# EFFECT OF JOB SATISFACTION OF TECHNICAL TEACHERS ON WORK ENGAGEMENT USING OBSERVED SECOND ORDER SEM

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## ABSTRACT

Education is the spark of illumination of life. It assumes a prominent role in the lives of human beings by empowering them with various abilities, skills, and competencies that ensure enhanced quality of life. A teacher has to face enormous challenges and equally play different roles as a professional and as an administrator. Conventionally, a teacher brings subject expertise and knowledge of teaching methods to the classroom that is of absolute value to the learners/students. Higher/technical education is pivotal for developing a modern economy, building a dynamic society and promoting a right style of leadership. The predominant economic transformation, the ever changing needs of the society and the demand for the value-based right style of leadership expose a challenging role of higher education, where the sustainability based on the creation of dynamic knowledge-based economy, society, and governance.

As can be noted from the records, that the educational sector in Arunachal Pradesh is growing and blooming in the recent past, that needs to be managed for real-time sustainability and competitive edge. Bakker et al., (2008), brought out that employees those who are engaged are more willing to travel the extra mile, in addition to being highly creative and productive. Also, work engagement strongly related to creativity and promote Transformational leadership – being able to coaching, stimulating and inspiring (Bakker et al., 2006).Work engagement, improved by stimulating jobs with much resources that results in positive organizational outcomes (Schaufeli, 2012). The present study has 304 participants, randomly selected from the technical institutes of Arunachal Pradesh to confirm the impact of Job satisfaction on Work engagement and to conceptualize a model using second order structural equation modeling (SEM), in finding the relation among the variables.

Keywords – Work engagement, Affective commitment, Transformational leadership, Job satisfaction

## Introduction

Directorate of HTE, Government of Arunachal Pradesh, since 1996, has been intended to good teaching routines and advocate active learning ambiance in the higher educational institutions of the state. According to the Census 2011, 66.95% of the people in the state are considered literate (Literacy rate) and Gross Enrolment Ratio (GER) of higher education in the state in the age group of 18-24 years is 8.3. Presently, there are a total of 08 Private Universities, 32 different types of educational institutions and 08 Polytechnic colleges functional in the state. The participants of the study are the teaching faculty members of the technical institutes in the state. Also, there is a considerable imbalance between the candidates of Professional and Technical education programs and their availability of the number of seats for the same. Thus, in this context, it is appropriate to study about the engagement level of the faculty of such institutions and the quality of pedagogy imparted in the technical education to the future generation of the state.

The social, commercial, and active growth of a nation depends upon the credibility of the educational background of its people, implies that a large, young and energetic workforce will be available for the overall contribution of growth, development, and economy of our country. The role of teachers in this great partnership is very influential, and their engagement with their profession invites a concern in the right direction. The quality in education is determined by principals and teachers. As most of the educational activities are carried out by teachers in the class, they are responsible for students' achievement directly or indirectly (Rowan, Knuble, Begum and Lank shear, 2002). More than just delivering the knowledge in the class, teaching is an emotional process. Olivier and Roth Mann (2007), suggests, that work is a statement of the individual doing the activity. Kahn (1990), brought out that people, while at work, make substantial contributions either physically, emotionally or cognitively.

## Statement of the problem

An archetype change is being displayed in higher education nowadays, from national level to global level, from single time education for a few to continuous education for all and more towards the approach of learner-centric education. These changes make new expectations and throw new medium of awakenings to the existing or organized education methods, procedures and practices (Davis George, 2013).In this scenario, all other factors change or remain generally constant; teachers play a vital and essential role,

that can see and make things happen for a better future, shaping the economy and society. As there is a boom in the educational economy in the state in late 2000 onwards, new public and private technical institutions should fall in place in embracing the vital importance of teachers of their institute. Moreover, to promote a congenial and productive work culture in the educational system. Thus, the factors of work engagement, factors of Transformational leadership, Affective commitment and Overall and generalized level of job satisfaction of the teaching faculty of the technical institutes has an essential part in the technical education system in the state.

**Objective of the study**

To conceptualize a Structural Equation Model with AMOS (Analysis of Moment Structures) using the above variables related to the study with specific reference to the faculty of technical institutes in Arunachal Pradesh, i.e., Work Engagement, Transformational Leadership, Affective commitment and Job satisfaction.

**Literature Review**

Personnel those are engaged in their work or job are fully connected in physical, cognitive and emotional dimensions of their work roles (Kahn, 1990). They are fully energized and feel part of, a sense of importance, inspiration, personal enthusiasm, and work challenge (Bakker, 2011). In specific attention towards engagement of teachers, it highly affects all the stake holders of the organisation. Transformational leaders are expected to arouse personnel related to their group or team or organisation positively (Bass and Avolio, 1990) and to increase their eagerness to display adequate effort in their task drawing towards successful outcomes which in-turn promotes positive results in more performance satisfaction and fulfillment (Xanthopoulou et al., 2008). Job satisfaction is evaluation of one's job, on whether it fulfills his or her critical job/work values based on their requirements (Hackman and Oldham, 1975; Boon et al., 2006). Affective commitment is considered as an employee's close connection, recognition and concern for and with the organization and has been positively and profoundly linked to performance of job, satisfaction of job and turn-over (Allen NJ, Meyer JP, 1996).

**Work Engagement**

Schaufeli and Bakker (2004), postulated that engagement improves employees' confidence towards the organization and increases the intention to stay with the

organisation. Employees those are engaged, are expected to feel and display three attributes of Vigour, Absorption and Dedication, that are exhibited as emotional, physical and cognitive modes (Kahn, 1990). Harter et al., (2002), narrates, employee engagement as a very important performance outcome to achieve beneficial business results for different organizations. Moreover, they proved that highly engaged employees in the organisations, have dominant levels of customer satisfaction and loyalty, more productive and commercially beneficial than those of less engaged employees. Highly engaged employees perform and exhibit more creative, productive and are more willing to go the extra mile and work (Bakker and Demerouti, 2008; Bakker et al., 2004). Shuck et al., (2011), favorably found that work engagement can enhance learning, innovation, and performance, that reemphasizes the importance of work engagement as a success factor of the organization.

**Work engagement drivers under study**

Employee work engagement is a matter of important study for leaders and managers in organizations across the world, as it is approved and recognized as a pivotal element in determining the extent of organizational effectiveness, innovation and competitiveness. Though there is a paucity of academic literature on the subject (Kular et al., 2008), each study explores the concept under a different context. For this study, the following variables taken as drivers for work engagement,

- Brite et al., (2001), predicted employee involvement and commitment as engagement drivers
- A study by IES (Institute for employment studies, UK) in 2004, identified the following as predictors: leadership, relationships at work, total reward, recognition, work-life balance and work itself.
- A study by IES (Institute for employment studies, UK) in 2005, identified the following drivers: job satisfaction, feeling valued and involved, equal opportunities and safety, length of service, communication and cooperation.

**Transformational Leadership**

Burns (1978) was the first researcher to make a distinction between both the transformational and transactional leadership styles. He developed his theory based on his research of political leaders and introduced the concept of transforming leader. He emphasized that transforming leadership is to be developed when persons engage with

others, in such a way that leaders and followers raise one another to a higher level of motivation and morality. Burns (1978) considered transformational leadership as a process rather than a behavior. Transformational leaders are those who desire for greater ideals and high moral values and they empower followers to produce prominent and basic change. Transformational leaders support more dominant levels of connection and enhanced levels of commitment, performance, and morality of both leader and follower (Burns, 1978). Burns (1978), referred that transformational leadership style is at opposite extremes of a single datum of continuum.

**Affective Commitment**

Affective commitment is induced through emotional attachment to the organization (Allen and Meyer, 1990). The individual's identification and involvement with (Porter et al., 1974) and emotional attachment to the organization can, therefore, be said to constitute the concept of Affective commitment (Meyer and Allen, 1990; 2002). (Meyer and Allen, 1991) brought out that employees with an affective commitment to the organization continue with their employment because they *want to* stay with the organization.Affective commitment develops, when the employee meet the expectations and fulfill the needs of employees, with-in the organization (the employee wants to stay in the organization). Affective commitment reflects the integration level of an employee with the organization's goals and values. It is a psychological attachment to the organization. It refers to a "positive affection towards the organization, reflected in a desire to see the organization to succeed in its goals and a feeling of pride at being part of the organization (Cohen, 2003).

**Job Satisfaction**

Job satisfaction is an attitude of collection of feelings associated with the job situation. It is just how people feel about different aspects of their jobs (Spector, 1997). Job satisfaction has a positive effect towards workplace (Muller and Mc Closkey, 1990) and it is arguably a relatively stable evaluation of how the job meets the employee's needs, wants or expectations (Fisher, 2003). Job satisfaction is an attitude towards life or life satisfaction (Illies et al., 2009). There are expectations to the norm of using only scales to measure psychological constructs. However, if the construct measured sufficiently narrow or is unambiguous to the respondent, a single item measure may suffice, as pointed by Sackett and Larson (1990). Job satisfaction is a critical component of success in organizations (Amburgey, 2005). Practically, one of the most significant difficulties in answering Job
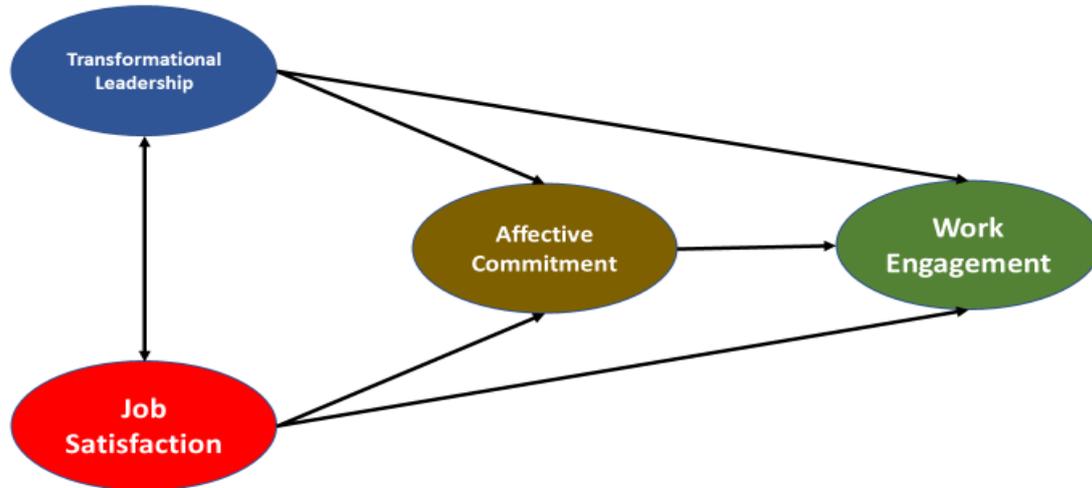
satisfaction is that it is possible to be satisfied with some components of a job (Spagnoli et al., 2012). The two approaches endorsed by literature to measure Job satisfaction are,

- An overall measure of Job satisfaction and
- One regarding several aspects of Job satisfaction

The first approach takes over a macro perspective and consists in asking the respondent directly about his or her overall feelings about the job, being frequently build up with only one item (Wanons et al., 1997). The second approach emphasizes different elements of the job, which determines the overall degree of job satisfaction, frequently adopting a facet-sum approach, The Minnesota Satisfaction Questionnaire in the Indian context developed and standardized by Dr. CN Daftuar (2001), of 19 items used in the present study. The underlying theory is based on work fit that is assumed to be dependent on the exchange between the individual artifice and the reinforcements that exist in the work environment (Weiss et al., 1967).

**Work engagement and Job satisfaction**

Work engagement has been shown to have an impact on personal outcomes, such as high job satisfaction and work performance, work efficiency, customer satisfaction, that increase as a result of higher level of work engagement (Key ko, Cummings, Yonge and Wong, 2016). Job satisfaction is influenced by teacher's working condition or their job resources. Skaalvik and Skaalvik (2009; 2016), found that autonomy, social support and feeling of belongingness predicted teacher job satisfaction and that work overload and emotional exhaustion predicted lower levels of job satisfaction. In this study overall sense of job satisfaction is measured and analyzed their level of degree of predicted overall job satisfaction.

## Instruments of measure

The statistical properties of Central Tendency, Dispersion, and Shape, provides a good picture of quantitative data that they often obviate the need for tabular presentations (Singleton Ja Straits, 2005).
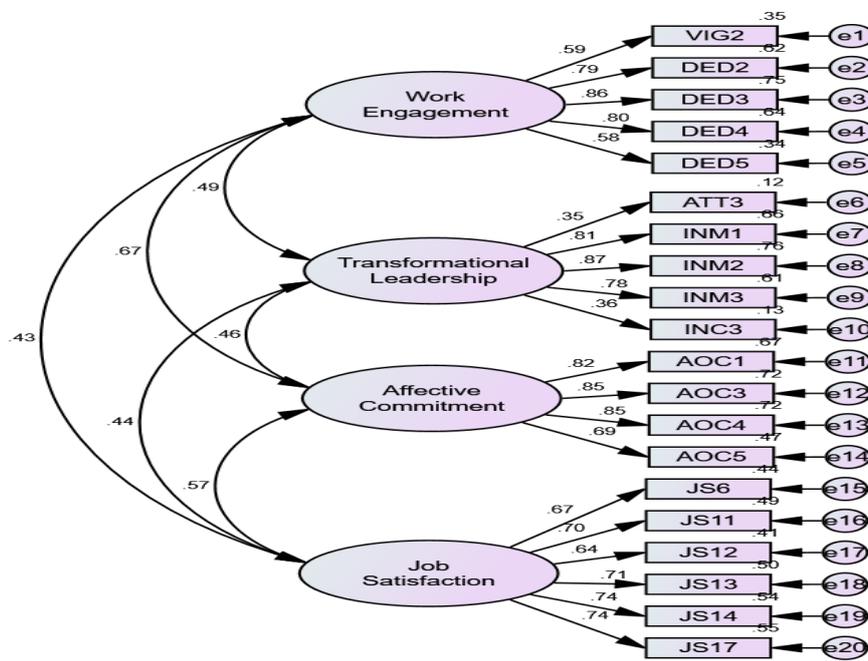
- ❖ For work engagement, Utrecht work engagement scale (UWES) developed by Schaufeli and Bakker (2002).
- ❖ For Transformational leadership, Multifactor leadership questionnaire (MLQ short) Avolio and Bass (1991).
- ❖ For Affective commitment, items from Meyer and Allen's Affective commitment scale (Meyer and Allen, 1997; Meyer, Allen and Smith, 1993) and Organisational commitment scale (Mow day, Steers and Porter, 1993).
- ❖ For Job satisfaction,Overall Job satisfaction scale developed by Dr. CN Daftar (2001).

The interest in SEM is often on theoretical constructs, which are represented by the latent factors. SEM provides a very general and convenient framework for statistical analysis that includes several traditional multivariate procedures. It is used to analyze the structural relationship between measured variables and latent constructs. In this analysis two types of variables are used, endogenous and exogenous. Endogenous variables are equivalent to dependent variables, and exogenous variables are equal to independent variables.Measurement model, represents the theory that specifies how measured variables come together to represent the theory, while Path model, represents the theory that shows

how constructs are related to each other. It is also called causal modeling because it tests the proposed causal relationships.

**Measurement model**

The measurement model represents the theory that specifies how measured variables come together to represent the theory. The structural model is the relationship between the latent variables. It is essential that measurement model to be nearly fit for the furtherance towards SEM path model.



**Fitness measures of the Measurement model**

| Chi-square Value | DF | $C_{Min}$/DF | P Value | CFI | RMR | RMSEA |
|---|---|---|---|---|---|---|
| 309.581 | 164 | 1.888 | 0.224 | 0.949 | 0.071 | 0.054 |
| Cutoff criteria* | Poor | > 5 | < 0.01 | < 0.90 | > 0.10 | > 0.08 |
| | Acceptable | > 3 | < 0.05 | < 0.95 | > 0.08 | > 0.06 |
| | Excellent | > 1 | > 0.05 | > 0.95 | < 0.08 | < 0.06 |
| Model fit measures | | Excellent | Excellent | Acceptable | Excellent | Excellent |

*Note: Hu and Bentler (1999, "Cut-off Criteria for Fit Indexes in Covariance Structure Analysis: Conventional Criteria Versus New Alternatives")

Gaskin, J. & Lim, J. (2016), "Model Fit Measures," AMOS Plugin.

From the above table, the measurement model of SEM has a very valid output, as presented. The ratio $C_{Min}$/DF criteria is excellent, as the value is greater than 1, as it predicts minimum discrepancy divided by its degrees of freedom. Bryne (2006), suggested that the ratio should not exceed the value of three. The p-value is above 0.05 signifies the null hypothesis to be accepted, i.e., there is no significant difference between the measurement fit model and the saturated model or global fit model.

Also, the fit index measures, GFI (Goodness of fit index) is 0.907, that is above 0.9 considered as a good fit (Joreskog and Sorbom, 1984), AGFI (Adjusted goodness of fit) is 0.881 closer to and nearly 0.9, deemed as a good fit (Tanaka and Huba, 1985), CFI (comparative fit index) close to the value of one is a perfect fit (Bentler, 1990) and RMSEA (Root mean square approximation) value is .054, which is nearly less than 0.05, considered as a good fit (Arbuckle, 2005) are in acceptable and excellent range, and therefore the model is accepted as a nearly perfect fit, as confirmed on the theoretical grounds.

**Composite Reliability (CR), Convergent and Discriminant Validity of Work engagement, Transformational leadership, Affective commitment and Job satisfaction**

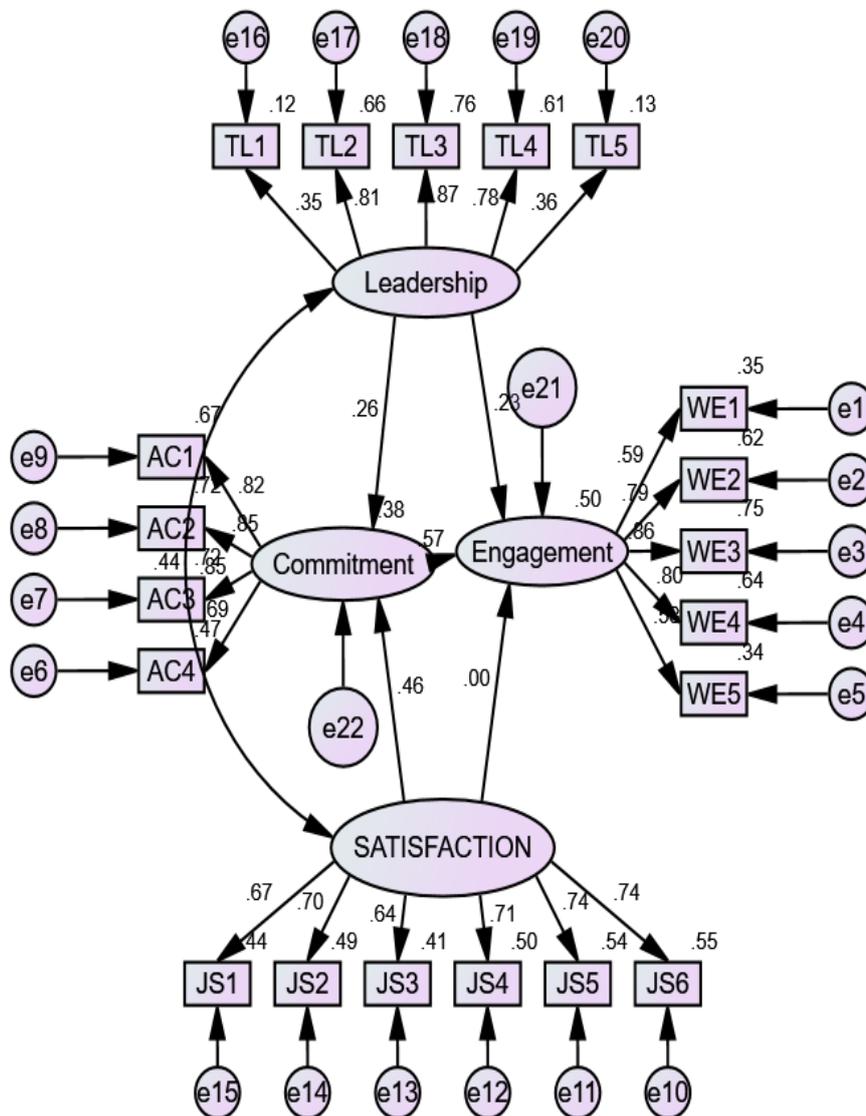| Factors | CR | AVE | Squared Inter Correlation (SIC) | | | |
|---------|-----|------|------|------|------|------|
| | | | WE | TL | AC | JS |
| Work Engagement | 0.851 | 0.540 | **0.735** | - | - | - |
| Transformational Leadership | 0.786 | 0.454 | 0.489 | **0.674** | - | - |
| Affective Commitment | 0.878 | 0.645 | 0.674 | 0.459 | **0.803** | - |
| Job Satisfaction | 0.852 | 0.490 | 0.427 | 0.438 | 0.574 | **0.700** |

Gaskin J and Lim J (2016) 'Master validity tool' AMOS Plugin

** Significant at 1% level

From the above table, Composite reliability, which is a measure of the internal consistency is above 0.6 for all the variables (Farnell and Larker, 1981) is accepted, AVE (Average Variance Extracted) for Work engagement, Transformational leadership, Affective commitment and Job satisfaction is above 0.5 and accepted as for convergent validity AVE should be higher than 0.5 (Hair et al., 1998). Thus, convergent validity is nearly a good fit. For Discriminant validity check, the value of AVE's compared with a squared correlation of the constructs. The thumb rule is that the square root of AVE should be more significant than the squared correlation between the constructs (Cooper and Zmud, 1990; Hair et al., 1998), in this model the values are adequately fit and discriminant validity established as a good fit. Thus, after validation, the measurement model was satisfied to confirm the hypothesized structure.

**Path model – Structural Equation modeling**

A significant advantage of structural equation programs is their ability to estimate the parameters in a path model while correcting for the biasing effects of a random measurement error. The usual approach is to estimate the structural relationships among latent variables that are free of random measurement error (Frone et al., 1992). Given the decision of treating each multi-item scale as a single indicator of its corresponding construct, random measurement error corrected by setting the random error variance and the quantity one minus its estimated reliability (Bollen, 1989). The utility of this approach supported in a study (Netemeyer, Johnson, and Burton, 1990) that compared the parameter estimates for a SEM using a latent variable analysis, a single indicator analysis corrected for measurement error and a single indicator analysis that did not correct for measurement error.To test the model fit, the null hypothesis framedNull hypothesis $H_1$ : The hypothesized model has a good fit, Alternative hypothesis: The hypothesized model does not have a good fit.

**Structural Equation Model (SEM) – Path Model: Based on Work engagement of teaching faculty**

**Reliability measure of Path model**

| Chi-square Value | DF | $C_{Min}$/DF | P Value | CFI | RMR | RMSEA |
|---|---|---|---|---|---|---|
| 309.581 | 164 | 1.888 | 0.224 | 0.949 | 0.071 | 0.054 |

From the above table, to evaluate the overall fit of the model, the following parameter estimates are analyzed. The chi-square statistic based on a comparison of predicted and observed covariance matrices; a non-significant chi-square value indicates a
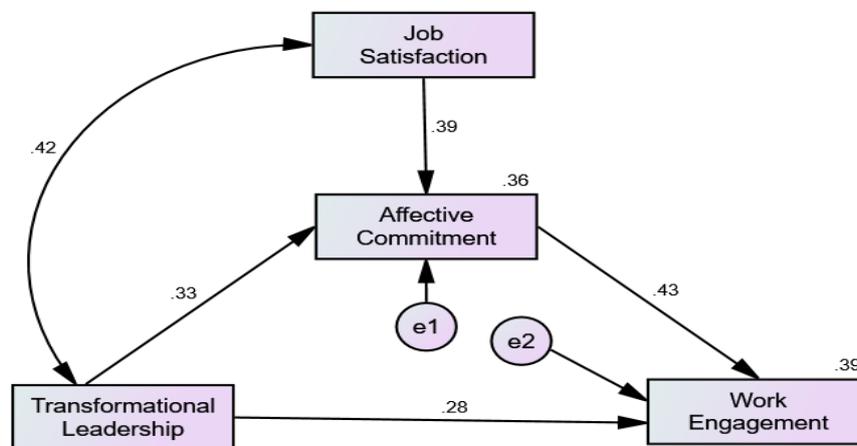
good fit. Here, chi-square value is 309.581, and the p-value is 0.224 shows a non-significant relation between the sample and the population (global fit or saturated model). The reliable fit index, that is less dependent on sample size is Comparative fit index (CFI) (Bentler, 1989; and Bollen, 1989), compares the fit of a substantive model to the fit of some predetermined baseline model, usually a null model in which covariation among variables us constrained to equal zero. The comparative fit index ranges from zero to one and the value greater than or equal to 0.9 indicates a good fit. Here, the CFI value of 0.949 indicates a good fit. Hu and Bentler (1999), suggested that for a good fit, the standard root mean square residual (RMR) should be less than 0.08, and root mean square approximation (RMSEA) should be less than 0.06, here the RMR value of 0.71and RMSEA value of 0.054 indicates a good fit. In general, if the vast majority of the indexes are indicating a good fit, then there is probably a good fit.

**Standardized regression weights of path model**

| Path Model | Standardized estimate | S.E. | C.R. | P value | Remarks |
|---|---|---|---|---|---|
| AC ← TL | 0.257 | 0.228 | 3.332 | < 0.001** | Null hypothesis accepted |
| AC ← JS | 0.462 | 0.092 | 6.280 | < 0.001** | |
| WE ← AC | 0.569 | 0.051 | 6.353 | < 0.001** | |
| WE ← TL | 0.227 | 0.124 | 3.075 | 0.002** | |
| WE ← JS | 0.001 | 0.049 | 0.017 | 0.986 | Null hypothesis rejected |

The above table indicates the parameter estimates of proposed path model – 1, the standardized path coefficients, standard error estimates, t distribution value (C.R,), p-value (path significance), and the remarks column that indicates the acceptance or rejection of null hypothesis. From the presented values it is noted that the path of WE ← JS (Work engagement ← Job satisfaction) shows no significance p-value of 0.986, which shows that the Job satisfaction variable has no impact on work engagement, as per the sample.

**Structural Equation Model (SEM) – Observed Path Model: Based on Work**



**engagement of teaching faculty**

The reliable fit index, that is less dependent on sample size is Comparative fit index (CFI) (Bentler, 1989; and Bollen, 1989), compares the fit of a substantive modelto the fit of some predetermined baseline model, usually a null model in which covariation among variables us constrained to equal zero. The comparative fit index ranges from zero to one and the value greater than or equal to 0.9 indicates a good fit. Here, the CFI value of 0.949 indicates a good fit. Hu and Bentler (1999), suggested that for a good fit, the standard root mean square residual (RMR) should be less than 0.08, and root mean square approximation (RMSEA) should be less than 0.06, here the RMR value of 0.71and RMSEA value of 0.054 indicates a good fit. In general, if the vast majority of the indexes are indicating a good fit, then there is probably a good fit.

**Final SEM Observed model**

| Indices | Path model | Final SEM Model |
|---|---|---|
| Chi-square value | 309.581 | 0.704 |
| DF | 164 | 1 |
| P value | < 0.001 | 0.401 |
| $C_{Min}$/DF | 1.888 | 0.704 |
| GFI | 0.907 | 0.999 |
| AGFI | 0.881 | 0.988 |
| NFI | 0.898 | 0.998 |
| CFI | 0.949 | 0.999 |
| RMR | 0.040 | 0.060 |
| RMSEA | 0.054 | 0.001 |

From the above table, for the final SEM model, it is found that the calculated P-value is 0.401 which is higher than 0.05 which indicates a non-significant chi-square fit. Goodness of Fit Index (GFI) value (0.921) and Adjusted Goodness of Fit Index (AGFI) value (0.881) is nearly close to 0.9 which represent it is a nearly good fit. The calculated Normed Fit Index (NFI) value 0.895 and Comparative Fit Index (CFI) value 0.942 indicates that it is a perfect fit and also the Root Mean Square Residuals (RMR) value 0.093 and Root Mean Square Error of Approximation (RMSEA) value is 0.060 which is nearly less than 0.08 which indicated it is nearly perfect fit. From the above values, the model accepted as a perfect fit.

**Standardized regression weights of final Work Engagement SEM Observed model**

| Observed Model | Regression weight | Standardized estimate | S.E. | C.R. | P value | Remarks |
|---|---|---|---|---|---|---|
| AC ← TL | 0.374 | 0.325 | 0.058 | 6.416 | < 0.001** | **H$_1$**- |
| AC ← JS | 0.318 | 0.387 | 0.042 | 7.634 | < 0.001** | Proposed |
| WE ← AC | 0.432 | 0.433 | 0.051 | 8.397 | < 0.001** | hypothesis |
| WE ← TL | 0.323 | 0.282 | 0.059 | 5.458 | < 0.001** | accepted |

The above table indicates the parameter estimates of proposed path model – 1, the standardized path coefficients, standard error estimates, t distribution value (C.R,), p-value (path significance), and the remarks column that indicates the acceptance or rejection of null hypothesis. From the presented values it is noted that the path of all the variable paths

are significant and accepted. Thus, the null hypothesis is not rejected, i.e. the model is substantially a perfect fit.

**General drivers of and strategies for improving work engagement**

In general, engagement is about the psychological state in which the employee held a positive attitude towards the organization and its values to perform to the level that exceeds the stated job requirements. Mercer (2007), has categorized in general, for standard main and essential drivers of work engagement,

- The work itself, including opportunities for development
- Confidence and trust in leadership
- Recognition and rewards
- Organisational communication

**Strategies to improve Work engagement**

- ❖ UGC Academic Staff college (HRDC)
- ❖ Work life balance for married faculties
- ❖ Promotion of development programs for young faculties
- ❖ Enhancement of job satisfaction
- ❖ Intervention mechanisms for change
- ❖ Organisational culture & Transparency in governance
- ❖ Cross functional development & HR audit

**Discussion and Conclusion**

Arnold Bakker (2018), points out that engaged employees physically cognitively and emotionally connected with their work roles. It is an essential indicator of occupational well- being for both employees and the organizations. Employee engagement efforts that are employee-centered, but not organisation centered are accepted better by the employees than a set of best Human Resource practices. The organization that gives high priority to engagement over an amalgam of best human resource practices can win the hearts of employees since it leads to career success. Organisations that want to stay-ahead competitive, need highly engaged employees. The top-down strategic and bottom-up prescient approaches only or in amalgamation surely foster employee work engagement

because they help to optimize the work atmosphere regarding accessible job demands and adequate job resources.

As Cooper (2005) brings out that, individuals in the emerging times will have to give more importance for their personal development. Promoting engagement in the workplace demonstrates a liberating experience by giving choice and leverage to the individual ownership, but individuals have to put-on with the right arts and attitudes and engage in a continuous program of individual career development.Higher levels of work engagement increase the presence of transformational leadership style that needs to be intervened and groomed, at the organizational level. Transformational leadership has positive influence on work engagement, significantly when the followers are driven by growth and developmental needs. Leaders with Transformational leadership style seems to challenge their co-workers to take increased significant ownership of their task and motivate them to optimize their work environment (J Hetland et al., 2018).

The dynamic and ever-changing nature of higher technical education suggests that transformative leadership and affectively committed employees are in need to cope with the claim fisted upon the technical education and technical institutions. With varied change in policies and reforms in the educational system, it is for the institutes and the government, the primary stakeholder, to investigate and establish the effectiveness of leadership and the required level of commitment among the employees. As suggested by Allen (1997), understanding when and how commitments develop and how they help shape attitudes and behaviors, organizations will be in a better position to anticipate the impact that change will have and to manage it more effectively.

## References

[1]     Sharma, A., Goel, A., & Sengupta, S. (2017). How does Work Engagement vary with Employee Demography? —Revelations from the Indian IT industry. *Procedia Computer Science*, *122*, 146-153.

[2]     Bakker, A. B., Schaufeli, W. B., Leiter, M. P., & Taris, T. W. (2008). Work engagement: An emerging concept in occupational health psychology. *Work & Stress*, *22*(3), 187-200.

[3]     Bakker, A. B., & Leiter, M. P. (Eds.). (2010). *Work engagement: A handbook of essential theory and research*. Psychology Press.

[4]     Leiter, M. P., & Bakker, A. B. (2010). Work engagement: an introduction. *Work engagement: A handbook of essential theory and research*, 1-9.

[5]     Bakker, A. B., Albrecht, S. L., & Leiter, M. P. (2011). Work engagement: Further reflections on the state of play. *European Journal of Work and Organizational Psychology*, *20*(1), 74-88.

[6]     Harter, J. K., Schmidt, F. L., & Hayes, T. L. (2002). Business-unit-level relationship between employee satisfaction, employee engagement, and business outcomes: a meta-analysis. *Journal of applied psychology*, *87*(2), 268.

[7]     Bakker, A. B., & Demerouti, E. (2008). Towards a model of work engagement. *Career development international*, *13*(3), 209-223.

[8]     Langelaan, S., Bakker, A. B., Van Doornen, L. J., & Schaufeli, W. B. (2006). Burnout and work engagement: Do individual differences make a difference? *Personality and individual differences*, *40*(3), 521-532.

[9]     Schaufeli, W. B., & Van Rhenen, W. (2006). About the role of positive and negative emotions in managers' well-being: A study using the Job-related Affective Well-being Scale (JAWS). *Gedrag & Organisatie*, *19*(4), 223-244.

[10]    Schaufeli, S. González-Romá, & Bakker (2002) Schaufeli, WB, Salanova, M., González-Romá, V., & Bakker, AB (2002). The measurement of engagement and burnout: A two sample confirmatory factor analytic approach. *Journal of Happiness Studies*, *3*(1), 71-92.

[11]    Agarwal, U. A., Datta, S., Blake-Beard, S., & Bhargava, S. (2012). Linking LMX, innovative work behavior and turnover intentions: The mediating role of work engagement. *Career development international*, *17*(3), 208-230.

[12]    Schaufeli, W. B., & Bakker, A. B. (2004). Job demands, job resources, and their relationship with burnout and engagement: A multi- sample study. *Journal of Organizational Behavior*, *25*(3), 293-315.

[13]    Van den Broeck, A., Vansteenkiste, M., De Witte, H., & Lens, W. (2008). Explaining the relationships between job characteristics, burnout, and engagement: The role of basic psychological need satisfaction. *Work & Stress*, *22*(3), 277-294.

[14]    Schaufeli, W. (2012). Work engagement: What do we know and where do we go? *Romanian Journal of Applied Psychology*, *14*(1), 3-10.

[15]    Bakker, A. B. (2011). An evidence-based model of work engagement. *Current Directions in Psychological Science*, *20*(4), 265-269.

[16]    Tims, M., Bakker, A. B., & Xanthopoulou, D. (2011). Do transformational leaders enhance their followers' daily work engagement? *The Leadership Quarterly*, *22*(1), 121-131.

[17]    Babcock-Roberson, M. E., & Strickland, O. J. (2010). The relationship between charismatic leadership, work engagement, and organizational citizenship behaviors. *The Journal of Psychology*, *144*(3), 313-326.

[18]    Kovjanic, S., Schuh, S. C., & Jonas, K. (2013). Transformational leadership and performance: An experimental investigation of the mediating effects of basic needs satisfaction and work engagement. *Journal of Occupational and Organizational Psychology*, *86*(4), 543-555.

[19]    Yasin Ghadi, M., Fernando, M., & Caputi, P. (2013). Transformational leadership and work engagement: The mediating effect of meaning in work. *Leadership & Organization Development Journal*, *34*(6), 532-550.

[20]    Breevaart, K., Bakker, A., Hetland, J., Demerouti, E., Olsen, O. K., & Espevik, R. (2014). Daily transactional and transformational leadership and daily employee engagement. *Journal of occupational and organizational psychology*, *87*(1), 138-157.