Chapter 7

STATISTICAL MODEL FOR FACULTY ENGAGEMENT AND ITS OUTCOMES

7.1 Introduction

Faculty engagement can be measured on the basis of various factors. Teaching, research and service engagement is considered here, as UGC, NAAC and other regulatory bodies measure the performance of faculty members on the basis of these aspects. In addition, NEP also divide the activities of a college faculty member into teaching, research and service. A detailed analysis of faculty engagement and a statistical model with dimensions that is, teaching, research, and service engagement as explanatory variables and faculty engagement as the dependent variable is discussed in this chapter. A discussion relating to outcomes of faculty engagement and a statistical model depicting the relationship between faculty engagement, being the independent variable and outcomes that is, Organisational Citizenship Behaviour (OCB), employee retention, innovative behaviour, and job satisfaction as dependent variable are also presented in this chapter.

7.2 Standard Model for Faculty Engagement

A faculty member who is engaged in teaching, research and service is considered to be engaged as a whole. Hence, these are considered as dimensions of faculty engagement. A faculty member who is engaged will reflect 'vigor', 'dedication', and 'absorption' in their behaviour. Following table depicts the descriptive statistics of faculty engagement.

Table 7.1

Mean and Standard Deviation of Faculty Engagement

Indicator Code	Indicators	Mean	Standard Deviation
FE1	Able to continue in work for long duration.	3.7333	1.11345
FE2	Willing to accept any type of job.	3.8128	1.20766
FE3	Element of challenge in the job induces performance level.	3.8872	1.17059
FE4	Willing to put a great deal of effort to make institution successful.	3.9667	1.05451
FE5	The performance relating to work are meaningful and purposeful.	4.0564	1.23442
FE6	My job inspires me.	3.8256	1.16961
FE7	Mental resilience is part of this profession.	3.8359	1.18636
FE8	Great deal of effort should be made in order to make the organisation successful.	3.8718	1.09402
Faculty Engagement		*30.9897*	*8.27235*

Source: Primary Data

Table 7.1 provides an insight that the aggregate score of faculty engagement is 30.9897 as against the maximum score of forty with a standard deviation of 8.27235. 'The performance relating to work are meaningful and purposeful' scores high with a mean value of 4.0564 and SD of 1.23442 and is followed by 'willingness to put a great deal of effort to make institution successful' with a mean score of 3.9667 and SD of 1.05451. The statements 'Willing to accept any type of job' and 'Able to continue in work for long duration' are having the lowest mean values of 3.8128 (SD 1.20766) and 3.7333 (SD 1.11345) respectively.

In order to establish the relationship between the dimensions of engagement with faculty engagement, correlation analysis was performed and the results are

exhibited under the categories of Government, Aided and Autonomous institutions. For measuring the contribution of teaching, research and service engagement in the overall engagement of faculty members, a statistical model using regression analysis was developed on the basis of different types of institutions. In addition, statistical model for faculty engagement for arts and science colleges in Kerala is also created by the researcher.

7.2.1 Statistical Model for Faculty Engagement in Arts and Science colleges of Kerala

7.2.1.1 Relationship between Dimensions of Faculty Engagement with Faculty Engagement in Arts and Science colleges

For identifying the most crucial dimension, the researcher has applied correlation coefficient and the results are presented under Table 7.2.

Table 7.2

Correlation of Dimensions of Faculty Engagement with Faculty Engagement in Arts and Science colleges

Sl. No	Dimensions of Faculty Engagement	r value	*p-value*	N
a.	Teaching Engagement	0.905**	0.000	390
b.	Research Engagement	0.774**	0.000	390
c.	Service Engagement	0.889**	0.000	390

*Source: Primary Data, ** statistically significant at 1% level.*

From the table 7.2, it can be inferred that all dimensions of faculty engagement are highly correlated with faculty engagement. It is clear that teaching engagement contributes the most in engaging faculty members with a correlation coefficient of 0.905 followed by service engagement with an r value of 0.889.

7.2.1.2 Regression analysis of dimensions of Faculty Engagement in Arts and Science colleges

To measure the relationship between dimensions of faculty engagement, total scores obtained from the responses from the faculty members towards the

statements are added and extracted for analysis purposes. Simple regression analysis was performed to find out the influence of dimensions of faculty engagement on faculty engagement. Table 7.3 exhibits the results of simple regression.

Table 7.3

Dimensions of Faculty Engagement and Faculty Engagement - Regression analysis of Arts and Science Colleges

Independent Variable	Unstandardised Coefficient		Standardised Coefficient	T	Sig.
	B	Std. Error			
Dimensions of Faculty Engagement	0.360	0.008	0.916	45.091**	0.000

Adjusted R^2 = 0.839

*Source: Primary Data, ** statistically significant at 1% level*

From the table 7.3, which clearly depicts the regression analysis, it is very clear that faculty engagement is highly influenced by the dimensions of faculty engagement and the results shows its significance at 1% level. The standardised regression coefficient of dimensions of faculty engagement is 0.916 and adjusted R^2 is 0.839. Hence, it can be concluded that there exists a positive relation between dimensions of faculty engagement and faculty engagement in arts and science colleges of Kerala.

7.2.1.3 Statistical Model for Engaging faculty members of Arts and Science colleges

From the analysis performed, it can be inferred that the faculty engagement is related with teaching, research and service engagement. To measure the most contributing dimension of faculty engagement and its influence on faculty engagement, multiple regression was done by taking faculty engagement as dependent variable and teaching, research and service engagement as independent variables. Table 7.4 exhibits the results of multiple regression analysis.

Table 7.4

Relationship between Teaching Engagement, Research Engagement & Service Engagement in Arts and Science colleges- Results of Multiple Regression analysis

Independent Variable	Unstandardised Coefficients		Standardised Coefficients	t	Sig.
	B	Std. Error			
Teaching Engagement	0.471	0.044	0.510	10.592**	0.000
Research Engagement	0.155	0.038	0.131	4.113**	0.000
Service Engagement	0.413	0.062	0.325	6.709**	0.000

Adjusted R^2 = 0.851

*Source: Primary Data, ** statistically significant at 1% level.*

Hence, the final statistical model with standardised regression coefficient of the significant variables is given below:

fe= 0.510 te + 0.131 re + 0.325 se

Where, *fe* = Standardised value of Faculty Engagement,

te = Teaching Engagement,

re = Research Engagement,

se = Service Engagement.

The most influencing dimension of faculty engagement as per the equation, by virtue of the coefficient value and also the significance which is revealed from the analysis is the teaching engagement followed by service engagement.

It is clearly evident from the table 7.4, correlation coefficients corresponding to teaching, research and service engagement are highly significant at 1% level of significance. It can also be concluded that, engagement is driven through teaching, research and service engagement in Arts and Science colleges.

7.2.2 Model for Faculty Engagement in Government Arts and Science colleges

7.2.2.1 Relationship between Dimensions of Faculty Engagement with Faculty Engagement in Government Arts and Science colleges

In the first stage, to identify the most prominent among dimensions of faculty engagement, correlation was done separately. The results thus obtained is explained below.

Table 7.5

Correlation analysis of Dimensions of Faculty Engagement with Faculty Engagement in Government Arts and Science Colleges

Sl. No	Dimensions of Faculty Engagement	r value	p-value	N
a.	Teaching Engagement	0.930**	0.000	140
b.	Research Engagement	0.766**	0.000	140
c.	Service Engagement	0.917**	0.000	140

*Source: Primary Data, ** statistically significant at 1% level*

From the table 7.5, it can be clearly drawn that all dimensions of faculty engagement are highly correlated with faculty engagement. It is clear that teaching engagement contributes the most in engaging faculty members of Government college with correlation coefficient of 0.930, followed by service engagement (r = 0.917).

7.2.2.2 Regression analysis of dimensions of Faculty Engagement in Government Arts and Science colleges

To establish the relationship between dimensions of faculty engagement and faculty engagement, total scores were calculated by adding the scores that has been provided by the respondents towards corresponding statements under each dimension and extracted for analysis. In order to establish the influence of dimensions of faculty engagement on faculty engagement, simple regression analysis was performed. Table 7.6 exhibits the results of simple regression.

Table 7.6

Dimensions of Faculty Engagement and Faculty Engagement – Regression Analysis of Government Arts and Science Colleges

Independent Variable	Unstandardised Coefficients		Standardised Coefficients	t	Sig.
	B	Std. Error			
Dimensions of Faculty Engagement	0.371	0.012	0.931	29.925**	0.000

Adjusted R^2 = 0.866

*Source: Primary Data, ** statistically significant at 1% level.*

From the Table 7.6, which clearly depicts the regression analysis, it is very clear that the faculty engagement is highly influenced by the dimensions of faculty engagement and the results shows its significance at 1% level of significance. The standardised regression coefficient of dimension of faculty engagement is 0.931 and adjusted R^2 is 0.866. Hence, it can be concluded that there exists a positive relation between dimensions of faculty engagement and faculty engagement.

7.2.2.3 Statistical Model for Engaging faculty members of Government Arts and Science colleges

From the foregoing analysis, it can be inferred that the faculty engagement is related with teaching engagement, research engagement and service engagement. To know the most contributing dimension of faculty engagement and its influence on faculty engagement, multiple regression analysis was performed with faculty engagement as dependent variable and teaching, research and service engagement as independent variables. Table 7.7 presents the results of multiple regression analysis.

Table 7.7

Relationship between Teaching Engagement, Research Engagement & Service Engagement and Faculty Engagement in Government colleges- Results of Multiple Regression Analysis

Independent Variables	Unstandardised Coefficients		Standardised Coefficients	t	Sig.
Teaching Engagement	0.525	0.075	0.559	6.989**	0.000
Research Engagement	0.115	0.055	0.096	2.067*	0.041
Service Engagement	0.418	0.111	0.321	3.767**	0.000

Adjusted R^2 = 0.884

*Source: Primary Data, ** statistically significance at 1% level, *, statistically significance at 5% level.*

Hence, the final statistical model with standardised regression coefficient of the significant variables is given below.

fe = 0.559 te + 0.096 re + 0.321 se

where, *fe* = Standardised value of Faculty Engagement

te = Teaching Engagement,

re = Research Engagement,

se = Service Engagement.

The most influencing dimension of faculty engagement as per the equation, by virtue of the coefficient value, and also the significance which is revealed from the analysis is teaching engagement followed by service engagement.

It is clearly evident from the table 7.7, correlation coefficients corresponding to teaching and service engagement are highly significant at 1% level of significance and of research engagement are highly significant at 5% level of significance. It can be concluded that, engagement is driven through teaching, research and service engagement in Government colleges.

7.2.3 Model for Faculty Engagement in Aided Arts and Science colleges

7.2.3.1 Relationship between Dimensions of Faculty Engagement with Faculty Engagement in Aided Arts and Science colleges

First and foremost, the researcher intends to know the most prominent dimension of faculty engagement in Aided arts and science colleges. Hence, correlation coefficient has been utilised by the researcher. Table 7.8 depicts the results of correlation.

Table 7.8

Correlation of Dimensions of Faculty Engagement with Faculty Engagement in Aided Arts and Science colleges

Sl. No.	Dimensions of Faculty Engagement	r value	p-value	N
a.	Teaching Engagement	0.882**	0.000	184
b.	Research Engagement	0.763**	0.000	184
c.	Service Engagement	0.880**	0.000	184

*Source: Primary Data, ** statistically significant at 1% level.*

From the Table 7.8, it can be clearly drawn that all the dimensions of faculty engagement are highly correlated with faculty engagement. It is clear that teaching engagement contributes the most in engaging faculty members of Aided colleges with a correlation coefficient of 0.882 followed by service engagement which has an r value of 0.880.

7.2.3.2 Regression analysis of dimensions of Faculty Engagement in Aided Arts and Science colleges

To establish the relationship between dimensions of faculty engagement and faculty engagement, total scores were calculated by adding the scores that has been provided by the respondents towards corresponding statements under each dimension and extracted for analysis. In order to establish the influence of dimensions of faculty engagement on faculty engagement, simple regression analysis was performed. Table 7.9 exhibits the results of simple regression.

Table 7.9

Dimensions of Faculty Engagement and Faculty Engagement - Regression analysis of Aided Arts and Science Colleges

Independent Variable	Unstandardised Coefficients		Standardised Coefficients	t	Sig.
	B	Std. Error			
Dimensions of Faculty Engagement	0.339	0.012	0.900	27.915**	0.000
Adjusted R^2 = 0.810					

*Source: Primary Data, ** statistically significant at 1% level.*

From the table 7.9, which clearly depicts the regression analysis, it is very clear that the faculty engagement is highly influenced by the dimensions of faculty engagement and the results shows its significance at 0.01 level. The standardised regression coefficient of dimension of faculty engagement is 0.900 and adjusted R^2 is 0.810. Hence, it can be concluded that there exists a positive relationship between dimensions of faculty engagement and faculty engagement.

7.2.3.3 Statistical Model for Engaging faculty members of Aided Arts and Science colleges

From the foregoing analysis, it can be inferred that the faculty engagement is related with teaching, research and service engagement. To identify the most contributing dimension of faculty engagement and its influence on faculty engagement, multiple regression analysis was done taking faculty engagement as dependent variable and teaching, research and service engagement as independent

variables. Table 7.10 depicts the results of multiple regression with reference to aided arts and science colleges of Kerala.

Table 7.10

Relationship between Teaching Engagement, Research Engagement & Service Engagement in Aided colleges- Results of Multiple Regression analysis

Independent Variables	Unstandardised Coefficients		Standardised Coefficients	t	Sig.
	B	Std. Error			
Teaching Engagement	0.379	0.064	0.430	5.900**	0.000
Research Engagement	0.130	0.059	0.114	2.206*	0.029
Service Engagement	0.496	0.090	0.460	5.534**	0.000

Adjusted R^2 = 0.821

*Source: Primary Data, ** statistically significant at 1% level, * significant at 5% level.*

Hence, the final statistical model with standardised regression coefficient of the significant variables is given below.

fe = 0.430 te + 0.114 re + 0.460 se

Where, *fe* = Standardised value of Faculty Engagement

te = Teaching Engagement,

re = Research Engagement,

se = Service Engagement.

The most influencing dimension of faculty engagement as per the equation, by virtue of the coefficient value, and also the significance which is revealed from the analysis is the service engagement followed by teaching engagement.

It is clearly evident from the table 7.10, correlation coefficients corresponding to teaching and service engagement are highly significant at 0.01 level and of research engagement are highly significant at 0.05 level. It can be concluded that, engagement is driven through teaching, research and service engagement in Aided colleges.

7.2.4. Model for Faculty Engagement in Autonomous Arts and Science colleges

7.2.4.1 Relationship between Dimensions of Faculty Engagement with Faculty Engagement in Autonomous Arts and Science colleges

A correlation analysis was performed by the researcher to analyse the relationship between dimensions of faculty engagement and faculty engagement. It also intends to identify the most important dimension which contributes to engagement of a faculty member in Autonomous arts and science colleges, which is depicted in Table 7.11.

Table 7.11

Correlation of Dimensions of Faculty Engagement with Faculty Engagement in Autonomous Arts and Science colleges

Sl. No	Dimensions of Faculty Engagement	r value	p-value	N
a.	Teaching Engagement	0.901**	0.000	66
b.	Research Engagement	0.820**	0.000	66
c.	Service Engagement	0.848**	0.000	66

*Source: Primary Data, ** statistically significant at 1% level*

From the table 7.11, it can be clearly drawn that all the dimensions of faculty engagement are highly correlated with faculty engagement. It is clear that teaching engagement contributes the most in engaging faculty members of Autonomous colleges with a correlation coefficient of 0.901 followed by service engagement with an r value of 0.848.

7.2.4.2 Regression analysis of dimensions of Faculty Engagement in Autonomous Arts and Science colleges

To establish the relationship between dimensions of faculty engagement and faculty engagement, total scores were calculated by adding the scores that has been provided by the respondents towards corresponding statements under each dimension and extracted for analysis. In order to establish the influence of

dimensions of faculty engagement on faculty engagement, simple regression analysis was performed. Table 7.12 presents the results of simple regression analysis.

Table 7.12

Dimensions of Faculty Engagement and Faculty Engagement - Regression analysis of Autonomous Arts and Science Colleges

Independent Variables	Unstandardised Coefficients		Standardised Coefficients	t	Sig.
	B	Std.Error			
Dimensions of Faculty Engagement	0.378	0.020	0.919	18.641**	0.000

Adjusted R^2 = 0.842

*Source: Primary Data, ** statistically significant at 1% level*

Table 7.12 clearly depicts the regression analysis; it is very clear that faculty engagement is highly influenced by the dimensions of faculty engagement and the results show its significance at 1% level. The standardised regression coefficient of dimension of faculty engagement is 0.919 and adjusted R^2 is 0.842. Hence, it can be concluded that there exists a positive relation between dimensions of faculty engagement and faculty engagement.

7.2.4.3 Statistical Model for Engaging faculty members of Autonomous Arts and Science colleges

From the past analysis, it can be inferred that the faculty engagement is related with teaching, research and service engagement. To identify the most contributing dimension of faculty engagement and its influence on faculty engagement, multiple regression analysis was done by considering faculty engagement as the dependent variable and the dimensions of faculty engagement that is, teaching, research and service engagement are taken as independent variables. Table 7.13 presents the values of multiple regression analysis.

Table 7.13

Relationship between Teaching Engagement, Research Engagement & Service Engagement in Autonomous colleges- Results of Multiple Regression analysis

Independent Variables	Unstandardized Coefficients		Standardised Coefficients	t	Sig.
	B	Std. Error			
Teaching Engagement	0.481	0.119	0.497	4.054**	0.000
Research Engagement	0.321	0.108	0.253	2.973**	0.004
Service Engagement	0.291	0.136	0.225	2.141*	0.036
Adjusted R^2 = 0.839					

*Source: Primary Data, ** statistically significant at 1% level, *, Significant at 5% level*

Hence, the final statistical model with standardised regression coefficient of the significant variables is given below.

fe= 0.497 te + 0.253 re +0.225 se

Where, *fe* = standardised value of Faculty Engagement,

te = Teaching Engagement

re = Research Engagement

se = Service Engagement

The most influencing dimension of faculty engagement as per the equation, by virtue of the coefficient value, and also the significance which is revealed from the analysis is the teaching engagement followed by research engagement.

It is clearly evident from Table 7.13, correlation coefficients corresponding to teaching and research engagement are highly significant at 1% level of significance and of service engagement are highly significant at 5% level. It can be concluded that, engagement is driven through teaching, research and service in Autonomous arts and science colleges.

From the regression analysis (Table 7.3, Table 7.6, Table 7.9 and Table 7.12), it is clear that the faculty engagement is very much influenced by the

dimensions of faculty engagement as the result is significant at one percent level. Hence, ***the result supported and proved the eighth hypothesis formulated as:***

H8: There exists a significant relationship between Dimensions of Faculty Engagement and Faculty Engagement.

7.3 Outcomes of Faculty Engagement

The outcomes are the consequences that a faculty member and institution gains as a result of being engaged. The outcomes will be beneficial for both the faculty member and for the institutions. Organisational Citizenship Behaviour (OCB), Employee Retention, Job Satisfaction and Innovative Behaviour are the outcomes that has been proposed by the researcher. Organisational Citizenship Behaviour (OCB) is a set of discretionary work place behaviours that the faculty members exhibit which exceeds their job requirements which eventually contributes to the effectiveness and efficiency of an institution. Innovative Behaviour is the application of new ideas or behaviour. It is a set of process in engaging behaviour to create new ideas. It covers both the initiation and implementation of creative ideas. An employee who is engaged is likely to stay within the institution which reduces the cost and creates long term commitment towards institution. Job satisfaction involves personal happiness with one's job. It ensures performance and productivity of an institution. When a faculty member is found to be engaged, it leads them towards job satisfaction. Table 7.14 provides us with the results of mean and standard deviation.

Table 7.14

Mean and Standard Deviation of Outcomes of Faculty Engagement

Indicator Code	Indicators	Mean	Standard Deviation
OCB1	Always better to focus on positive side rather than negative side.	3.4436	0.97825
OCB2	Being part of new committees and extra-curricular activities considered as an opportunity.	3.6564	1.18902
OCB3	Defending should be done when others criticise our institution.	3.5821	0.91668

Indicator Code	Indicators	Mean	Standard Deviation
OCB4	Motivates others to express their opinion and ideas.	3.5077	1.27208
Organisational Citizenship Behaviour		*14.1897*	*3.91555*
IB1	Necessary to assure professional development of employees.	3.7744	1.19354
IB2	Rapid change in technology demands innovative behaviour in teaching.	3.8077	1.17008
IB3	Old school of thoughts should be replaced by new ones to achieve better results.	3.7436	1.20662
IB4	Educational sectors should be upgraded shortly.	3.9154	1.26064
Innovative Behaviour		*15.2410*	*4.47137*
ER1	Employee retention fosters bonding among the members.	3.4026	1.10129
ER2	Timely promotion plays a pivotal role.	3.5564	1.07347
ER3	Employees leave the institution out of frustration and constant friction with superiors.	3.3462	0.94075
ER4	Working environment of the institution creates confidence to work.	2.9590	1.02582
Employee Retention		*13.2641*	*3.67644*
JS1	Greater team spirit within the organisation.	3.2872	1.10600
JS2	Stability of job leads to higher job satisfaction.	2.9667	1.04963
JS3	Salary corresponds to the level of responsibility and demands of my job.	3.5128	1.04578
Job Satisfaction		*9.7667*	*2.93098*

Source: Primary Data

Table 7.14 provides the results of mean and standard deviation of outcomes of faculty engagement. 'Being part of new committees and extra-curricular activities considered as an opportunity' is the statement which has the highest mean score of 3.6564 (SD 1.18902) among the outcome organisational citizenship behaviour. 'Educational sectors should be upgraded shortly' is the statement which scores a high mean of 3.9154 (SD 1.26064) in case of innovative behaviour.

Faculty members also opine that 'Timely promotion plays a pivotal role' with a mean value of 3.5564 (SD 1.07347). It is also opined by the faculty members that 'salary corresponds to the level of responsibility and demands of my job' with highest mean score of 3.5128 (SD 1.04578) among job satisfaction.

7.3.1 Statistical Model for Faculty Engagement and its Outcomes

7.3.1.1 Relationship between Faculty Engagement and its Outcomes

Table 7.15

Correlation of Components of Faculty Engagement with its Outcomes

Sl. No	Components of Faculty Engagement	r value	p-value	N
a.	Vigor	0.897**	0.000	390
b.	Dedication	0.905**	0.000	390
c.	Absorption	0.886**	0.000	390
Faculty Engagement		**0.919****	**0.000**	**390**

*Source: Primary Data, ** statistically significant at 1% level*

Table 7.15 presents the correlation results of components of faculty engagement with its outcomes. It can be clearly inferred that Faculty Engagement is having a very high positive relation with its outcomes with an r value of 0.919 and the components vigor, dedication & absorption also shows high 'r' values of 0.897, 0.905 and 0.886 respectively. Since, the p-value is less than 0.05, it can be concluded that faculty engagement and its components are highly related with its outcomes.

7.3.1.2 Effect of Relationship between Faculty Engagement and its Outcomes

Simple regression analysis was used to measure the effect of relationship between Faculty Engagement and its outcomes. With the help of correlation, predictive power of a variable can be studied. Through regression analysis, we fit a predictive model, which can be used to predict the values of the outcomes from faculty engagement. It tries to explain how outcome is explained by faculty engagement. Table 7.16 exhibits the results of simple regression analysis.

Table 7.16

Components of Faculty Engagement and Outcomes of Faculty engagement –

Regression analysis

Independent Variable	Unstandardised Coefficients		Standardised Coefficients	t	Sig.
	B	Std.Error			
Faculty Engagement	1.578	0.034	0.919	45.840**	0.000

Adjusted R² = 0.844

*Source: Primary Data, ** statistically significant at 1% level*

In the analysis, outcomes of faculty engagement are taken as dependent variable and Faculty Engagement is taken as independent variable. From the table 7.16, it can be clearly inferred that the r value is 0.919 which shows a very high relation of faculty engagement with its outcomes. The value of adjusted R^2 being 0.844, it can be stated that 84% of the outcome is explained by components of Faculty Engagement and remaining by other factors.

7.3.1.3 Statistical Model of Faculty Engagement in generation of its Outcomes

From the analysis performed, it can be inferred that the outcomes are highly related with vigor, dedication and absorption. To measure the most contributing component and to know its influence on outcomes, multiple regression was performed. Outcomes are taken as dependent variable and the components vigor; dedication & absorption are considered as independent variables for the purpose of analysis. Table 7.17, shows the results of multiple regression analysis.

Table 7.17

Relationship between Vigor, Dedication & Absorption and its Outcomes –

Results of Multiple Regression analysis

Independent Variables	Unstandardised Coefficients		Standardised Coefficients	t	Sig.
	B	Std. Error			
Vigor	1.459	0.286	0.317	5.104**	0.000
Dedication	1.687	0.296	0.392	5.691**	0.000
Absorption	1.581	0.399	0.231	3.965**	0.000

Adjusted R² = 0.843

*Source: Primary Data, ** statistically significant at 1% level, * statistically significant at 5% level*

The final statistical model with standard regression coefficients of the significant variables is given below:

out = 0.317vig + 0.392ded + 0.231abs

Where, *out* = Standardised value of Outcomes,

vig = Vigor,

ded = Dedication and

abs = Absorption.

The most influencing component of outcomes as per the equation, by virtue of the coefficient value and also the significance which is revealed from the analysis is the dedication followed by the vigor.

It is also clearly evident from the table 7.17, correlation coefficients corresponding to vigor, dedication and absorption are highly significant at 1% level. Hence, it can be concluded that outcomes are driven through vigor, dedication and absorption.

7.3.2 Model for Faculty Engagement and Organisational Citizenship Behaviour

7.3.2.1 Relationship between Faculty Engagement and Organisational Citizenship Behaviour

Table 7.18

Correlation of Components of Faculty Engagement with Organisational Citizenship Behaviour (OCB)

Sl. No	Components of Faculty Engagement	r value	p-value	N
a.	Vigor	0.848**	0.000	390
b.	Dedication	0.857**	0.000	390
c.	Absorption	0.842**	0.000	390
Faculty Engagement		*0.870***	*0.000*	*390*

*Source: Primary Data, ** statistically significant at 1% level*

From the table 7.18, it can be inferred that the components of faculty engagement are highly correlated with Organisational Citizenship Behaviour (OCB). It is clear that dedication contributes the most towards OCB with an r

value of 0.857 followed by vigor and absorption with r values of 0.848 and 0.842 respectively.

7.3.2.2 Effect of Relationship between Faculty Engagement and Organisational Citizenship Behaviour

The effect of relationship between Faculty Engagement and Organisational Citizenship Behaviour (OCB) can be studied using regression analysis. Correlation tells us something about the predictive power of a variable. But in regression analysis, we fit a predictive model to our data and use that model to predict values of dependent variable from one or more independent variable. It says how much one variable is explained by another variable. The following table shows the results of simple regression analysis.

Table 7.19

Components of Faculty Engagement and Organisational Citizenship Behaviour – Regression analysis

Independent Variable	Unstandardised Coefficients		Standardised Coefficients	t	Sig
	B	Std.Error			
Faculty Engagement	0.412	0.012	0.870	34.780**	0.000

Adjusted R^2 = 0.757

*Source: Primary Data, **, statistically significant at 1% level*

The Organisational Citizenship Behaviour (OCB) one of the outcomes of Faculty Engagement is taken as dependent variable and Faculty Engagement is taken as independent variable. From the table 7.19, it is clear that r value is 0.870 which shows a high correlation between Faculty Engagement and Organisational Citizenship Behaviour (OCB). Adjusted R^2 explains the proportion of variance, that is, 75.7% of the OCB is explained by Faculty Engagement and the remaining by other factors.

7.3.2.3 Statistical Model of Faculty Engagement in developing Organisational Citizenship Behaviour

From the analysis performed, it can be inferred that the OCB is related with vigor, dedication and absorption. To measure the most contributing component and its influence on Organisational Citizenship Behaviour (OCB), multiple regression

was performed by taking OCB as dependent variable and vigor, dedication & absorption as independent variables. Table 7.20 exhibits the results of multiple regression analysis.

Table 7.20

Relationship between Vigor, Dedication & Absorption and Organisational Citizenship Behaviour – Results of Multiple Regression analysis

Independent Variables	Unstandardised Coefficients		Standardised Coefficients	t	Sig.
	B	Std. Error			
Vigor	0.363	0.098	0.286	3.690**	0.000
Dedication	0.425	0.102	0.359	4.169**	0.000
Absorption	0.465	0.137	0.246	3.389**	0.001

Adjusted R² = 0.755

*Source: Primary Data, **, statistically significant at 1% level.*

Hence, the final statistical model with standard regression coefficient of the significant variables is given below:

ocb = 0.286 vig + 0.359 ded + 0.246 abs

Where, *ocb* = Standardised value of Organisational Citizenship Behaviour,

vig = Vigor,

ded = Dedication,

abs = Absorption.

The most influencing component on organisational citizenship behaviour as per the equation, by virtue of the coefficient value and also the significance which is revealed from the analysis is the dedication followed by vigor.

It is clearly evident from the table 7.20, correlation coefficients corresponding to vigor, dedication and absorption are highly significant at 1% level of significance. It can also be concluded that, Organisational Citizenship Behaviour (OCB) is driven through vigor, dedication and absorption.

7.3.3 Model for Faculty Engagement and Employee Retention

7.3.3.1 Relationship between Faculty Engagement and Employee Retention

Table 7.21

Correlation of Components of Faculty Engagement with Employee Retention

Sl. No	Components of Faculty Engagement	r value	p-value	N
a.	Vigor	0.862**	0.000	390
b.	Dedication	0.878**	0.000	390
c.	Absorption	0.862**	0.000	390
Faculty Engagement		*0.889***	*0.000*	*390*

*Source: Primary Data, **statistically significant at 1% level.*

The table 7.21 clearly spells that the faculty engagement is highly correlated with employee retention with an 'r' value of 0.889. The component of faculty engagement, dedication contributes the most towards employee retention with an 'r' value of 0.878 and the components vigor and absorption are having 'r' values of 0.862. As the p-value is less than 0.05, it can be concluded that there exists a significant relationship between faculty engagement and employee retention.

7.3.3.2 Effect of Relationship between Faculty Engagement and Employee Retention

The effect of relationship between components of faculty engagement and employee retention can be studied using regression analysis. Correlation states the predictive power of a variable. In regression analysis, we fit a predictive model to our data and use that model to predict values of employee engagement from faculty engagement. It says how much employee retention is explained by faculty engagement. The following table shows the results of regression analysis.

Table 7.22

Components of Faculty Engagement and Employee Retention – Regression analysis

Independent Variable	Unstandardised Coefficients		Standardised Coefficients	t	Sig
	B	Std. Error			
Faculty Engagement	0.395	0.010	0.889	38.185**	0.000

Adjusted R² = 0.789

*Source: Primary Data, **, statistically significant at 1% level*

Here, the employee retention has been taken as dependent variable and Faculty engagement were taken as independent variable. From the table 7.22, the Pearson Correlation Coefficient (r) is 0.889, which shows a high correlation between faculty engagement and employee retention. The value of adjusted R^2 is 0.789, which states that 79% of the employee retention is explained by the faculty engagement and remaining by other factors.

7.3.3.3 Statistical Model of Faculty Engagement in Retaining Employees

From the analysis done, it can be inferred that the employee retention is related with vigor, dedication and absorption. To identify the most contributing component and its influence on employee engagement, multiple regression was performed by considering employee retention as dependent variable and the components of faculty engagement, vigor, dedication & absorption are taken as independent variables. Table 7.23, exhibits the multiple regression analysis.

Table 7.23

Relationship between Vigor, Dedication & Absorption and Employee Retention – Results of Multiple Regression analysis

Independent Variables	Unstandardised Coefficients		Standardised Coefficients	t	Sig.
	B	Std. Error			
Vigor	0.268	0.086	0.225	3.129**	0.002
Dedication	0.461	0.089	0.415	5.193**	0.000
Absorption	0.479	0.119	0.270	4.009**	0.000

Adjusted R² =0.789

*Source: Primary Data, **statistically significant at 1% level.*

Hence, the final statistical model with standard regression coefficient of the significant variables is given below:

er = 0.225 vig + 0.415 ded + 0.270 abs

where, *er* = Standardised value of Employee Retention,

vig = Vigor,

ded = Dedication and

abs = Absorption.

The most influencing component on Employee Retention as per the equation, by virtue of the coefficient value and also the significance which is revealed from the analysis is the dedication followed by absorption.

It is clearly evident from the table 7.23, correlation coefficient corresponding to vigor, dedication and absorption are highly significant at 1% level. It can also be concluded that employee retention is driven through vigor, dedication and absorption.

7.3.4. Model for Faculty Engagement and Innovative Behaviour

7.3.4.1 Relationship between Faculty Engagement and Innovative Behaviour

Table 7.24

Correlation of Components of Faculty Engagement with Innovative Behaviour

Sl. No	Components of Faculty Engagement	r value	P Value	N
a.	Vigor	0.845**	0.000	390
b.	Dedication	0.851**	0.000	390
c.	Absorption	0.831**	0.000	390
Faculty Engagement		*0.864***	*0.000*	*390*

*Source: Primary Data, ** statistically significant at 1% level.*

The following table states that the faculty engagement is highly correlated with innovative behaviour with an 'r' value of 0.864. The components vigor,

dedication & absorption also shows a high positive relation between innovative behaviour with r values of 0.845, 0.851 and 0.831 respectively. As the p-value is less than 0.05, it can be concluded that there exists a significant relationship between Faculty Engagement and Innovative Behaviour.

7.3.4.2 Effect of Relationship between Faculty Engagement and Innovative Behaviour

The effect of relationship between Faculty Engagement and Innovative Behaviour can be studied using simple regression analysis. Correlation states that predictive power of a variable. In regression analysis, we fit a predictive model to our data and uses that model to predict values of innovative behaviour from the faculty engagement. It says how much innovative behaviour is explained by faculty engagement. The following table shows the results of regression analysis.

Table 7.25

Components of Faculty Engagement and Innovative Behaviour – Regression analysis

Independent Variable	Unstandardised Coefficient		Standardised Coefficient	t	Sig.
	B	Std. Error			
Faculty Engagement	0.467	0.014	0.864	33.771[**]	0.000

Adjusted R^2 = 0.746

Source: Primary Data, [**] statistically significant at 1% level.

Here, Innovative Behaviour has been taken as dependent variable and faculty engagement was taken as an independent variable. From the table 7.25, the Pearson Correlation Coefficient (r) is 0.864, which shows a high correlation between Faculty Engagement and Innovative Behaviour. The value of adjusted R^2 is 0.746, which states that 75% of the innovative behaviour is explained by faculty engagement and remaining by other factors.

7.3.4.3 Statistical Model of Faculty Engagement in developing Innovative Behaviour

From the foregoing analysis, it can be inferred that the innovative behaviour is related with vigor, dedication and absorption. To measure the most contributing and its influence on innovative behaviour, multiple regression was performed by considering Innovative Behaviour as dependent variable and the components of faculty engagement, vigor, dedication and absorption are taken as independent variables. Table 7.26 depicts the multiple regression analysis.

Table 7.26

Relationship between Vigor, Dedication & Absorption and Innovative Behaviour – Results of Multiple Regression analysis

Independent Variables	Unstandardised Coefficients		Standardised Coefficients	t	Sig.
	B	Std.Error			
Vigor	0.471	0.115	0.325	4.101**	0.000
Dedication	0.490	0.119	0.362	4.112**	0.000
Absorption	0.424	0.160	0.197	2.648**	0.008

Adjusted R^2 = 0.744

*Source: Primary Data, ** statistically significant at 1% level.*

Here, the final statistical model with standard regression coefficient of the significant variables is given below:

ib = 0.325vig + 0.362ded + 0.197abs

Where, *ib* = Standardised value of Innovative Behaviour,

vig = Vigor,

ded = Dedication and

abs = Absorption.

The most influencing component on innovative behaviour as per the equation, by virtue of the coefficient value and also the significance which is revealed from the analysis is the dedication followed by vigor.

It is clearly evident from the table 7.26, correlation coefficients corresponding to vigor, dedication and absorption shows high significance at 1% level. Hence, it can be concluded that innovative behaviour is driven through vigor, dedication and absorption.

7.3.5 Statistical Model for Faculty Engagement and Job Satisfaction

7.3.5.1 Relationship between Faculty Engagement and Job Satisfaction

Table 7.27

Correlation of Components of Faculty Engagement with Job Satisfaction

Sl. No	Components of Faculty Engagement	r value	p-value	N
a.	Vigor	0.845**	0.000	390
b.	Dedication	0.846**	0.000	390
c.	Absorption	0.823**	0.000	390
Faculty Engagement		*0.860***	*0.000*	*390*

*Source: Primary Data, ** statistically significant at 1% level.*

The above table signifies that there exists a high positive relation between Faculty Engagement and Job Satisfaction with an r value of 0.860. The components vigor, dedication and absorption are also highly correlated with job satisfaction with r values of 0.845, 0.846 and 0.823 respectively. Since, p-value shows a value of 0.000 which is less than 0.05, it can be concluded that there exists a significant relationship between components of faculty engagement and job satisfaction.

7.3.5.2 Effect of Relationship between Faculty Engagement and Job Satisfaction

The effect of relationship between faculty engagement and job satisfaction can be analysed with the help of simple regression. Correlation states the predictive power of a variable. In regression analysis, we fit a predictive model to our data and use that model to predict values of job satisfaction from the faculty engagement. It says how much job satisfaction is explained by faculty engagement. The following table presents the results of simple regression analysis.

Table 7.28

Components of Faculty Engagement and Job Satisfaction – Regression analysis

Independent Variable	Unstandardised Coefficient		Standardised Coefficient	t	Sig.
	B	**Std. Error**			
Faculty Engagement	0.305	0.009	0.860	33.177[**]	0.000

Adjusted R^2 = 0.739

Source: Primary Data, [**] statistically significant at 1% level.

Here, Job satisfaction is taken as dependent variable and faculty engagement as independent variable. From the table 7.28, the Pearson Correlation Coefficient (r) is 0.860 which assures that the relationship between Faculty Engagement and Job Satisfaction is highly positive. The value of adjusted R^2 is 0.739, which states that 74% of the job satisfaction is explained by faculty engagement and remaining by other factors.

7.3.5.3 Statistical Model of Faculty Engagement in creating Job Satisfaction

From the analysis performed, it can be inferred that the job satisfaction is related with vigor, dedication and absorption. To identify the most contributing component and its influence on job satisfaction, multiple regression was performed by taking Job Satisfaction as dependent variable and the components of faculty

engagement that is, vigor, dedication and absorption as independent variables. Table 7.29, presents the results of multiple regression analysis.

Table 7.29

Relationship between Vigor, Dedication & Absorption and Job Satisfaction – Results of Multiple Regression analysis

Independent Variables	Unstandardised Coefficients		Standardised Coefficients	t	Sig.
	B	Std. Error			
Vigor	0.358	0.076	0.377	4.696**	0.000
Dedication	0.311	0.079	0.351	3.943**	0.000
Absorption	0.214	0.106	0.151	2.011*	0.045

Adjusted R^2 = 0.738

*Source: Primary Data, ** statistically significant at 1% level, * statistically significant at 5% level*

Hence, the final statistical model with standard regression coefficient of the significant variables is given below:

js = 0.377vig + 0.351ded + 0.151abs.

Where, *js* = Standardised value of job satisfaction,

vig = Vigor,

ded = Dedication and

abs = Absorption.

The most influencing component on job satisfaction as per the equation, by virtue of coefficient value and also the significance which is revealed from the analysis is that vigor is followed by dedication.

It is clearly evident form the table 7.29, the correlation coefficients corresponding to vigor, dedication and absorption are highly significant at 1% level. It can also be concluded that job satisfaction is driven through vigor, dedication and absorption.

From the regression analysis (Table 7.16,Table 7.19, Table 7.22, Table 7.25 and Table 7.28), it is clear that the Outcomes are very much influenced by the

faculty engagement as the result is significant at one percent level. Hence, ***the result supported and proved the ninth hypothesis formulated as:***

H9: There exists a significant relationship between Faculty Engagement and Outcomes of Faculty Engagement.

7.4 Conclusion

The present chapter deals with the fourth and fifth objective of the research to develop a standard model of faculty engagement and to analyse the outcomes of faculty engagement. With the help of Karl Pearson's correlation coefficient and multiple regression analysis, the relevant hypotheses have been tested. It has been found that the dimensions of faculty engagement that is, teaching, research, and service engagement are highly related to faculty engagement. That is, a faculty member who is highly engaged in teaching, research, and service seems to show a high level of vigor, dedication and absorption in their behaviour. It can also be observed that the relationship between faculty engagement and outcomes of faculty engagement are highly related and outcomes of faculty engagement is driven through vigor, dedication and absorption.