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Profiling work motivation of project workers

Ravikiran Dwivedula^{a,b,*}, Christophe N. Bredillet^{c,d}

^a *HRM, IBS Hyderabad, India*

^b *LSMRC, France*

^c *Univ Lille Nord de France, F-59000 Lille, France*

^d *SKEMA Business School, LSMRC, Lille, France*

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Abstract

The purpose of this study is to understand the constructs of work motivation in project-based organizations. We first juxtapose work motivation in traditional and project-based organizations to put forward an operational definition of work motivation for our study. We then present the research methodology where we profile work motivation as perceived by project workers using principal component analysis. We obtain a five factor structure of work motivation. Finally, we discuss these results by putting them within the project management perspective and suggest managerial implications.

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1. Introduction

Work motivation is a driver to organization's performance. As organizations are increasingly becoming project-oriented, juxtaposing work motivation in traditional and project-based organizations is of primary interest. Though work motivation has been well-researched in organization behavior literature, its understanding has been limited in project management research. Further, a non-managerial perspective of this issue has been ignored. We address this lacuna in research.

Thus, we set forth the following objectives of this study:

- What is work motivation and how is it different in traditional and project-based organizations?
- What are the constructs that constitute work motivation in project-based organizations?

In this paper, we will first bring forward the dimensions of work motivation by reviewing content and process based-theories of motivation. Then, we will juxtapose work motivation in traditional and project-based environments. Having established a context and framework for work motivation in projects, we will describe our research methodology to investigate the dimensions of work motivation. This will be followed by a discussion of results, conclusion, and the managerial implications of this study.

2. Theory

2.1. Origins of work motivation

Work motivation is a set of energetic forces that originate both from within and beyond the individual's being leading to work-related behavior in terms of determining the form, direction, and intensity of this behavior (Pinder, 1998). These notions of work motivation are firmly grounded in theories of motivation such as theory of needs (McClelland, 1961), Equity theory (Adams, 1963), Goal setting theory (Locke, 1968), and job characteristic model (Hackman and Oldham, 1976) where references to specific

* Corresponding author. Address: ICFAI Business School, #156, Dontanapally, Shankarpally, Hyderabad, Andhra Pradesh 500037, India. Tel.: +91 9949242072.

E-mail address: dvsravikiran@yahoo.com (R. Dwivedula).

features of work that are motivating to the employees have been given.

Early studies alluding to work motivation was given by Taylor through scientific management and then later by Weber, Foller, and Benedix in the 1930's. The focus was on managing the job design to improve performance. These studies gave rise to the

'content based approach' to motivation.

Work motivation was well-researched in *content based-theories of motivation* through the works of Maslow (1943; satisfaction of security, affiliate, and recognition needs), Herzberg et al. (1959; nature of work and pay), and McClelland (1961; collegiality and autonomy). This conceptual understanding of work motivation later gave rise to the job characteristic model (Hackman and Oldham, 1976).

The *Process based-theories of work motivation* gained prominence in the 1960's. These theories view motivation as being dynamic across time (during the tenure of the individual's employment), looking for causal factors pertaining to time (tenure), and events (job content, and job context). Most notable contributions came from Vroom's Expectancy theory (1964), Porter and Lawler (1968), and Locke (1968).

Through these theories, we know that work motivation has been characterized by dimensions such as secured and interesting job, ability to perform the job, recognition from superiors and colleagues, adequate pay, and feedback on performance.

In the last twenty five years, there has been an increasing interest in defining work motivation through the identification of constructs for work motivation such as 'Challenging nature of work' (Jung et al., 1986), 'feedback on performance', 'enjoyable nature of work' (Campion and Thayer, 1987), 'task identity', 'task significance', and 'job autonomy' (Tyagi, 1985) were the constructs that were identified.

In the last seven years, issues of work motivation in relation to groups and teams came to fore. Thus, constructs such as 'shared identity', 'need for relatedness', and 'cohesiveness', and 'communication' were suggested. Importances of documented information that will help the employees to perform their tasks effectively (deTreville and Antonakis, 2006) have also been discussed.

Based on this understanding of work motivation, we now juxtapose this concept in conventional and project-based organizations.

2.2. Work motivation in traditional versus project-based organizations

Traditional organizations are characterized by vertical structures for flow of authority and communication. The unit of performance is a specific function (engineering, HRM, marketing). There is little customer focus. However, recent developments in the business environment (technology, market position, stockholder demands) influenced the operations of traditional organizations (Nicholas, 2001).

On the other hand, projects are temporary structures engaged in the creation of unique products or services. They require cross-functional skills for successful execution. They are characterized by performance constraints and environmental uncertainties (Turner and Simister, 2004).

From the theory standpoint, we observe that job characteristic model (Hackman and Oldham, 1976) seems to be very dominant when explaining work motivation in traditional organization set-ups (c.f. Rungtusanatham, 1999). The five dimensions of work motivation-skill variety, task identity, task significance, training, and feedback are incorporated in the jobs through formal techniques. Some of them are elucidated below.

Studies from the manufacturing sector underscore the importance of providing autonomy, and skill variety to the workers which are otherwise absent (Cummings and Blumberg, 1987). On the other hand, Adler (1991) observed that manufacturing organizations rely on job rotation, and voluntary job switching to motivate the employees. More recently, in a survey of 5000 manufacturing firms by SESSI (Industrial Statistics Department of the French Ministry of Economics, Finance, and Industry), it was observed that practices such as autonomy at work, incentives to promote creativity have been adopted to motivate the employees (Galia, 2008).

Another example is that of using Standard Operating Procedures (SOP) on the shop floor which motivates the employees Suzaki (1993). Similar is the impact on adoption of Kaizen in American manufacturing firms. The workers experienced greater task significance because they were given considerable autonomy in decisions on their production targets, and extensive training (Cheser, 1998).

Another similar example is the use of Statistical Process Control (SPC). It's implementation will involve formation of natural work units, combining tasks, establishing client relationships, vertical loading, and establishing open feedback channels, that will improve the quality of working experience and individual productivity. This will result in job enrichment, direct feedback, autonomy and a sense of task significance to front-line workers (Rungtusanatham, 1999).

Thus, in traditional environment, the perception of work motivation is largely guided by 'job design' where degree of autonomy, ability to apply skills, and opportunities to obtain feedback to develop professionally constitutes work motivation.

Through these observations, we construe the dimensions of work motivation to be limited in case of traditional organizations. However, they are put in place through formal processes in the organization.

As compared to the traditional organization structures, studies on work motivation in project management has been limited. However, it has been more diversified.

In addition to the constructs of work motivation presented above (task significance, autonomy, feedback on performance leading to development), satisfaction of status motives through recognition (Roberts et al., 2006), task variety, and challenging work especially characterize pro-

ject workers engaged in information systems, and open source development projects (Ang and Slaughter, 2001; Markus et al., 2000).

Another example comes from the construction industry. In case of construction projects, the organization structures are becoming increasingly flat. Achieving greater client focus with multifunctional teams that are adequately empowered is the key to success. Thus, employee empowerment through training has become an important source of work motivation (Price et al., 2004). Other important dimensions to work motivation in case of project management have been identified as goal clarity, feedback on performance, and communication among the project team members (Turner, 2003).

To summarize the discussion so far, we posit that the constructs of work motivation in traditional and project-based organizations as perceived by the employees may not be strikingly different. This seems to be plausible as employees' expectations about his or her job environment would remain constant. However, what is different is the 'source' of work motivation in these two environments.

3. Method

3.1. Ontology and Epistemology

Our research has been designed to be deductive in nature and reflect objective inquiry. In this paper, we seek to present an acceptable notion of work motivation as perceived by project workers. Thus, our research is grounded in Parmenidean ontology. We study 'being' rather than 'becoming' (exploring the relation between work motivation and project management success empirically at a particular instance rather than extrapolating the relationship).

Thus, epistemologically, we have taken a positivist stance that strongly advocates empiricism and logical reasoning (vis-à-vis intuition) to explain the phenomenon. Reflective of our research philosophy is our methodology which is quantitative in nature.

3.2. Sample

The sample comprised of 187 participants of the various training programs conducted by the authors' university. There were also 12 delegates of an international project management research conference organized by the authors' university (a total of 199 responses). The average age of the respondents was 27.4 years (SD = 6.5) and the average work experience was 4.3 years (SD = 2.4). The average budget for the projects was USD 590,200. The respondents belonged to various industries (see Fig. 1, p. 20) and different nationalities (see Table 1, p. 20). Hence, the sample is adequately heterogeneous.

3.3. Metrics and analysis

To measure work motivation, we used 'motivational items' included as a part of the 'multimethod job design

Table 1
Geographical distribution of respondents (%).

Nationality	% of respondents
India	93.9
France	3.01
United Kingdom	1.5
Australia	0.5
Sweden	0.5
Denmark	0.5

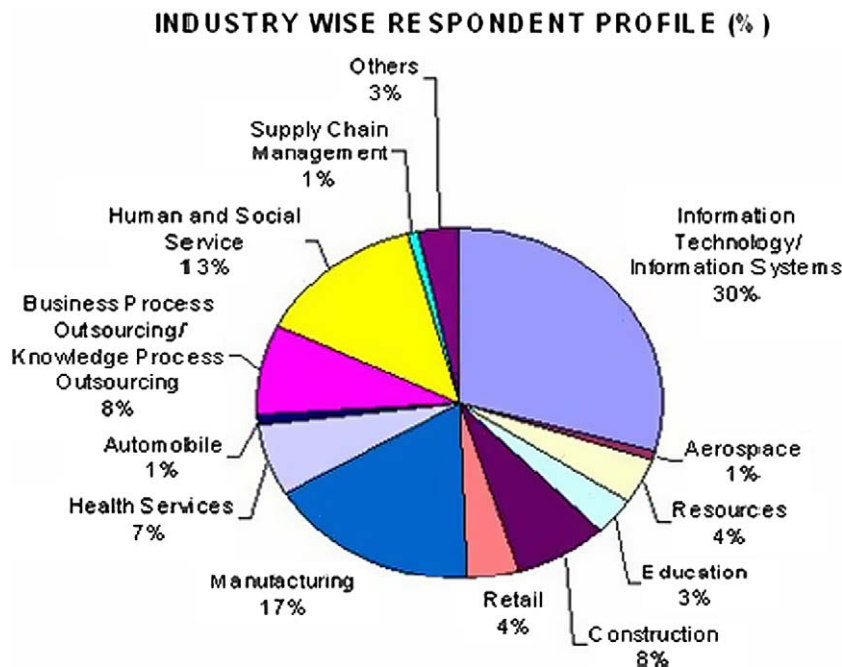


Fig. 1. Respondent profile across industries.

Table 2
Metrics for work motivation.

Item	Code
Freedom, independence, and discretion in work scheduling, quality control, and other decisions	FRDMWRK
Job significant when compared to other jobs in the organization	SGNFJB
Gives a feeling of achievement	ACVMT
Opportunities to participate in decisions affecting the job	PPTTIONDM
Requires completion of identifiable piece of work	CMPLTWRK
Obtain direct performance feedback from work	FDBWRK
Obtain performance feedback from managers and co—workers	FDBCOLL
Provides opportunity for social interaction	SCLINTRTRION
Job duties and goals clear and specific	CLRGLS
Access to relevant communication channels	COMMACCS
Offers adequate pay when compared to other similar jobs	ADQTPY
Provides acknowledgment and recognition	ADQTRCGN
Offers job security	JBSCRITY
Have variety of tasks on the job	TSKVAR
Requires variety to knowledge and skills	KNWLVAR
Requires high level of knowledge and skills	KNWLHIGH
Provides opportunities for career advancement	ADVJOB
Provides opportunity for learning and growth	ADVCOMP

Adapted from [Campion \(1988\)](#).

questionnaire developed by [Campion \(1988\)](#). Earlier studies by [Campion \(1988\)](#) revealed an internal consistency reliability of 0.85 for these items.

These items along with their corresponding codes for the purpose of the analysis is presented in [Table 2](#) (see p. 21).

3.4. Procedure

All the potential participants identified were contacted in person by the authors. Only those who were working in a project-based organization were contacted. A comprehensive explanation of the purpose of the research study, and its outcomes summarized in an explanatory cover letter accompanied the survey instrument. We handed in 325 questionnaires of which 199 were found to be complete and valid. We applied principal component analysis (using varimax rotation) to identify the factors constituting work motivation among project workers.

3.5. Validity

The validity of our factor structure is established through the KMO test which returned a value of 0.82. Sampling error was minimized by using a large sample pool in relation to the number of items to be factored.

4. Observations

4.1. Principal component analysis of work motivation

We obtained a five factor structure of work motivation. The first factor accounting for 16.6% of total variance and loads essentially, and in that order, variables ADVJOB, KNWLVAR, PPTDM, KNWLHIGH, ACVMT, and ADVCOMP. We label this factor as ‘employee development’. The second factor that explains 14.4% of

variance loads variables TSKVAR, SCRINTRON, FDBWRK, SGNFJB, and COMMFLW. We call this factor work climate. Factor three which accounts for 12.3% of variance, loads the variables ADQTPY, ADQTRCGN, FRDMWRK, and FDBCOLL. This factor is labeled as ‘perceived equity’. Factor four called ‘work objectivity’ contains variables CMPLTWRK, and CLRGLS explaining 10.0% of variance. Finally, factor five which we name ‘job security’ has only one variable JBSCRITY, explaining 7.2% of variance. These results are summarized in [Table 3](#) (see p. 23).

4.2. Results of work motivation: principal component analysis

The results of the principal component analysis identify the constructs of work motivation for project workers. Interestingly, project workers perceive factors leading to their professional development, and a congenial work climate as being most motivating. These results are discussed in detail below.

4.2.1. Factor 1. Employee development

The concept of employee development has its roots in various substantive issues such as intrinsic motivation, job design, participative decision making, social learning theory and self-management theory. Our observations for this factor – employee development supports these arguments through the loading of variables related to enriching job design, participative decision making, and intrinsic motivation ([Spreitzer, 1996](#)). The proclivity for empowering nature of work is truer in case of project workers because their work requires a great deal of flexibility, innovation, creativity, and intellectual analysis. They also need to operate under ambiguous standards coping with

Table 3
Principal component analysis of work motivation items.

Variable	Rotated component matrix Components				
	1	2	3	4	5
ADVJOB	0.74	0.14	0.17	-0.07	0.06
KNWLVAR	0.67	0.10	-0.06	0.38	0.02
PPTDM	0.66	0.75	0.30	-0.13	0.30
KNWLHIGH	0.64	0.33	-0.05	0.29	0.06
ACVMT	0.53	0.44	0.20	0.29	-0.17
ADVCOMP	0.53	0.14	0.17	0.51	-0.05
TSKVAR	0.17	0.74	0.00	0.20	0.17
SCRINTRON	0.08	0.72	0.21	0.02	0.04
FDBWRK	0.27	0.59	0.46	-0.09	-0.01
SGNJB	0.42	0.55	-0.08	0.19	0.11
COMMFLW	0.41	0.42	0.35	0.09	-0.13
ADQPTY	-0.04	0.05	0.71	0.18	0.01
ADQTRCGN	0.20	0.17	0.61	0.03	0.14
FRDMWRK	0.03	-0.16	0.57	0.03	0.54
FDBCOLL	0.16	0.27	0.55	0.20	-0.02
CMPLTWRK	0.14	0.01	0.13	0.79	-0.008
CLRGS	-0.03	0.34	0.27	0.61	0.22
JBSCRTY	0.08	0.22	0.04	0.06	0.85

Factor	Variance explained (%)
Factor 1. Employee development	16.6
Factor 2. Work climate	14.4
Factor 3. Perceived equity	12.2
Factor 4. Work objectivity	10.0
Factor 5. Job security	7.2
Total variance explained	60.5

uncertainty of outcomes. Moreover, methods for doing the work are established and shared by the professional themselves. Thus, control over their work by the management at least at the operational level would prove to be counter productive (Raelin, 1989).

4.2.2. Factor 2. Work climate

We draw from the ‘Shared Perceptions Approach’ (Reichers and Schneider, 1990) to explain this factor. According to this, organization climate is defined as a set of shared perceptions (of the group members) of the way things are around here. Thus, a positive climate for the work group is developed when the members have a common objective to attain, have sufficient task interdependence, and when they are constantly interacting with each other to successfully execute these tasks.

With respect to project management, given the extent of task-interdependency among the team members when working on the project, communication is pivotal for project management success. Understanding that project workers may want to maximize their opportunities for growth by accepting and performing challenging work, they would value support in this direction from the project work environment. Providing access to project-related information and, facilitating formal and informal communication aids the project workers to perform better. Therefore, the factor work climate may be an instrumental factor to achieve the terminal objectives of the project workers.

4.2.3. Factor 3. Perceived equity

This factor constitutes the financial and non-financial rewards and is grounded in Equity theory (Adams, 1963) which explains motivation of an employee as being relative to the outcomes achieved vis-à-vis efforts exerted; this being influenced by the work climate.

Professionals, in this case the project workers especially value a sense of responsibility. These expectations are expressed in their proclivity for freedom at work and also in obtaining feedback on their performance. Obtaining such information on their performance is perceived as a symbol of recognition and as a non-financial reward by the employees (Kluger and DeNisi, 1996). On the other hand, financial rewards, especially if they are linked to performance, also is a form of feedback on the individual’s performance. Further, employees are motivated only when performance is linked to rewards (Armstrong, 2003). Thus, fairness in the financial and non-financial rewards given to the project team members affects their motivation.

4.2.4. Factor 4. Work objectivity

This factor loads two variables – goal clarity, and task identity. The importance of goal clarity is well documented in the Goal setting theory of motivation by Edwin Locke (1968). This theory assumes that clear and specific goals will lead to increased performance and more importantly, goals should be acceptable to the employees.

Kerzner (2000) underscores the importance of goal clarity for achieving optimal project performance. Further, the project goals should be set realistically with due consideration for the resources available (Pinto, 2000). This can be achieved through processes such as project scope development which would include documenting the project scope statement and developing the work breakdown structure (WBS). The WBS identifies major deliverables (products/services to be produced as a part of the project) which are further divided into work packages (tasks that need to be performed to produce those deliverables). Individual members of the team or a team collectively may be assigned the responsibility of producing the deliverables, thus making that work unit accountable for an identifiable piece of work. Thus, specificity of project objectives in consonance with accountability of the tasks to be performed motivates the project workers.

4.2.5. Factor 5. Job security

An interesting observation is the factor job security that has emerged as an independent factor. Job security has been defined as a hygiene factor in the two-factor theory proposed by Herzberg et al. (1959) and as an ‘existence need’ in the ERG theory (Alderfer, 1972). Recent studies have shown that it is an important determinant of performance (Mierlo et al., 2006). Given the current economic scenario where organizations are forced to reduce their headcount, having a secured job is a significant motivation to the employees. This explains the emergence of job security as a stand-alone factor.

The above discussion is summarized as a model in Fig. 2 (see p. 23).

The factors of work motivation are reflective the way projects are managed to deliver unique products/services and the way the human variable should be managed to achieve this objective.

Consider the first factor employee development. It relates to the satisfaction of the esteem needs of the project workers. Project based firms, because of their structure and demands can engender a culture where individuals are encouraged to take on challenges. Further, the organizations create a sense of ownership towards the project among the team members by providing opportunities for their professional development. On the other hand, it is also important for the project workers to maintain their standing in the organization and their profession by accepting these opportunities.

The next factor work climate reflects the aspirations of project workers for a favourable work environment. Projects are organized in stages which require precise planning and adherence to performance constraint at each stage. Thus, such a nature of work requires constant exchange of project-related and informal exchange among the project stakeholders. It also mandates the team members to

assume responsible roles on the project. In this direction, observed that when project managers closely involved the team members during the project implementing stages, such as development of the work breakdown structure, the project workers developed a sense of ownership towards their task. This lent a degree of significance to their job which they found to be motivating.

The third factor is perceived equity which presents the project workers' motives from the adequacy of financial and non-financial rewards. Previous research in general management (Grant, 2007) and project management (Aibinu, 2006) strongly connotes to Equity theory of motivation and emphasizes on equitable rewards and recognition to motivate the employees. The project team needs to be given autonomy in the execution stages of the project and this effort should be recognized through performance based rewards. This, while satisfying the esteem needs of the project workers (as discussed earlier in this section), will also lead to continued good performance of the team.

The next factor is work objectivity. A project is divided into deliverables, which are further divided into work packages and activities, with each of these stated as an objective for an individual and the project team. Thus, a project pro-

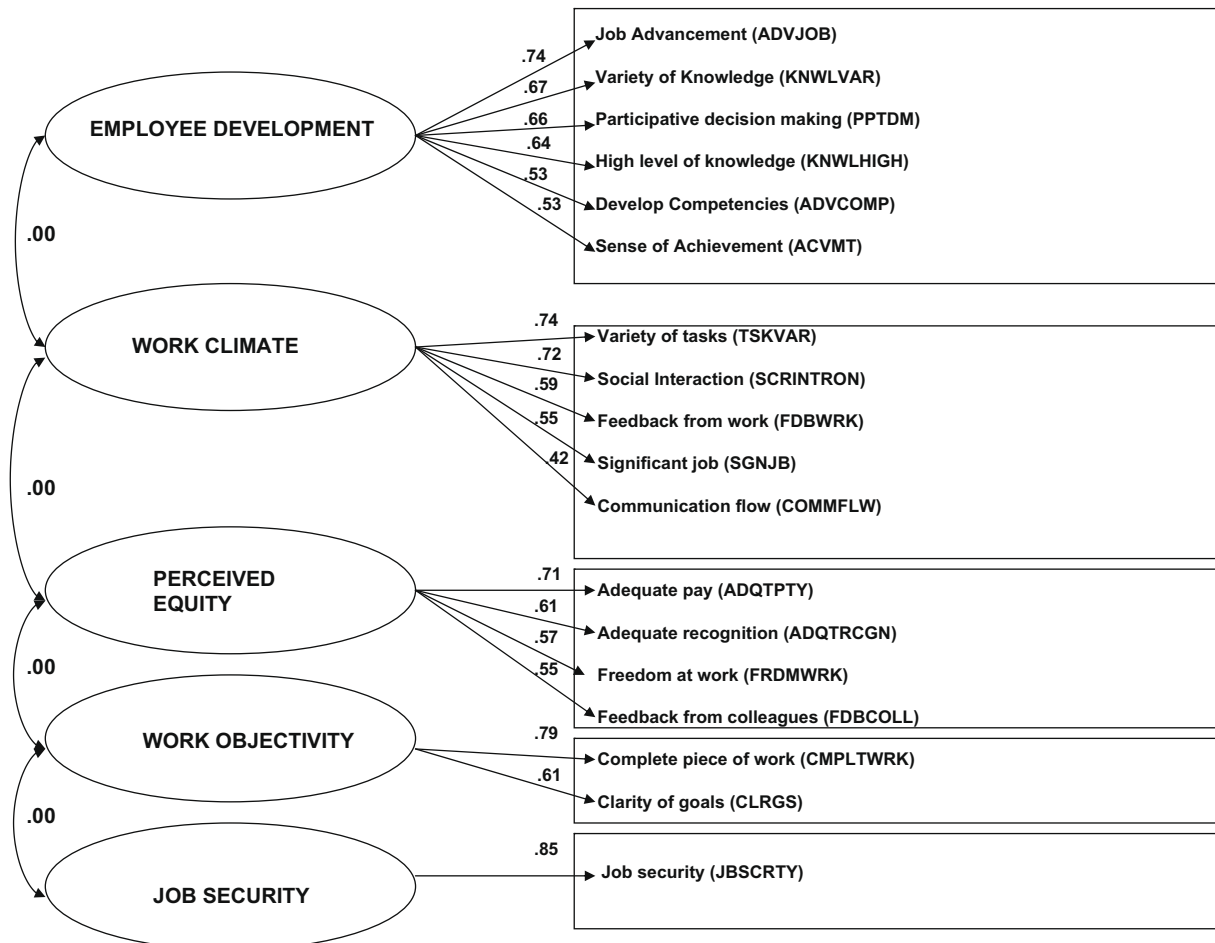


Fig. 2. Model of work motivation for project organizations

vides an opportunity for team members to take on responsibility for an identifiable piece of work (deliverable, work package, or an activity). Thus, this style of managing work provides goal clarity to the team members, while also ensuring individual and team accountability for the completion of the goals.

Reflective of the current business cycle is the factor job security. Until recent past, organizations did not focus on providing continuity of employment to its project-based staff. This was reflected in the high turnover rate in industries such as Information Technology, and Business Process Outsourcing. However, today, the onus is on the employee to demonstrate her value to the organization. Through diverse and advanced skills. It is also not uncommon for organizations to invest in cross-training to meet the manpower shortage cost effectively.

4.3. *Limitations of the study and future research*

The objective of this paper was to suggest an acceptable definition of work motivation for the discipline of project management through empirical research. However, this study has to be viewed in the light of three main limitations. First, the project worker's proclivity for work-related incentives may be dependent on extraneous factors such as the project manager's leadership style, project stage, national culture, and organizational culture (Riketta and Nieneber, 2007). These variables were not studied for their influence (on motivation).

Second is the limitation pertaining to the choice and size of our sample. Ours was a sample of convenience due to the limited availability of busy project workers and also logistical limitations. In order to overcome these limitations, our future research will include extending this research to a more diverse sample. Thus, it will be possible for us to compare project workers' motives across cultures.

The final limitation is our reliance on the self-reported questionnaire data raising possible concerns about monomethod bias. In order to overcome this limitation, we will also conduct ethnographic studies (through case studies) as a follow-up to the quantitative analysis to come up with a more comprehensive operational definition of work motivation for this context.

In addition to the above, we will also actively pursue an investigation of the influence of work motivation on a performance variable such as project success. Previous studies in this direction have shown positive relation between work motivation and quality of service (DeVaro et al., 2007), customer satisfaction (Procaccino et al., 2006), and implementation (Mahaney and Lederer, 2006). Thus, our future research will contribute to the project management research and practice.

5. **Managerial implications**

The findings of this study have important implications in terms of managing and retaining talent through motivat-

ing work content and context. The findings specifically offer solutions to industries such as Information Technology (IT), Information Technology Enabled Services (ITES), and Business Process Outsourcing (BPO) which have experienced a slump in their growth in the last 2 years.

First, the project workers' proclivity for development is reflective of the business trends today. PricewaterhouseCoopers survey on Global Human Capital in 2003 revealed that employees who are empowered and actively engaged contributed significantly to the bottom line. A similar study by Watson Wyatt in 2002 shows that better human capital practices such as collegial workplace, effective communication, and clear accountability and rewards lead to an average of 30% increase in the shareholder value. These human resource practices are institutionalized by Indian Information Technology majors like Wipro. The company's core values include effective employee communication, right rewards for performance, and employee learning.

Job security also has emerged as an important motivating factor in our study. Addressing the concerns of job security among its employees, Proctor & Gamble (P&G) offers the highest base salary as a percentage of the salary and therefore higher retirement contribution by the organization. This encourages the employees to spend long careers in the company. It is not surprising then that P&G has been rated amongst the best places to work.

These examples indicate that our model of work motivation will find applicability in the industry.

6. **Conclusion**

Our objectives for this study to know how project workers perceive work motivation. Our first step was to see how work motivation is positioned in project management vis-à-vis traditional operations environment. The concept of work motivation may not be very different in these two environments; however the source of work motivation may be different. This is primarily attributed to the structure and nature of projects. Further, we observe that the concept of work motivation has become more inclusive in the recent years. Variables such as alignment of the individual-organizational goals, employee empowerment, and communication have come to define work motivation along with nature of work itself. These trends are reflected in our analysis of the project workers. The multidimensional nature of work motivation reveal that initiatives directed towards empowering the employee, providing a motivating work environment, challenging and interesting nature of work, formal and informal communication, and job security significantly explain work motivation in a project context. The application of these practices in the industry is also discussed through examples which are to say that our recommendations are actionable. Thus, we expect that our findings will significantly contribute to an understanding of work motivation theory and practice in the context of project management.

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