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Job characteristics model (JCM): utility and impact on working professionals in the UAE

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Abstract

Purpose – This study aimed to see the impact of various dimensions of the job characteristic model (JCM) through the motivating potential scores (MPSs) on professionals residing in the UAE.

Design/methodology/approach – A sample of 60 professionals, aged from 20 to 45 years were randomly selected from different organizations in UAE. They were administered an online questionnaire to explore their perceptions on job characteristics as per the JCM. Analysis of results was done by factor analysis using SPSS.

Findings – Results reveal the impact of increasing age on high MPSs, higher MPSs of white-collared jobs than the blue-collared jobs, owing to high skill variety in white-collar jobs. It was also noticed that women scored higher on MPSs than men, and the men of Indian origin showed high motivation as compared to their counterparts from other countries.

Research limitations/implications – Based on the study conducted, it can be concluded that JCM used for calculating MPS gives an insight into the motivational levels of an employee and the cause for the same. Plotting the scores of JCM characteristics with respect to variables such as age, gender, type of job and country of residence gives a fair idea of motivation and its dependence on these variables.

Originality/value – The findings of this study have significant implications for developing and sustaining a motivated workforce in the organizations in the UAE. A critical analysis of the data gives many areas where the company can focus to increase the motivation level of its employees.

Keywords UAE, Job characteristics model, Motivating potential score

Paper type Research paper

1. Introduction

The UAE is one of the fastest growing emerging economies of the world. The organizations across different industries in the UAE are engaged in developing and sustaining motivated workforce to effectively compete in the fiercely competitive world business environment. It is because, "motivation" – the willingness to work hard (Thahier *et al.*, 2014) – is what keeps people going. It is a driving force by which human beings achieve success. In psychological terms, motivation can be defined as a process that initiates, guides and maintains goal-oriented behaviours. McCullough (2005)

defined motivation as "the intensity and direction of effort". Intensity refers to the quantity of effort, and direction refers to what you are drawn too. In the words of Atkinson and Raynor (1974), "Motivation influences both efficiency in the execution of an activity (and therefore the level of performance) and persistence or more generally, the time spent in a particular endeavour". Thus, it can be inferred that if people are not motivated adequately, they will not utilize their potentials to the optimum.

It is generally believed that the motivation of a person to do a job increases with age. However, there is some empirical evidence which suggests that the relationship is U-shaped. The motivation level initially declines from a moderate level in the early years of employment and then increases steadily up to retirement. "Significant variations across ages are commonly found, with older employees tending to report higher satisfaction than younger ones" (Doering *et al.*, 1983; Glenn *et al.*, 1977; Warr, 1992).

Herzberg *et al.* (1951) suggested that, in general, morale is high among young workers. It tends to go down during the first few years of employment. The low point is reached when workers are in their middle and late twenties or early thirties. After this period, job morale climbs steadily with age. This U-shaped pattern was interpreted in terms of new entrants in the labour market feeling positive about their novel situation and their transition to adulthood; however, increasing boredom and a perception of decreasing opportunities was thought to lead to some reduction in job satisfaction during subsequent years. In due course, it was suggested, a person comes to terms with his or her occupational role and a subsequent increase in job satisfaction is observed. General studies were performed by Weaver (1980) which presented mean overall job satisfaction scores of men and women from the USA between 1972 and 1978. In all years except one (1974), he found that the respondents aged below 20 reported the lowest satisfaction. Similar findings were observed by O'Brien and Dowling (1981) using Australian data for study.

2. Literature review

The employee motivation is a critical component in the growth of any organizations across the industry (Tampu, 2015). A large body of research provides evidence that the way jobs are designed impacts outcomes that are important to workers (e.g. job satisfaction) and to employers (e.g. productivity). Job design can be approached with one or more goals in mind. For instance, jobs can be designed in the interest of increasing production efficiency, minimizing physical strain or with an eye on maximizing the extent to which they are motivating to the worker (Campion and Thayer, 1985).

The job characteristics model (JCM) (Hackman and Oldham, 1976) is a widely studied model of motivational job design that has explained important work outcomes (e.g. satisfaction and tenure) for workers in a wide variety of blue- and white-collar jobs. In terms of job description, white-collar and blue-collar employees are different. White-collar employees perform tasks which are less "physically laborious" yet often more highly paid than blue-collar employees, who do manual work. Blue-collar employees are members of the working class who perform manual labour. They could be called "production workers". Blue-collar work may be skilled or unskilled and may involve factory work, building and construction trade, mechanical work and technical installation (Mascull, 2002). As the different job description above, this effects work environment. For example, workspace contrast, the higher-ranking executives/white-collar employees may have large corner offices with impressive views and

expensive furnishings, whereas the clerks/blue-collar employees may share small, windowless cubicles with plain utilitarian furniture (Mathis and Jackson, 2003). In this case, there are different needs of motivation in working. Blue-collar employees need good working environment, whereas white collar employee pay attention on other motivational factors. White-collar employees are satisfied with their job opportunity and promotion, followed by welfare, transportation, insurance and entertainment activities (Kaewpradab, 2006).

Hackman and Oldham (1976) proposed the JCM, which is widely used as a framework to study how particular job characteristics impact on job outcomes, including job satisfaction. The model states that there are five core job characteristics (skill variety, task identity, task significance, autonomy and feedback) which impact three critical psychological states (experienced meaningfulness, experienced responsibility for outcomes and knowledge of the actual results), in turn influencing work outcomes (job satisfaction, absenteeism, work motivation, etc.). The five core job characteristics can be combined to form a motivating potential score (MPS) for a job, which can be used as an index of how likely a job is to affect an employee's attitudes and behaviours.

The MPS can be calculated using the core dimensions discussed above, as follows:

$$\text{MPS} = \frac{\text{Skill Variety} + \text{Task Identity} + \text{Task Significance}}{3} \times \text{Autonomy} \times \text{Feedback}$$

Jobs that are high in motivating potential must be also high on at least one of the three factors that lead to experienced meaningfulness and also must be high on both autonomy and feedback. If a job has a high MPS, the JCM predicts that motivation, performance and job satisfaction will be positively affected and the likelihood of negative outcomes, such as absenteeism and turnover, will be reduced.

According to the JCM, certain core features of jobs, as seen by the worker, impact psychological reactions to the job and the outcomes that follow from those reactions. In other words, as shown in Figure 1, the JCM posits that perceived core job characteristics impact work outcomes through their effects on psychological reactions to the job (i.e. critical psychological states).

The five core job characteristics are:

(1) "skill variety" (i.e. the perceived variety and complexity of skills and talents required to perform the job);

(2) "task identity" (i.e. the extent to which the job is seen as involving a whole, identifiable task);

(3) "task significance" (i.e. the extent to which the job affects the well-being of others);
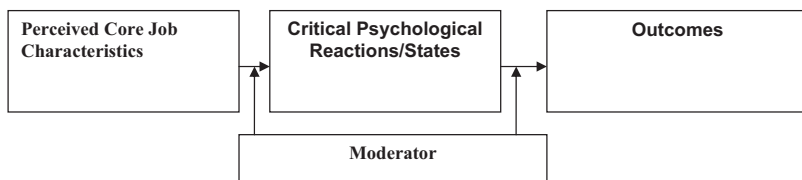
Figure 1.
Key components
of the job
characteristics model

(4) "autonomy" (i.e. the extent to which the job is seen as allowing for personal initiative in performing the work); and

(5) "feedback from the job" (i.e. the extent to which the job, itself, provides information about job performance).

The JCM posits that the way jobs are perceived in terms of these five core job characteristics impact three particular psychological reactions to the job. These reactions, referred to as "critical psychological states", include "experienced meaningfulness of work" (i.e. the extent to which the work is seen as making a difference to others), "felt responsibility" (i.e. the extent to which the worker assumes responsibility for his/her work) and "knowledge of results" (i.e. the extent to which the worker is aware of the quality of his/her work). Jobs seen as high in the five core job features (e.g. high in autonomy) are expected to be seen as more meaningful by workers, are expected to engender greater feelings of responsibility on the part of workers and are expected to provide clear cues to workers about the quality of work.

Finally, critical psychological states are expected to explain variability in five specific work outcomes:

(1) general job satisfaction;

(2) perceived job performance;

(3) internal work motivation (i.e. the extent to which the worker is motivated by doing good work);

(4) satisfaction with growth (i.e. the extent to which the worker is satisfied with the opportunity to learn new things on the job); and

(5) thoughts of quitting.

In addition, the linkages shown in the model (Figure 1) are expected to be moderated by "growth need strength". In other words, the linkages are expected to be significantly stronger for those individuals who are highly motivated to learn and grow on the job.

The JCM has generated a great deal of research, literally hundreds of published studies. Overall, this research supports the prediction that worker satisfaction, motivation and performance are higher among individuals who see their jobs as high in the five core job characteristics (Fried and Ferris, 1987). For example, a meta-analysis of JCM research based on the original assessment instrument, the job diagnostic survey, estimated the correlation between job characteristics and job satisfaction to be $r = 0.39$ ($p < 0.05$) and concluded that employees who have a high need for growth and who see their jobs as being high on the five core job characteristics have the most positive work outcomes (Loher *et al.*, 1985). Most of this research also supports the notion that the effects of perceived job characteristics on outcomes are partly or fully mediated by the critical psychological states.

The JCM argues that the motivation to work is a function of three critical psychological states – experienced meaningfulness of the work, experienced responsibility for outcomes of the work and knowledge of the actual results of the work activities. These three critical psychological states, in turn, are determined by five job characteristics – skill variety, task identity, task significance, autonomy and feedback, Renn and Vandenberg (1995, pp. 279-301).

Hence, the researchers decided to study the impact of JCM amongst the working professionals from different nationalities residing in UAE. The aim was to understand the impact of culture, age and gender on their MPSs; thereby indirectly on their motivation level.

3. Methodology
An online survey was conducted to identify the perceptions about the job characteristics of employees based on the JCM. The respondents consist of people from various countries such as India, Pakistan, Nepal, UAE, USA, etc. The sample universe consists of working individuals and students with work experience; the occupations of the individuals are analysed on the basis of white- or blue-collar jobs. This helped the researcher to identify the basis of motivation in an individual, if it depends on the salary and complexity of the work involved or on the simplistic and monotonous nature of work more common with blue-collar jobs.

The participants were sampled across a large number of functional specialties and across both white- and blue-collar jobs to bring in heterogeneity in the occupation. Also, age, gender and country of residence were taken into consideration. However, some of the data which indicated a biased viewpoint were neglected while performing factor analysis of the results.

3.1 Sample in the study
The sample size was of 61 respondents, between the age group of 20-45 years. These respondents were asked and made to understand the significance of the questionnaire, and then the survey was conducted without further elaborating much on the questions to avoid influencing their responses.

A total of 15 questions were asked; 3 each for the five different factors considered. Also, care was taken so that each of the core job dimensions was not overlapping. The responses were sought using Likert's five-point scale. It was probable that the Likert scale would be ordinal, but in any event, the population could be totally ordered by the magnitude of the latent variable. A single Likert-type item asks the respondent to which of several ordered alternatives they belong. Each Likert-type item provides a discrete approximation of the continuous latent variable. A proper analysis of single items from Likert scales should acknowledge the discrete nature of the response. The researchers would like to note here that the issue of parametric vs non-parametric analysis of the Likert scale scores is not the concern here, as addressed by Adams (1965), rather, the objective was to examine the proper analysis of single Likert-type items only. The SPSS package was used to compute and analyse the survey results.

3.2 Validation of data collected
The SPSS version 19 was used to arrive at the factor analysis to check the diversity of questions and whether there is an overlap of questions as stated in Table I.

After analysing the report, based on the data collected, six factors were identified, that is, one more than expected (five characteristics of JCM). This meant that there is one more factor originating that needs to be further researched, however, the researcher was assured that the questions are diverse and they are pointing towards more than five factors.

		Total variance explained				
		Initial eigenvalues			Loadings	
Component	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %
1	2.919	19.459	19.459	2.919	19.459	19.459
2	2.062	13.747	33.206	2.062	13.747	33.206
3	1.578	10.522	43.728	1.578	10.522	43.728
4	1.478	9.853	53.581	1.478	9.853	53.581
5	1.437	9.577	63.159	1.437	9.577	63.159
6	1.133	7.554	70.713	1.133	7.554	70.713
7	0.949	6.325	77.038			
8	0.744	4.963	82.001			
13	0.319	2.127	97.233			
14	0.217	1.447	98.68			
15	0.198	1.32	100			

Table I.
Factor analysis to
explain the total
variance

4. Results and discussion
The results were discussed in the light of the previous studies as below

4.1 Motivating potential score and age
From the data collected, a chart is plotted explaining the relationship between the job characteristics, MPS and age of the employee.

From the Appendix 1, it is inferred that initially, with age, MPS increases, but after a point, there is a sharp decline in MPS owing to low feedback and task identity. But, as employees grow older, there is an increase in MPS again. Finally, it is witnessed that older people are more motivated as their needs are fulfilled, perform various tasks and, thus, are highly motivated and satisfied:

- The people in the age group 20-24 showed an average MPS of 62.4 and scored lowest in autonomy. The probable reason of this might be the new entrants to the organization. It was further noticed that at this stage of work life, most of the responsibilities and freedom to schedule their tasks are not given to them. Moving ahead to the age group of 25-30, a slight increase in MPS of the employees was witnessed because of an increase in skill variety. The employees were able to perform diversified tasks and place much more importance on their job.

- Further, it is seen that as the age increases, the MPS increases. But, there is a sudden drop between the age group from 30 to 39. This is because at this point in life, people do not get adequate feedback which is required and, also, perception plays an important role in it. They perceive that they have much of the opportunities available, but their skills are not effectively utilized by the organization. Also, at this stage, their self-actualization needs arise, and fulfilment of these needs only can further motivate them.

- After this, there is a substantial increase in the scores to 76.1 as at this stage, the employees get more experienced, their skill sets are enhanced further and, also, their suggestions and ideas are valued by the organization. For employees, it results in rise of skill variety and feedback received, which motivates them to give high work productivity.

4.2 Job and motivating potential score

There have been studies to understand the relationship between person-environment (P-E) fit, that is, to identify the compatibility between people and their work environments. This is an area which is constantly debated at various forums (Ehrhart and Makransky, 2007). According to this, the P-E fit theory is a theory of human behaviour and, more specifically, of human choices. There are two basic assumptions of this theory. First is that the human theory is a function of the person and the environment, and the second is that the person and the environment need to be compatible (Kristof, 1996). Pertinent questions such as if the type of job affect the motivational level of the employee and if the white-collar jobs are more satisfying and have a higher motivational score as compared to blue-collar jobs were investigated further.

The P-J fit refers to individuals' congruence with the requirements of their job and the inducements provided to perform it (Bretz, 1993). Edwards (1991) defined P-J fit as the match between the abilities of a person and the demands of a job or the needs/desires of a person and what is provided by a job.

Edwards (1991) identified two distinct types of the P-J fit. The first type, abilities-demand fit, is the congruence between individuals' skills and abilities and the specific demands of the job. When workers have the skills necessary to fulfil job demands, they are more likely to perform at a higher level, to meet the expectations of supervisors and to remain on the job (Hecht and Allen, 2005; Kristof-Brown *et al.*, 2005; Lopez *et al.*, 2009). The second type of P-J fit, needs-rewards fit, is achieved when individuals' needs are provided for by the rewards of the job.

When workers' needs for affiliation, autonomy and financial security are fulfilled by the organization in the form of compatible colleagues, scheduling autonomy and generous compensation, they experience greater job satisfaction and are more highly committed to the organization. These two different components of P-J fit were initially studied as two separate types of fit but are now generally combined into the overall conceptualization of P-J fit (Hecht and Allen, 2005; Kristof-Brown *et al.*, 2005; Lopez *et al.*, 2009).

From the data collected, a chart is plotted explaining the relationship between the job characteristics, MPS and type of job and whether blue-collar or white-collar (Appendix 2).

The average MPS score of white-collar jobs is higher than that of blue-collar jobs, as is visible from the (Appendix 2):

- Skill variety was higher in white-collar jobs than in blue-collar jobs. This clearly suggests that people having white-collar jobs have more skill variety than their lesser counterparts as they clearly require more number of skills to perform their jobs. Their tasks are also probably more complex than those of the blue-collar jobs.

- Task identity on the other hand was found to be greater in blue-collar jobs as compared to white-collar jobs. This could probably be because of the fact that as the white-collar jobs are more complex and require the co-operation of a team of people, the task identity for a single individual of the team decreases. However, blue-collar jobs are rarely team-based jobs, and, thus, the task identity is higher.

4.3 Gender and motivating potential score
Does gender have an effect on the motivational score of an employee? Currently, women occupy a significant place in employment sphere, and their participation in economic life is increasing every day. Undervaluing and misunderstanding of women's job motivation lead to underutilization of women's skills and experience.

Gender stereotypes play a significant role in the processes of gender motivation evaluation. A higher satisfaction in job can be a result of higher motivation among the employees. The question of whether gender differences in job satisfaction exist has been answered both negatively and positively in the literature. In studying job satisfaction literature, Locke and Henne (1986) conclude that "variables related to satisfaction have included: sex differences", suggesting that gender is a determining factor in job satisfaction. However, Griffin and Bateman (1986) concluded that "variables such as gender seem to play little role in job satisfaction".

(Appendix 3) explains the relationship between the job characteristics, MPS and gender:

From the Appendix 3, the following salient points can be inferred:

• On an average, the MPSs for females are more than those for males.

• The females' score on feedback are distinctly more than males'; this can be attributed to the fact that females are better in their interactions as compared to males.

• Females are low on their perception of task significance as compared to males; this can be attributed to the intrinsic factor of female to be more humble as compared to their male counterparts.

• The males are slightly high on their perception of their skill variety than females. This can be attributed to the factor that men feel that they can do more challenging jobs that require more flexibility.

• The females feel that they have more autonomy than males; this can be attributed to the fact that females are more content and satisfied with their job roles.

• The males and the females are almost at same level of task identity.

4.4 Country of residence and motivating potential score
Are people working in their own country of residence more motivated than the people who are working in a different country? People from different countries have different kind of work culture, which guides their working behaviour. There is a very high correlation between the way we look at things and the place from where we belong. Our culture has been a major factor in making our perception about things, which is one of the main reasons for the level of motivation. There are countries where people value their work more and are more stringent with their norms and regulations when it comes to work. People are highly motivated when they are allowed or rather given a chance to work in their own country rather than in some different country. This is mainly because the level of association is higher when it comes to working in conditions to which you have always been accustomed. It is always difficult to adapt to new set of conditions. Researchers have clearly stated this hypothesis and it is also tried and tested.

From the data collected, a chart has been plotted explaining the relationship between the job characteristics, MPS and country of residence. In this case, it is India and outside India.

From the Appendix 4, the following salient points can be inferred, as:

- The results revealed that motivation levels in employees of Indian origin are elevated as compared to employees from outside India. This can be attributed to higher amount of feedback among people working in India as compared to other countries.

- Skill variety level among Indian employees is higher. The reason for this could be higher level of motivation in them.

- Task identity and task significance level is also higher for Indian employees. The reason for this could be higher job involvement and better interaction levels.

- Feedback level is higher for Indian employees because of higher level of interaction and job involvement.

- The only factor in which employees of Indian origin are lagging is the autonomy level, which could be attributed to the fact that employees from other countries have more freedom and independence level in their work.

5. Conclusions

The findings of this study have significant implications for developing and sustaining a motivated workforce in the organizations in the UAE. Based on the study conducted, it can be concluded that JCM used for calculating MPS gives an insight into the motivational levels of an employee and the cause for the same. Plotting the scores of JCM characteristics with respect to variables such as age, Gender, type of job and country of residence gives a fair idea of motivation and its dependence on these variables. A critical analysis of the data gives many areas where the company can focus to increase the motivation level of its employees.

6. Implications of the study

The findings of the study have important implications for both the academicians and the corporate world, especially in the Middle East. These implications of the study relate to improving the MPS in general *vis-à-vis* variables of analysis including age, type of job, gender and the country of residence:

(1) Age of employees:

- The middle-aged employees should be provided training so that they get an opportunity to improve their skill variety, where they were found low.

- The job redesign should be done so that enough opportunity and autonomy is provided to complete their job.

- There is a perception among employees of all age groups that they have been given less autonomy; hence, the philosophy of management by objectives should be used in practice and spirit in managing people, where jointly setting the goals might be helpful.

(2) Type of work:

- The blue-collar employees lack in skill variety as they have monotonous type of jobs, but this provides opportunity for companies to identify good prospects from the blue-collar pool and promote them to better positions, which will motivate them to perform better.

- Other opportunity for the human resource managers to motivate the blue-collar employees is by giving them more appropriate feedback and provide them opportunity to put forward their point of view.

- In general, the autonomy level is less among both categories of employees, and, hence, companies should try to give a greater amount of autonomy to its employees.

(3) Gender of employees:

- It has been seen that the female employees are much more motivated than their male counterparts, and, hence, there is a need to implement various programs that will help the male employees to get motivated. There can be a range of activities encouraging the employees so that the male workforce does not loose on their sheen and divert all their energies for the welfare of the organization.

- The male employees get low feedback, and this is one of the reasons why they have somewhat less urge to perform, as can be seen through our analysis. Hence, they can be given timely and appropriate feedback so that they can know as to how they are working and whether their working style is in tandem with the goals and objectives of the organization.

- The female employees should be given more of challenging jobs wherein their potential can be utilized optimally.

(4) Country of residence:

- People outside their country of origin are not highly motivated. The results demonstrate a lack of feedback as a potent reason for this fact. Thus, companies should encourage more interaction with foreign employees and create a mechanism of giving them constructive feedbacks. Another reason can be a lack of organizational identity, but this factor needs further exploration.

- People working outside their country of origin have low score on task significance, so the companies employing foreign employees should involve them in goal setting process and make them aware of the significance of their task.

Finally, although the study explores the factors to identify significant implications for developing and sustaining a motivated workforce in the organizations in the UAE, the researchers witnessed the limitations of the sample size and other intervening variables, and this is subject to further research and exploration.

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Appendix 1
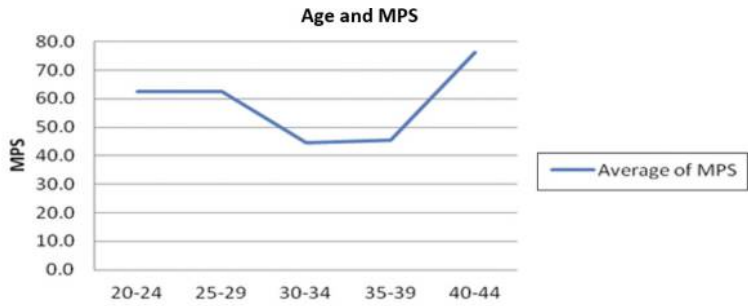
Age &MPS	Average of Skill variety	Average of Task Identity	Average of Task significance	Average of Autonomy	verage of Feedba	Average of MPS
20-24	4.3	4.3	4.1	3.7	3.75	62.4
25-29	4.6	4.1	4.4	4.0	3.56	62.7
30-34	3.9	4.2	4.0	3.4	3.25	44.6
35-39	3.7	3.5	3.5	3.7	3.50	45.3
40-44	4.3	4.8	4.5	4.3	3.83	76.1

Figure AI.
The relation between
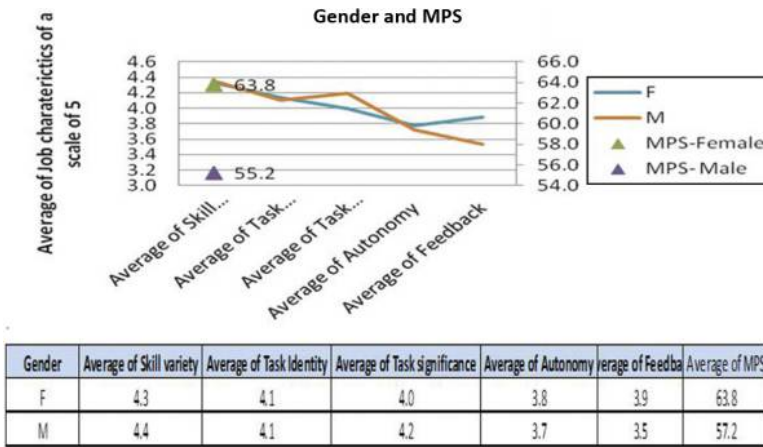the components of
MPS and Age

Appendix 2
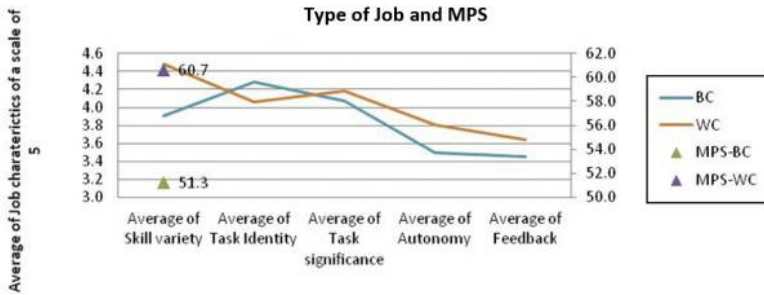
Type of Job	Average of Skill variety	Average of Task Identity	Average of Task significance	Average of Autonomy	Average of Feedb	Average of MPS
BC	3.9	4.3	4.1	3.5	3.5	51.3
WC	4.5	4.1	4.2	3.8	3.6	60.7

Figure AII.
The relation between
the components of
MPS and type of job

Appendix 3

Gender	Average of Skill variety	Average of Task Identity	Average of Task significance	Average of Autonomy	Average of Feedba	Average of MPS
F	4.3	4.1	4.0	3.8	3.9	63.8
M	4.4	4.1	4.2	3.7	3.5	57.2

Figure AIII.
The relation between
the components of
MPS and Gender

Appendix 4

Residence	Average of Skill variety	Average of Task Identity	Average of Task significance	Average of Autonomy	Average of Feed	Average of MPS
India	4.4	4.1	4.2	3.7	3.7	59.7
Outside India	4.1	4.0	4.1	3.8	3.5	55.2
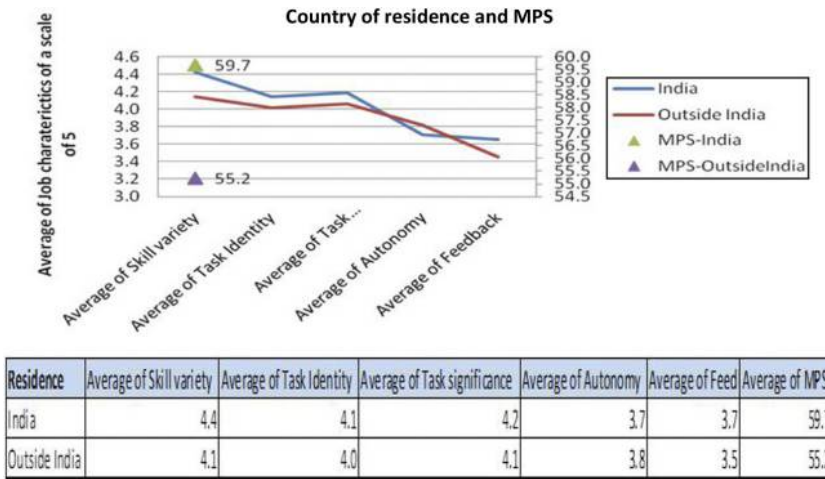
Figure AIV.
The relation between
the components of
MPS and Gender

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