

An analysis of the impact of Personality Factors on Productivity: A Study of Knowledge Workers in India.

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The study aims to examine some of the personality factors which influence the productivity of the knowledge workers in India.

A b s t r a c t

After an extensive review of the literature, the research scholar designed a questionnaire including questions on productivity and personality-related variables and elicited over 500 responses from the IT industry employees. These responses were analyzed using the SPSS software.

The research found that the construct of personality, as identified in this study, was positively related to the productivity of the knowledge workers, the IT employees. Individual variables within the personality construct also showed a positive impact on the productivity of the respondents.

The research adds to the available literature in India on the productivity of the knowledge workers in general and the IT employee in particular and gives some pointers of steps that can be taken to improve the productivity of the employee.

Key words: Core Self Evaluation, IT employees, Personality, Productivity

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INTRODUCTION:

Labour is one of the factors of production of any organization. (Samuelson & Nordhaus, 2010) The productivity of an employee or the organization reflects the efficiency of the individual or organization in the use of its resources. (Kurian, 2013) Within the knowledge industry, the employees are the most important resources, and therefore the productivity of the knowledge worker becomes very important. Productivity of the knowledge worker (KW) is a complex construct. For example, the time a supervisor spends in inducting a new employee on the job would be difficult to quantify. Therefore certain measurable factors could be used as proxy measures of productivity.

Using productivity of the individual IT employee as the Dependent Variable, this research sought responses on several factors from a sample of IT employees across India and abroad. The study established that the construct of personality used for the study had a positive impact on the employee's productivity, and the individual variables with this construct were also positively associated with productivity.

The analysis was conducted using various statistical tools.

REVIEW OF LITERATURE:

A review of the research literature reveals substantial research on the factors that influence the productivity of knowledge workers. The review of literature is divided into reviewing the construct of productivity and then examining some of the personality factors influencing productivity.

Productivity and Productivity for the Knowledge Worker:

A knowledge worker is broadly defined as an employee who uses professional knowledge acquired through education and/ or experience and transfers this knowledge to practical tasks required to complete a given work or assignment. (Surawski, 2019; Davenport, 2006, pp. 21-24) Martinsons, Davison & Tse (1999) pointed out that investing only in technology will not increase the productivity of the knowledge industry. Softer issues such as managing customers are core processes of any business, and these performed by employees of the organization

are difficult to measure with any accuracy. However, everything in management cannot be measured - such as these "soft" factors. (Rayan, 2014)

A study on the subject of Knowledge Worker productivity by Dahooie, Arsalan & Shoaji (2018) found that while managers do not know how to measure the productivity of a knowledge worker, they do know how to improve productivity. Conway (1999) explored the relationship between task performance (technical performance & leadership) and contextual performance (job dedication and interpersonal facilitation) for managerial roles through a detailed meta-analysis of published data and found both dimensions to be important. Further, the research showed that leadership task performance is more important to supervisors than is contextual performance, that "leading by example" may be important for subordinates, and "interpersonal facilitation" was important for managerial roles.

Personality variables & productivity:

A meta-analysis of long term longitudinal data by Staw, Bell & Clausen (1986) indicated that job attitudes later in life could be predicted with significant accuracy based on the "disposition" of the employee, right from a young age. Disposition factors include, for example, if an employee was not emotionally adjusted, it was likely to reflect on his/her attitude towards the job negatively.

With the help of empirical research among hospital employees, it was established (Brief, Butcher & Roberson, 1995) that there was a linkage between disposition and job attitudes and job performance, and showing that a positive disposition resulted in overall positivity and higher job satisfaction. The reverse was also true. This challenges the notion that job satisfaction was associated mainly with the work environment.

To understand further why some employees may be happier than others, Judge, Locke, and Durham (1997) conceptualized "core evaluations" of the self, which evolved into "core self-evaluations" (to distinguish from external evaluations, which would be judgements about the external environment), as being composed of self-esteem, self-efficacy, locus of control and neuroticism. In further research,

Judge, Locke, Durham & Kluger (1998) showed that employees who feel positive about themselves, as evidenced by positive core self-evaluation, would see work characteristics more positively, thereby greater job satisfaction and higher performance.

Ferris, Johnson, Rosen, Djurdjevic and Chang (2013) studied the relationship between core-self-evaluation found that individuals with high core self-evaluation have a high "approach" motivation (more positive view) at work. Further, "avoidance" motivation (more negative view) is stronger with lower success on the job.

RESEARCH GAPS:

The review literature on the subject shows some research gaps, and these provide an opportunity to explore the personality dimensions of productivity of the knowledge worker in India:

- 1) Research on different dimensions of India's IT industry productivity is limited.
- 2) Research on constructs such as personality and other related factors of worker productivity are limited with regards to their relationship with the productivity of the knowledge workers in India.

RESEARCH OBJECTIVES:

Productivity of employees is a crucial measure of the success of an organization and is an important management tool to measure and improve overall effectiveness and competitiveness.

The objective of this research is to identify some of the personality factors which influence the productivity of the employees of the Information Technology sector and offer recommendations on how these factors can be used for improving the productivity of the IT sector.

RESEARCH QUESTIONS:

The main question and sub-questions, which arise from the above Review of Literature, the Research Gaps and Research Objective are:

Does the construct of personality (as defined in this study) and variables of personality under

this construct, influence the Productivity of the Knowledge Workers in the IT sector in India?

HYPOTHESES:

From the Review of Literature as well as the Research Objectives and Research Question, the following Null Hypotheses were proposed to be examined for the Dependent Variable, Productivity of the IT employee. The Independent Variables would be:

Null Hypothesis H_0 1) There is no relation between the construct of Personality and Productivity.

Null Hypothesis H_0 2) There is no relation between "I like the people I work with" and productivity.

Null Hypothesis H_0 3) There is no relation between "Those who do well on the job stand a fair chance of growth" and productivity.

Null Hypothesis H_0 4) There is no relation between "Overall, I am satisfied with myself" and productivity.

Null Hypothesis H_0 5) There is no relation between "I feel in control of the progress of my career" and productivity.

RESEARCH DESIGN & METHODOLOGY:

The sample frame for this study was drawn from among the employees of the IT industry.

A minimum sample of 385 arrived, based on the statistical estimate. (Cooper, 2014)

Primary data was collected as follows:

The data collection was through a questionnaire distributed to IT employees using an online questionnaire mounted on an international platform, Survey Monkey.

The Dependent Variable for the study was the productivity of the IT employees. The Independent Variables for the study included various questions on the personality variables.

Questions on core self-evaluation were drawn from the questionnaire (Judge, Erez, Bono, & Thoresen, 2003), which is freely available. The other two questions were from the Job Satisfaction Questionnaire (Spector, 1994) & Career Satisfaction

Scale (Greenhaus, Parasuraman, & Wormley, 1990). Both these are also freely available.

The Likert 5 point scale was used, with 1 for Strongly Agree or Excellent and 5 for Strongly Disagree or Very Poor.

The statistical analysis was carried out using SPSS version 23.

In order to assure the respondents that their responses would be kept confidential as well as that they would remain anonymous, the internationally accepted tool of Survey Monkey was used. Feedback from the participants has justified this approach.

Respondents were chosen from the employees in the of the IT industry, generally from mid level to large IT companies.

The survey was conducted between from July to December 2020. Over 700 responses were received, of which about 500 responses were found valid for further data analysis.

RESULTS:

Factor Analysis:

To test the data for suitability for factor analysis, we used Kaiser-Meyer-Olkin (KMO) and Bartlett's Test. KMO value of 0.881 exceeded 0.70, which can be considered as adequate, and Bartlett's Test of sphericity reached statistical significance (approx. chi-square 5545.525, df 276 and Sig .000). Also, Principal Component Analysis with Varimax Rotation Method Kaiser Normalization was used. The statistical tables indicated that the data set is adequate, with Eigen values exceeding one and rotation converged in 6 iterations. The PCA also revealed the groupings.

The Personality Variables established themselves as a group and showed high reliability with Cronbach Alpha of 0.884 for the four items.

Reliability Statistics

Cronbach's Alpha	N of Items
.884	4

The Personality construct above may differ from what is formally quoted in OB literature. In fact, apart from a few broad definitions, personality does

not have a fixed set of variables. (Luthans, 2014) Our personality constructs were based on the following four questions, which formed a group.

Question from the Questionnaire:

- 1) I like the People I work with
- 2) Those who do well on the job stand a fair chance of growth
- 3) Overall, I am satisfied with myself
- 4) I feel in control of the progress of my career

Hypotheses Testing

Null Hypothesis H_0 1) There is no relation between the construct of Personality and Productivity. With a p-value = 0.000, the Null Hypothesis is rejected, and we concluded that the Personality and Productivity of the IT employee are correlated.

Null Hypothesis H_0 2) There is no relation between "I like the people I work with" and productivity. With a p-value = 0.000, the Null Hypothesis is rejected, and we concluded that "I like the people I work with" and productivity of the IT employee are correlated.

Null Hypothesis H_0 3) There is no relation between "Those who do well on the job stand a fair chance of growth" and productivity. With a p-value = 0.000, the Null Hypothesis is rejected, and we concluded that "Those who do well on the job stand a fair chance of growth", and the productivity of the IT employee are correlated.

Null Hypothesis H_0 4) There is no relation between "Overall, I am satisfied with myself" and productivity. With a p-value = 0.000, the Null Hypothesis is rejected, and we concluded that "Overall, I am satisfied with myself" and productivity of the IT employee are correlated.

Null Hypothesis H_0 5) There is no relation between "I feel in control of the progress of my career" and productivity. With a p-value = 0.000, the Null Hypothesis is rejected, and we concluded that "I feel in control of the progress of my career" and productivity of the IT employee are correlated.

DISCUSSION:

The results of the statistical analysis of the data have given some broad findings. The Discussion

section will attempt analyze and interpret these results to enable us to arrive at the conclusions and recommendations.

This research found that the personality factors as a construct or a group was positively correlated to Productivity. The individual variables under the construct were also positively correlated with productivity.

The Review of Literature quotes several studies to state that personality factors are known contributors towards Productivity. Our study largely corroborates available literature and studies on this subject.

The four questions or variables under the personality construct emphasised on the concept of core self-evaluation. The concept of core self-evaluation has been found to be linked to productivity. These include the variables of feeling good about yourself and a feeling that one is in charge of one's career. Together, this self-worth and having respect for co-workers, would make a positive contribution to productivity. The factors of feeling in control of one's career would not be useful if the organization did not allow for a positive feeling about growing within the organization.

While personality is developed as the individual emerges into adulthood, and thereafter remains relatively stable, there are a few factors which we may ponder on some point.

1) Organizations need to fulfil expectations of shareholders and customers and they have systems, processes, targets as well as employees in place to accomplish these expectations.

2) While traditional organizations try to minimize risks and disruptions, and in that attempt de-skill activities there is room for individualism amongst the knowledge workers, whose very nature of the work involves their bringing in their unique set of knowledge, skills and abilities, as well as attitude, into the work that they do.

3) A positive personality can play a major role in productivity improvement as our study shows, and this is largely consistent with international findings on the subject.

4) If we were to examine the four variables and the construct of personality under this study, the positive

personality and its relation to productivity could be explained as below.

- a. Employees who say that "I like the people I work with" are individuals who feel positively about their co-workers within the organization. These are also people who would feel positively about themselves. This positive feeling for colleagues would translate into better work relations and more collaborative efforts, and therefore higher output. This is also the case in this study, where there is a positive correlation between this question and the productivity of the respondents.
- b. When an employee feels that if they perform well, then they stand a fair chance of growth, this is an endorsement of the organizations policies and the trust in the management, that they will be rewarded with the success they deserve. At the same time, this statement is also about their positive feelings about their performance. Both positive thoughts taken together (the trust in management and policies, and about themselves) will result in a higher performance, and the correlation analysis gave a positive association between this variable and the productivity of the individual.
- c. The feeling of satisfaction with oneself ("Overall, I am satisfied with myself"), and performing well on the job are closely related. If an individual is doing well at work, she or he is likely to also feel positively about themselves. Similarly, if the individual has a positive image about herself or himself, she or he is likely to work for as much for themselves as for the organization. Again, our study brings out this positive correlation between the independent and the dependent variables.
- d. Finally, any individual also works towards career progression, which can come if one is performing well, and shows potential for future roles. We have discussed earlier on the question of performing well and getting rewarded. Career progression also requires one to reach out for future roles (potential achievement). This would be possible only when the employee is positive that career growth is in as much in her or his own hands

and not at some unknown discretion within the organization. The positive correlation of this variable with productivity indicates that the respondent expects both.

5) The job of management would be to try and harness the learnings from the above points. How they could bring people with a positive personality into the organization, and thereafter ensure that they remain a positive force working towards the betterment of the organization during their tenure.

6) Personality and psychometric tests are today available, both free to use and those which require specialized and expensive interpretation to ensure that the organizations select and induct individuals with the personality traits that they think will benefit the organization.

7) From generic personality factors like the Big 5 (openness to experience, conscientiousness, extroversion, agreeableness and emotional stability). There are also personality tests available for testing niche or specialized traits, for example, if the potential employee is strong willed, analytical, result oriented, adaptable, and so on. Personality tests around EQ and Core Self-Evaluation are also available. Depending on the need of the organization, one could pick one of more personality tests to ensure the intake of appropriate candidates.

8) Personality tests can also be used for succession planning, placement of employees in appropriate roles, team building, and other activities, for employees already within the organization. These can ensure that the employers (managers and leaders) understand that different employees have varied needs and so do different roles. The "fit" of the employee can be tested and matched to ensure higher productivity.

9) Similarly, if there is an organizational unit with lower output than expected, a part of the organizational development effort may include personality tests for key personnel to check if they could all work together. Personality tests are also used in coaching to ensure that coaching efforts are concentrated where relevant.

Therefore, this research study presents a strong argument on the importance of personality factors and productivity of the IT employee.

CONCLUSIONS & RECOMMENDATIONS:

This Research Study aimed to discover some of the factors influencing the productivity of the individual IT employees in India.

The research question sought to be answered was, What personality factors influence the productivity of the individual Knowledge Worker (IT sector employee) in India?

The recommendations flowing from the results, discussion and conclusions, are as follows:

For the IT organizations in particular, where the employees are known to be the "only assets", it is essential to ensure a high-quality intake of employees. Studies have confirmed that having "good" co-workers is an essential part of job satisfaction and organizational commitment. Employees must enjoy working with professionals with whom they can collaborate and from whom they can learn. Organizations can use psychometric tests and personality tests, and have managers trained in interviewing and selecting candidates to have a higher intake of employees with a positive disposition. Similarly, use these tests and instruments to improve the team and individual working.

CONTRIBUTION OF THE STUDY:

This study makes significant contributions towards the academic and the practical world with suggestions for both the organizational leaders and the Human Resources professionals.

This is a major study seeking to understand the influence of personality factors on the productivity of knowledge workers. The study has some important insights with a good sample size and spread of employees in different organizations.

LIMITATIONS & SCOPE FOR FUTURE RESEARCH:

This study suffers from the following limitations:

1. Even with best efforts to mitigate anxiety, some respondents may have been reluctant to share their views, fearing loss of confidentiality or anonymity.

2. The research focussed on only some personality factors which could be covered in a single questionnaire. Future research may cover various other dimensions of productivity of the IT employee.
3. The research focussed on IT employees while knowledge workers are in many diverse industries.

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