

Assessing the Influence of Intrinsic Motivation on Academic Performance: A Study of Management Teachers

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ABSTRACT

Motivation of teachers has become a crucial issue in improving the quality of education. Different research studies have been performed to establish the association between teachers' motivation and their performance in academics but still some areas are left to be explored. This research was initiated to fill up this gap. The main purpose of this study was to assess the impact of intrinsic motivation on academic performance of management teachers. In the research, the respondents were drawn from different management colleges of NCR in India affiliated to Dr. A. P. J. Abdul Kalam Technical University. Partial Least Squares Structural Equation Modeling (PLS-SEM Analysis) was performed to draw the results. The results indicate that the intrinsic motivation of the teachers significantly affect their academic performance. Among the three intrinsic motivation factors that were considered for this research work, "creativity" is the strongest predictor of academic performance of the teachers. There are two major limitations of this research study; first one is the cultural dissimilarities prevailing at the different institutions from where the respondent belongs. Second is the trust on self-reported questionnaire data provided by the respondents. These limitations are discussed in more detail at the end of the paper. The results support the assessment that intrinsic factors of motivation are strong predictor of academic performance of teachers. This research study also indicates that "creativity"

of a teacher is the strongest predictor of his or her performance among the other chosen factors. Therefore, Institutions may focus to enhance the "creativity" among the teachers for generating better academic performance.

Keywords: Creativity, intrinsic motivation, management, performance, teachers

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INTRODUCTION

Over the past few years, some of the key universities have developed teaching excellence centers with an emphasis on supporting and developing teaching resources for establishing ideal teaching methods and practices. Due to this reason, quality education has become more vital concern in the academic world during past few years. Some researchers talk directly in relation to quality of teaching, and they are defining different measures to make improvement in it.

The quality of education is directly connected to the quality of instruction. Teacher is instrumental for better instruction. As we all know that teaching is the single profession that imparts learning to all the other professions and so, its significance and greatness is much higher. In educational field, motivation plays an incredible role. If teachers are having motivation for activity, this will promote a good performance and an increased level of output for sustaining the progress and development of whole nation as well as its citizens' welfare at large scale.

The dynamics of motivation have shifted radically to replicate new task requirements and reformed expectations of people. With these major changes, importance of psychic or intrinsic rewards has been increased, and the value of material or extrinsic rewards has been decreased. Intrinsic motivation, involved in spontaneous exploration and curiosity, is a fundamental idea in developmental psychology. Intrinsic motivation of teachers as well as students can create a great

difference in the level of education and will help in realizing the excellence. In this kind of motivation, inner attributes play a major role in behavior and performance outcomes because the person feels enjoyment and satisfaction in completing that task. An intrinsically motivated person is encouraged to put efforts for the challenge, enjoyment, or interest rather than due to external forces or benefits. Intrinsically motivated people voluntarily perform the activities in the absence of materialistic benefits or constraints. Dornyei (2001) defined teaching as a profession whose energy was supplied from intrinsic drives. It is also said that engaging learning experiences can be helpful in the improvement of intrinsic motivation level. A teacher should share the content in this manner that creates interest among the students and grabs their attention. Teacher can create interest in the subject by using different creative methods of teaching, which increase curiosity in the mind of students, but for this teacher should be intrinsically motivated to do so and he or she should feel inner satisfaction in such kind of efforts and outcomes.

It has been observed that the connection between individuals' intrinsic motivation and their performance outcomes has received very less empirical testing (Piccolo & Colquitt, 2006). Moreover, despite the importance of intrinsic motivation in quality education in an era of revolutionary change toward a more learning-oriented methodology, empirical research studies on intrinsic factors of teachers has received relatively very less attention. Accordingly,

the main objective of this research work was to examine the association between intrinsic motivation factors and academic performance of teachers from an extensive cross-section of management education with the objective of contributing to achieve the excellence in education.

LITERATURE REVIEW

The literature review provides insights into research work. For empirical investigation of the proposed research, the initial task was to identify the factors. For this purpose, various resources were scanned to identify the factors of intrinsic motivation and performance. The main purpose of scanning was finding out a pattern and a number of frequently expressed factors. Despite the extensive literature on motivational dynamics and performance of teachers, different areas are untouched that open various dimensions of study. Motivation can take either intrinsic or extrinsic forms. Intrinsic motivation remains an essential construct, which reflects natural human propensity to learn and integrate. Academic performance of teachers is the way they behave in the process of teaching and learning. When these two areas are examined together, they present a new insight.

Jesus and Lens (2005) said that motivation of teachers was an essential subject for education leaders and managers as it has a significant impact on motivation level of students. It is also significant for the improvement of educational scenario. Moran et al. (2001) focused on the distinction between extrinsic motivation, intrinsic

motivation, and altruistic motives for choosing the teaching career. It is said that intrinsically motivated teachers focus on the advantages of the activities specifically related to teaching; they emphasize on the intrinsic satisfaction that they get from teaching activity. On the other side, extrinsically motivated teachers are more inclined toward other benefits such as time off, pay, and some kind of extrinsic rewards linked with the teaching career. Finally, a teacher with altruistic motives believes that the teaching is a profession that has social significance and honest desire to affect the growth and improvement of adolescents in a positive manner. Demir (2011) defined that intrinsic motivation of an individual was more positive and strong motivator in comparison to extrinsic motivation. It also confirms that teachers like their profession and they teach mostly because they have interest in teaching and they get something aesthetic from the teaching. Mohanty (2000) defined performance of teacher as the most vital input in the area of education. As per his views, teachers were feasibly the most significant part of any education system. Obilade (1999) concluded that teachers' work performance could be defined as the duties and responsibilities fulfilled by a teacher at a particular time in the education system for achieving objectives and goals. Afzal et al. (2010) conducted research study for examining the influence of motivation on academic performance. In this study, the value of R^2 was 80%, which indicates strong association of motivation and academic performance. Academic performance

intensifies between the ranges of 23% and 34% due to extrinsic motivation and intrinsic motivation and the overall model is significant at 5% level. The findings conclude that intrinsically motivated students perform much better academically than extrinsically motivated students. Mary (2010)'s study revealed the impact of intrinsic motivation on teachers' performance. Results found that a positive significant relationship exists between intrinsic motivation and teachers' performance indicating that the teachers' performance increases when level of intrinsic motivation goes up.

The first factor of intrinsic motivation selected in this research study is optimism. Different research studies have shown that optimism is an inherent factor of human beings that motivates them intrinsically. Hoy et al. (2008) explored teacher's sense of academic optimism. They claimed that teacher's academic optimism was a self-referent and positive belief regarding the teaching capacity, ability to develop trustworthy relationships with the students and their parents, and to put emphasis on academic responsibilities. In another way, teacher's academic optimism is only dormant factor that gives reflection of psychological state of an individual. This is the reason optimism motivates an individual intrinsically to engage in a particular task. Peterson and Chang (2003) acknowledged that optimism was an inherent factor of human beings defined in different ways. Smith and Crabbe (2000) found that optimism produced positive moods and acted as a motivating tool. The mood

that is experienced can influence the way individuals view life. The way we process information can be altered depending on the mood being experienced and this can affect our thoughts. Schulman (1999) concluded that optimism benefits comprised increased level of motivation, and greater achievement in different domains. Optimistic people differ in their attitude toward life and their perceptions of difficulties. The optimistic person is more inclined to accept hardship as a challenge, to have the capability of generating prospects and finding out resolutions from primary level problems, to contribute extra effort for skill improvement, sustain confidence level and determination, as well as optimists have the capacity to recover rapidly after a setback. Li and Wu (2011) defined that more optimistic people had a tendency to develop positive attitude toward their future situations and they believe that they are capable enough to move through adverse situations effectively.

Achievement motivation is the second factor considered as intrinsic motivation factor in this research work due to the importance of this factor in education field. This is frequently expressed as a variable of intrinsic motivation as per the review of literature. Achievement motivation can be well defined as the need for success or the attainment of excellence. One of the first researchers who showed an interest in achievement motivation was Henry Murray (1938). According to Murray, every human being had some inherently built universal needs and the need to achieve was one of them. Murray further explained

achievement motivation as a set of forces and efforts contributed by a person to move beyond the hurdles he or she faces and meet the ends as soon as he or she can. McClelland (1985) interchanged the concept of “achievement motivation” with the term “need for achievement.” As per McClelland, need for achievement is one of the psychological drives that play a crucial role in success and achievement of a person. Shia (1998) conducted a research study on Academic Intrinsic and Extrinsic motivation and Metacognition. He selected two factors of intrinsic motivation: one was mastery goals and the other was need for achievement and found positive results. Goodman et al. (2011) conducted research study to examine the relationship of students’ motivation level with their performance in academics. In his research study also he selected achievement motivation as a factor of intrinsic motivation. Pearson correlation coefficient was utilized to analyze the association between variables and results indicated significant relationship between intrinsic motivation and their academic performance. Multiple regression analysis run on the data resulted that intrinsic motivation of individuals is the most significant predictor of their performance in academics. Peretomode (2001) also supported the concept of intrinsic motivation in individuals and selected achievement motivation as intrinsic factor of motivation as well as its impact on performance outcomes. He considered that it was the satisfaction of these intrinsic factors (or higher-order needs like recognition, achievement) that will encourage the

growth and development of managerial effectiveness at the higher levels.

The third factor of intrinsic motivation considered in this research study is creativity. Creativity of individuals plays a very important role in their performance. Arthur Schawlow (1981), winner of the Nobel Prize, stated that creativity of an individual was his or her natural quality that is generated mostly through intrinsic factors and it affects the outcomes. Guilford (1967) contributed in research on creativity and he was the first person to highlight the significance of creativity in performance. He proposed that creativity includes divergent thinking rather than convergent thinking. He was the first to promote creativity as scientific concept of human state that can be measured. Learner-Centered Work Group of American Psychological Association’s Board of Education Affairs (1997) focused on 14 psychological factors that are primarily internal factors; intrinsic motivation is one of them. According to this Group, flexible and insightful thinking, curiosity and creativity are major factors of intrinsic motivation of learners. Amabile (1985) stated that there were abundant evidences that individual’s creativity will be maximum when they are predominantly intrinsically motivated as compared to extrinsically motivated. Hennessey (2003) concluded that motivation had key importance in the creative processes of individuals. It is not sufficient to have higher levels of skill sets or a strong conceptual understanding in individuals. Individuals, who approach assigned work with intrinsic motivation,

will be able to reach their creative potential; individuals must involve themselves in that work for the complete enjoyment and pleasure associated with the activity in place of some outside achievement expectations. Research indicated that when individuals were offered more freedom, opportunities for self-expression, and chances to be creative, they were more motivated to learn (Zinn, 2008).

From the literature review, it is coming out that the researchers have emphasized on one or two intrinsic variables for performance. For instance, Hoy et al. (2008) worked on "Optimism" or Amabile worked on "Creativity." It is clear that there are more than one inner attributes that are responsible for individual's performance. It appears that the issue of intrinsic factors or inner behavioral attributes has not been examined in a comprehensive manner. The proposed research proceeds to investigate this gap and examine the effect of these intrinsic motivation factors on performance of teachers in academics.

Objectives

The main objective of this research is to study how the teachers' performance is caused by the core construct of intrinsic factors of teachers irrespective of the environment in which they are working. The proposed research aims at:

- To identify the intrinsic factors that enforces intrinsic motivation of teachers.
- To measure the impact of intrinsic

motivation factors on academic performance of teachers.

Hypothesis

The proposed study is based on the hypothesis that:

H₁: Intrinsic motivation factors influence significantly the overall academic performance of the management teachers.

Sub-hypotheses:

H_{1 (1)}: "Achievement motivation" factor influences significantly the overall academic performance of the management teachers.

H_{1 (2)}: "Creativity" factor influences significantly the overall academic performance of the management teachers.

H_{1 (3)}: "Optimism" factor influences significantly the overall academic performance of the management teachers.

METHODS

This research work has been conducted to measure the relative significance of intrinsic factors of motivation in the teachers' academic performance. The research work was conducted in the perspective of management education of different colleges in NCR, India, affiliated with Dr. A.P.J. Abdul Kalam Technical University, India. The responses were collected with the help of research questionnaire from 300 teachers associated with different colleges running

management courses. Sampling technique used in this research work was multistage cluster sampling at first level, after that simple random sampling was used for data collection. The selection of teachers from specific cluster was based on relevant weightage in target population. Statistical analysis was done on 280 questionnaires completely filled by the respondents and total 20 questionnaires were rejected because of partial information.

Measures

In the research questionnaire, all questions were formulated on a 5-point Likert scale measuring the responses on range from 1 to 5 (*strongly disagree* to *strongly agree*).

Independent variables. On the basis of review of literature, three frequently expressed intrinsic factors of motivation have been selected for study, that is, achievement motivation, creativity, and optimism. As per the formulated hypothesis, these intrinsic factors influence performance outcomes of management teachers. Optimism was measured by five items in questionnaire. Sample item is "I often start out expecting the worst, even though I will probably do OK." Creativity factor was measured by seven items and achievement motivation was also measured by total seven items in the questionnaire. Sample items are "I feel satisfaction after working on my creative ideas for a designated period of time" and "Doing something better than I have done in the past is very satisfying," respectively.

Dependent variable. Academic performance of teachers was measured by total seven items in the questionnaire based of teaching learning activities performed by teachers. Sample item is "I serve as a mentor and motivator for students."

RESULTS

At the first level of analysis, Cronbach's alpha was utilized to evaluate the internal consistency reliability of the data collection instrument questionnaire. Alpha coefficient ranges in value from 0 to 1. The instrument is considered reliable, if cronbach's alpha value is > 0.7 . In this study, the calculated cronbach's alpha value is >0.7 for each factor and thus the instrument was considered reliable for the study.

To analyze the data and calculate the result outcomes, structural equation modeling technique was used in this research study. PLS-SEM Analysis (Partial Least Squares Structural Equation Modeling) was performed by utilizing Smart PLS. Two submodels are there in a structural equation model; first one is the inner model that specifies the relationship between the dependent and independent latent variables, on the other hand, the outer model specifies the relationship between the latent variables in study and their observed indicators.

Kinetic Analysis

Conceptual Background. All the three constructs selected for the research study are conceptually associated to each other by the means of structural model as shown in Figure 1.

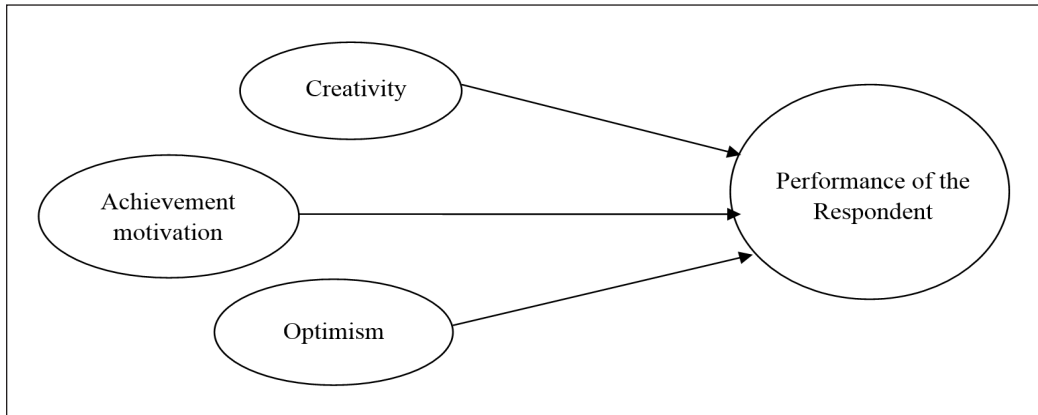


Figure 1. Structural model

The association among the constructs (creativity, achievement motivation, and optimism) under consideration was evaluated and interpreted by utilizing the partial least squares path-modeling algorithm. The smart PLS is employed especially as it allows the estimation of both the models simultaneously; measurement model as well as structural model (Ringle et al., 2005). In this research, the partial least squares (PLS) model was examined and interpreted in two phases. In the first phase, measurement model was implied to evaluate the relationship between observed items and latent variables and in the next phase structural model was assessed to specify the relationship between latent variables.

The utilization of measurement model was to ensure that only valid and reliable constructs' measures are utilized for the assessment of relationship patterns in the

complete model (Hulland, 1999). Path coefficients among the constructs are indicators of predictive power of a model.

Measurement Model

PLS algorithm was applied to identify the relationships between the constructs of performance of respondents, creativity, achievement motivation, and optimism. The loading values and coefficients are shown in Figure 2.

In PLS, loading of respective factors on their respective latent constructs are examined to measure the reliability of the factors (Hulland, 1999). Since the final model was decided after dropping out insignificant factors having factor loadings of less than 0.5, the model was analyzed by using Smart PLS 3.0. The final path model was represented in Figure 3.

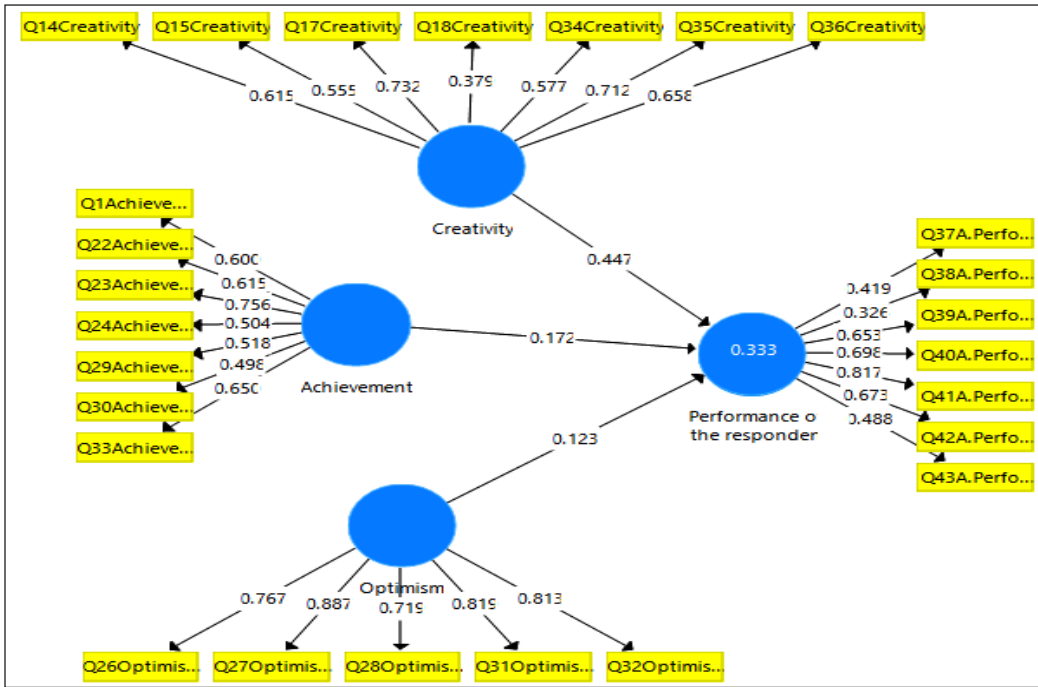


Figure 2. Kinetic relationship

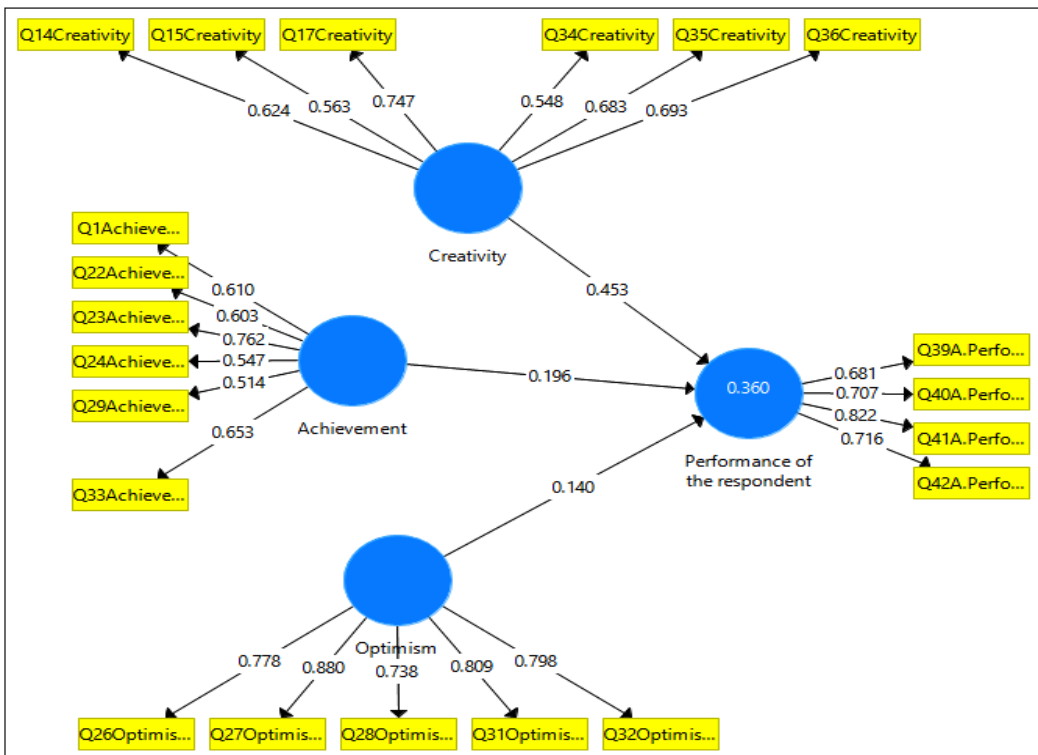


Figure 3. Showing the final path model

Preliminary Observations

Target Endogenous Variable Variance.

The coefficient of determination, R^2 , is 0.360 for the performance of the respondents, latent variable of the study. It means that the three latent variables (creativity, achievement motivation, and optimism) moderately explain 36% of the variance in performance of the respondents.

Inner Model Path Coefficient Size and Significance.

The inner model recommends that creativity has the most significant impact on performance (0.453) followed by achievement motivation (0.196) and optimism (0.140). The hypothesized path relationships among creativity, achievement motivation, optimism, and academic

performance is statistically significant. Thus, we conclude that creativity, achievement motivation, and optimism are moderately strong predictors of performance.

Indicator Reliability. In this study, the reliability of variables was assessed through Fornell and Larcker’s (1981) composite reliability measures. In the study, the composite reliability coefficients of the constructs ranges from 0.786 to 0.900 (Table 1), which fulfills the standard of 0.70 as suggested by Fornell and Larcker (1981). The factor loadings, Cronbach’s alpha, composite reliability, and average variance extracted (AVE) values calculated by PLS algorithms are tabulated in Table 1.

Table 1
Measurement of reliability

	Cronbach's alpha	rho_A	Composite reliability	AVE
Achievement motivation	0.684	0.670	0.786	0.584
Creativity	0.730	0.750	0.810	0.519
Optimism	0.861	0.863	0.900	0.643
Performance of the respondents	0.711	0.718	0.822	0.538

Internal Consistency Reliability.

Traditionally, “Cronbach’s alpha” is used to measure internal consistency reliability in social science research but it tends to provide a conservative measurement in PLS-SEM. Previous literature has suggested the use of “composite Reliability” as a replacement (Bagozzi & Yi, 1988; Hair et al., 2012). From Table 1, such values are shown to be larger than 0.6, so high levels

of internal consistency reliability have been demonstrated among all three reflective latent variables.

Convergent Validity.

Results indicated that the variance extracted for four scales ranged from 0.519 to 0.643 (Table 1). This demonstrates that the scales used for achievement motivation, creativity, optimism, and performance possessed convergent validity.

Discriminant Validity. It is clearly evident from Table 2 that the discriminant validity is adequate as the constructs have an AVE loading greater than 0.5. In addition, it is also confirmed as the diagonal elements are

significantly higher than the off-diagonal values in the corresponding rows and columns. The results evident that all the constructs possess discriminant validity.

Table 2
Discriminant validity

	Achievement	Creativity	Optimism	Performance of the respondents
Achievement motivation	0.764			
Creativity	0.365	0.720		
Optimism	0.223	0.148	0.802	
Performance of the respondents	0.393	0.546	0.251	0.733

Structural Model Analysis

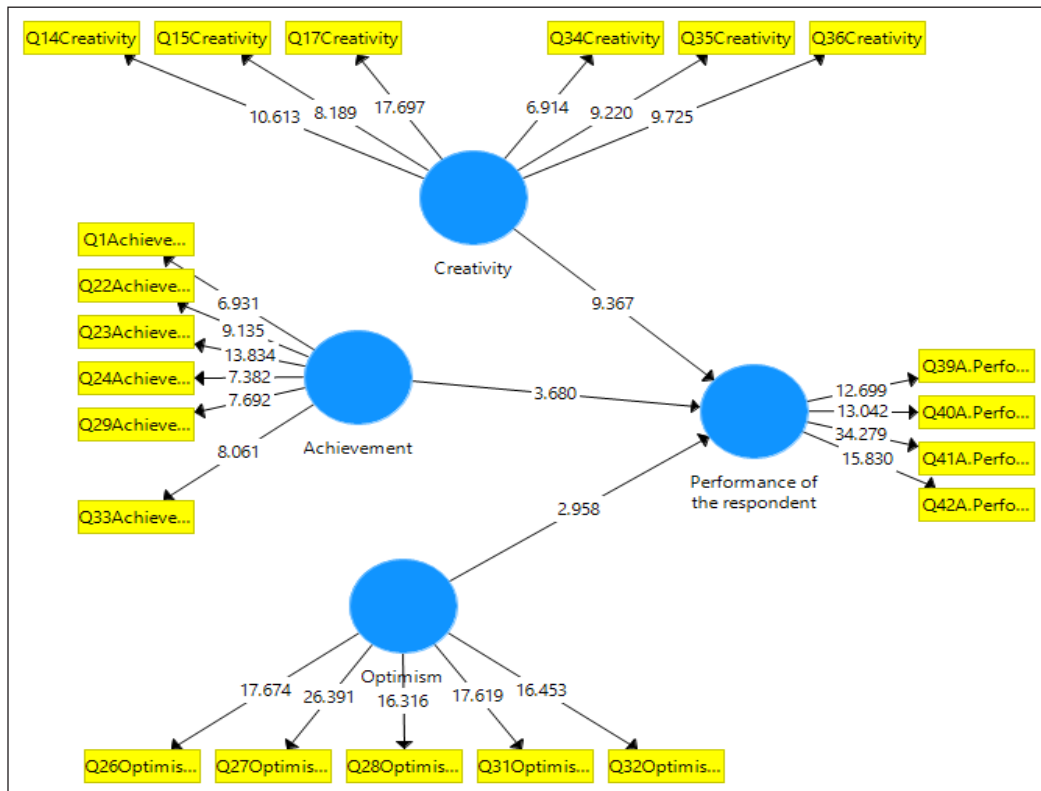


Figure 4. Path significance in bootstrapping

Table 3
 Showing the path coefficients along with their bootstrap values, 'T'

	Original Sample (O)	Sample Mean (M)	Standard Deviation (SD)	T Statistics (O/SD)	p values
Achievement motivation -> Performance of the respondent	0.196	0.204	0.053	3.680	0.000
Creativity -> Performance of the respondent	0.453	0.463	0.048	9.367	0.000
Optimism -> Performance of the respondent	0.140	0.143	0.047	2.958	0.003

Table 3 clearly indicates that the path coefficients in the inner model are statistically significant as their value of *T*-statistics is larger than 1.96. The relationship between performance and achievement motivation of the faculty respondent was significant, as value of $\beta = 0.196$ and $t = 3.680$, which indicate that achievement motivation has direct, positive, and moderate influence on the performance of the teachers. The performance of respondents changes in direct proportion to achievement motivation with a coefficient of 0.196. This also indicates that a 100 points change in achievement motivation will bring 19.6 points change in the performance of the respondents.

The relationship between creativity and performance was again significant as $\beta = 0.453$ and corresponding *t* value = 9.367, which indicates direct and positive significant influence of creativity on the performance of the teachers. The performance changes in direct proportion to creativity with a coefficient of 0.453, which indicates that a 100-point change in creativity will bring 45.3 points change in the performance of the teachers.

Similarly, the relationship between optimism and performance of teachers was again significant with $\beta = 0.140$ and $t = 2.958$. This indicates that the optimism has direct, positive, and moderate influence on the performance.

Summary of Kinetic analysis. The three paths used to connect the measures in the structural model, are supporting the hypothesis, that intrinsic motivation factors: creativity, achievement motivation and optimism significantly influence the performance of management teachers.

DISCUSSION

In this research study, it is revealed that members of teaching fraternity are found to care about creativity, achievement motivation, and optimism with loading of 0.453, 0.196, and 0.140, respectively; as they are good indicators of performance in terms of teaching learning activities. "*T* values" shown in Table 3 also supports the significant positive relationship between selected intrinsic motivation factors and performance of teachers. Therefore, the hypothesis "Intrinsic motivation factors

influence significantly the overall academic performance of the Management teachers” is accepted.

The observation also gets supported with the findings of Lemos and Verissimo (2014) work, to investigate the relationships between intrinsic motivation and extrinsic motivation and their effects on academic learning and achievement. Results supported that intrinsic motivation and extrinsic motivation can exist in parallel manner and these are not contradictory, whereas intrinsic motivation was increasingly associated for better academic achievement. Taylor et al. (2014) also defined a very important role of intrinsic motivation in predicting academic achievement. The empirical study has shown that intrinsic motivation was the only motivation type to be consistently positively associated with academic achievement.

Limitations

The first limitation includes the assumption about the work environment in which teachers of Dr. A.P.J Abdul Kalam Technical University, India are serving. The research assumes that the working environment in all the colleges of the university are same. Certainly, there can be variation in the service conditions and work environment, especially when micro-level differences are considered with in the context of same university. The second limitation is dependence on self-conveyed responses of the management teachers.

CONCLUSION

Intrinsic motivation of teachers can create a great difference in the level of education and may help in realizing the excellence. The objective of this research paper was to assess the impact of intrinsic motivation factors on academic performance of teachers in management education. The findings have shown significant relationship between intrinsic motivation and academic performance of teachers. The results clearly indicate that intrinsic motivation factors influence academic performance of teachers significantly and the analysis of inner model shows that creativity alone can explain nearly 45% of the variance in performance of the teachers.

Contribution

Based on the stated objective and findings, this research contributes in education world with unique knowledge that can be utilized for improving quality of education. The findings of this study contribute to education services, where the students, teachers, and affiliating institutions are the three important pillars for ensuring the success. A teacher has to serve as a mentor and motivator to his or her students. It has been observed throughout the study that successful academic performance of a teacher depends on how he or she feel motivated internally. Institutions should think seriously to imply those measures in practice, by means of which the inner urge of creativity of a teacher could be addressed positively for the benefits of

students' learning as creativity has come out in the form of major predictor of academic performance.

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