-Lin & Guo Lin, The motivation model of science & technology talents based on "Value-Oriented man" hypothesis, 1-4244-1312-5/07 – 2007 IEEE.
- [11] HU Bei & MO Li, Research on the motivation factors for the development of talent in the Industry Cluster. [Undated].
- [12] Sarah Beecham, Helen Sharp, Nathan Baddoo, Tracy Hall and Hugh Robinson, 2007. Does the XP environment meet the motivational needs of the software developer? An empirical study. AGILE 2007.
- [13] Harry I. Rubin. Motivations and Behaviors of Software Professionals. Computer Science Division Department of Electrical Engineering and Computer Science University of California, Berkeley, 1998.
- [14] Mark Ratcliffe, John Woodbury and Lynda Thomas, Improving Motivation and Performance through Personal Development in Large Introductory Software Engineering Courses. Proceedings of the 15th Conference on Software Engineering Education and

- Training (CSEET.02) 1093-0175/02 2002 IEEE.
- [15] Ken Whitaker, USDATA Corp, Motivating and Keeping Software Developers. Mark Haas, 10662 Los Vaqueros Circle, Los Alamitos. [Undated].
  - [16] Richard E. Clark, EdD, CPT. Research-Tested Team Motivation Strategies. Performance Improvement Volume 44 Number 1, 2005.
  - [17] Thomas S. Bateman, Revisiting Intrinsic and Extrinsic Motivation. [Undated].
  - [18] Ruth Kanfer. Measuring HealthWorker Motivation in Developing Countries, January 1999.
  - [19] Connie Frith, Motivation to Learn. [Undated].
  - [20] Roland Be'Nabou and Jean Tirole. Self-Confidence and Personal Motivation. The Quarterly Journal of Economics, August 2002.
  - [21] <http://en.wikipedia.org/wiki/Society>.
  - [22] A.H. Maslov, *A Theory of Human Motivation*, Psychological Review 50 (1943):370-96.
  - [23] Maslow, Abraham. *Motivation and Personality*, 1954.
  - [24] Wahba, A; Bridgewell, L. "Maslow reconsidered: A review of research on the need hierarchy theory". Organizational Behavior and Human Performance (15): 212-240, 1976.
  - [25] Herzberg, F., Mausner, B. & Snyderman, B.B., *The Motivation to Work*. John Wiley. New York, 1959.
  - [26] Frederick Herzberg, *Work and the Nature of Man*; F. Herzberg et al, *The Motivation to Work*, 2nd ed, New York: John Wiley & Sons, 1959.
  - [27] Herzberg, "The Motivation-Hygiene Concept and Problems of Manpower", *Personnel Administration*, pp. 3-7, January-February 1964.
  - [28] Hackman J. R., & Oldham, G. R., "Motivation through design of work", *Organizational behaviour and human performance*, vol. 16, pp. 250-279, 1976.
  - [29] King, N. 'Clarification and Evaluation of the Two-Factor Theory of Job Satisfaction', *Psychological Bulletin*, vol. 74, no. 1, pp. 18-31, 1970.
  - [30] Basil S. Georgopolous, Gerald M. Mahoney, and Nyle W. Jones, Jr., "A Path-Goal Approach to Productivity", *Journal of Applied Psychology* 41 (December 1957), p. 346.
  - [31] Alderfer, C. P. The Methodology of Organizational Diagnosis, *Professional Psychology*, 1980, 11, 459-468.
  - [32] Alderfer, C. P. An Intergroup Perspective on Group Dynamics. In J. W. Lorsch (editor), *Handbook of Organizational Behavior*, 1987, 190-222.
  - [33] Alderfer, C. P. Consulting to Underbounded Systems, C. P. Alderfer and C. L. Cooper (editors), *Advances in Experiential Social Processes*, 1980, 2, 267-295.
  - [34] Alderfer, C. P. Improving organizational communication through long-term intergroup intervention, *Journal of Applied Behavioral Science*, 1977, 13, 193-210.
  - [35] Alderfer, C. P. and Brown, L. D. Learning from changing, 47-56, 129-141.
  - [36] Alderfer, C.P. *The Five Laws of Group and Intergroup Dynamics*, 2005.
  - [37] Atkinson, J.W. (Ed) *Motives in fantasy, action, and society*. Princeton: Van Nostrand, 1958
  - [38] Bradburn, N.M., & Berlew, D.G. Need for achievement and English industrial growth. *Economic Development and Cultural Change*, 10, 8-20. 1961.
  - [39] Kelner, S.P., Jr. "Interpersonal motivation: cynical, positive, and anxious." Unpublished doctoral dissertation, Boston University, 1991.
  - [40] McClelland, D. C. *The achieving society*. Princeton: Van Nostrand, 1961.
  - [41] McClelland, D. C. "Testing for Competence rather than Intelligence." *American Psychologist*, 28, 1. 1973.
  - [42] McClelland, D. C. *Power: the inner experience*. New York: Halstead. 1975.
  - [43] McClelland, D. C. "Identifying competencies with behavioral-event interviews" *Psychological Science*, 9, No. 5, 1998.
  - [44] McClelland, D.C., Atkinson, J.W., Clark, R.A., & Lowell, E.L. *The achievement motive*. Princeton: Van Nostrand, 1953.
  - [45] McClelland, D. C., & Burnham, D. H. "Power is the great motivator" *Harvard Business Review*, 2002/1968.
  - [46] McClelland, D. C., Koestner, R. & Weinberger, J. How do self-attributed and implicit motives differ? *Psychological Review*, 96, 690-702, 1989.
  - [47] Murray, H.A. *Thematic apperception test*. Cambridge, MA: Harvard University Press.
  - [48] Murray, H.A. (1938) *Explorations in personality*. New York: Oxford University Press, 1943.
  - [49] Pettijohn, T. F. *Psychology: A ConnectText*, 4/e McGraw Hill ISBN 0-07-292904-9, 1998.
  - [50] P. Subba Rao, *Personnel and Human Resource Management – Text and cases*; – Himalaya Publishing House ISBN 8174937773, 2000.
  - [51] Adams, J.S. Inequity in social exchange. *Adv. Exp. Soc. Psychol.* 62:335-343, 1965.