# DATA ANALYSIS, PRESENTATION AND INTERPRETATION OF THE RESEARCH FINDINGS

## 4.1 Introduction

This chapter presents findings and analysis of data obtained to establish influence of community involvement on delay of completion of infrastructure projects in Bomet County, Kenya. The data is analyzed and presented in the form of tables, graphs as well as charts.

## 4.2 Response Rate

As shown in Table 4.1, the questionnaires that the researcher administered were 288 out of which only 238 fully filled questionnaires were returned.

**Table 4.1: Response Rate**

|  |  |  |
| --- | --- | --- |
| **Response** | **Frequency** | **Response Rate** |
| Returned | 238 | 82.64% |
| Not Returned | 50 | 17.36% |
| **Total** | **288** | **100.00** |

From the returned questionnaires, it gave a response rate of 82.6% which was within what Sekaran (2003) prescribed as a significant response rate for statistical analysis and established it at a minimum value of 50%.

## 4**.3 Demographic Characteristics**

Both frequency and percentage was one of the statistical measures used in analysis to describe the sample in terms of their demographic characteristics such as age, educational qualifications, and level of experience, and duration in current station. Although this was not core to the study purpose, it aided the study to contextualize the findings and formulate appropriate recommendations on the influence of community involvement on delay of completion of infrastructure projects in Bomet County, Kenya.

### 4.3.1 Distribution of respondents by Age

The age of the respondents is of essence when it comes to influence of community involvement on delay of completion of infrastructure projects. The findings are indicated in Table 4.2.

Table 4.2: Distribution of Respondents by Age Bracket

|  |  |  |
| --- | --- | --- |
| **Age bracket** | **Frequency** | **Percentage** |
| **18-29 years** | 66 | 27.73 |
| **30-39 years** | 78 | 32.77 |
| **40-49 years** | 45 | 18.91 |
| **50-59 years** | 47 | 19.75 |
| **60 years and above** | 2 | 0.84 |
| **Total** | **238** | **100** |

Table 4.2 indicates that 32.8 percent of the studied respondents were who were the majority were of age bracket 30-39 years, followed by those who were aged between 18 and 29 years who were approximately 27.7 percent. The 50-59 years age category had 19.8 percent whereas 18.9 percent was those respondents who were aged 40-49 years. It is also to be noted that the percentage of the respondents above the age of 60 years was only 0.84 percent which was less than one percent. These observations showed that, majority of the respondents were mature adults that could aid in the influence of community involvement on delay of completion of infrastructure projects.

### 4.3.2 Distribution of Participants by Level of Education

The education level attained by the sampled respondents is important in that it plays a vital role in the influence of community involvement on delay of completion of infrastructure projects. The results are indicated in Table 4.3.

Table 4.3: Distribution of Respondents by Education Level

|  |  |  |  |
| --- | --- | --- | --- |
| **Educational qualification** | **Frequency** | **Percent** |  |
| No formal education | - | - |  |
| Primary education level | 22 | 9.24 |  |
| Secondary education level | 51 | 21.42 |  |
| College/Undergraduate level | 89 | 37.39 |  |
| Post graduate level | 76 | 31.93 |  |
| **Total** | **238** | **100** |  |

Results indicate that majority of the respondents had a basic education whereby that 9.24 percent of the respondents had primary school level education. The findings further showed that approximately 21.4 percent had attained up to secondary education level, with 50.84 percent having undergraduate level of education. Only 37.39 percent had college or postgraduate education level and thus they had a mix of skills from their college education also. Further again, there was no respondent under who was identified as having no formal education and therefore could not read or write.

However, the study findings showed that majority of the respondents were knowledgeable and with support could understand the integration of ICT on school performance. According to (Bratton 2010), the level of education of citizens influences public participation showed that if a there a more education people in a particular place then the level of participation was definitely high.

### 4.3.3 Length in Residence

The study sought to determine the duration the respondents have been in the constituency. This information was necessary as it was meant help to ascertain the extent their responses would be relied upon for valid conclusions based on experience. Results are shown in Table 4.4

Table 4.4 Length of Residence

|  |  |  |  |
| --- | --- | --- | --- |
| **Working During** | **Frequency** | | **percentage** |
| Less than 5 years | 58 | 24.37 | |
| 6-15years | 84 | 35.29 | |
| 16-25 years | 33 | 13.87 | |
| Above 25 years | 63 | 26.47 | |
| **Total** | **238** | **100.0** | |

From the findings, most of the respondents that is 35.3 percent had been in the constituency or County for a period of 6-15 years whereas approximately 26.5 percent have been in the constituency for a period of above ten years. About 24.4 percent and 13.9 percent were less than 5 years old and 16-25 years respectively. This shows that almost 60 percent of respondents have been in the profession in less than a span of 25 years. From frequency distribution results, most of the sampled respondents had an extensive residence in the constituency or county and therefore well versed with the influence of community involvement on delay of completion of infrastructure projects.

### 4.3.4 Distribution of Respondents in the Constituency/County

The study sought to understand the distribution of the respondents in the constituency/county. The constituency was divided into three categories including; Sotik, Bomet East, Chepalungu, and Konoin constituencies. The outcomes are presented in Table 4.5

Table 4.5: Distribution of the respondents in the constituency/county

|  |  |  |
| --- | --- | --- |
| **Constituency** | **Frequency** | **Percentage** |
| **SOTIK** | 56 | 23.53 |
| **BOMET CENTRAL** | 33 | 13.87 |
| **BOMET EAST** | 42 | 17.64 |
| **CHEPALUNGU** | 54 | 22.69 |
| **KONOIN** | 53 | 22.27 |
| **Total** | **238** | **100** |

From the findings, the study found that approximately 63 percent of respondents had stayed in Sotik constituency, while 32.4 percent of the respondents had stayed in . The rest that is 4.6 percent had stayed for over 15years. The finding indicate that most of the respondents had stayed at the duty-stations for less than 5 years, implying that their knowledge of the relationship of ICT to the performance was for the period of less than 5 years from the time this study was undertaken.

## 4.4 Reliability Analysis

Reliability analysis was subsequently done using Cronbach’s Alpha which measures the internal consistency by establishing if certain items within a scale measure the same construct. The findings were as shown in Table 4.8.

Table 4.6: Scale Reliability Coefficients

|  |  |  |  |
| --- | --- | --- | --- |
| **Constructs** | **Alpha value (%)** | **No of items** | **Comments** |
| Delay in project completion | 86.82 | 4 | Reliable |
| Citizen participation | 80.6 | 5 | Reliable |
| Project financing | 73.8 | 5 | Reliable |
| Technical capacity | 88.01 | 5 | Reliable |
| Project design variation | 77.5 | 5 | Reliable |
|  |  |  |  |

From the results in Table 4.8, all the variables were reliable since their Cronbach Alpha value were greater than 0.7 in which the technical capacity having the highest Cronbach Alpha value of 0.8801 and project financing having the lowest Cronbach Alpha value of 0.738. As per Malhotra (2015), if all the variables are reliable then the research instrument is reliable and therefore no amendments required.

## 4.5 Validity Analysis

In order to establish the validity of study instruments, tests of sampling adequacy were used. This enabled the study identify whether the items of the latent variables were appropriate for further analysis. Table 4.9 shows Kaiser-Meyer-Olkin (KMO) test of sampling adequacy and Bartlett's test of sphericity. The findings are as shown in table 4.9.

Table 4.7: Sampling Adequacy and Bartlett's Test of Sphericity

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Factors** | **KMO Test** | **Bartlett's Test of Sphericity** | | | **Determinant** |
| **Approx. Chi-Square** | **df** | **Sig.** |
| Delay in project completion | 0.8862 | 874.631 | 28 | 0.000 | 0.024 |
| Citizen participation | 0.8559 | 679.040 | 28 | 0.000 | 0.055 |
| Project financing | 0.7896 | 416.633 | 28 | 0.000 | 0.168 |
| Technical capacity | 0.8425 | 1106.496 | 28 | 0.000 | 0.009 |
| Project design variation | 0.6999 | 1112.54 | 28 | 0.001 | 0.101 |

The findings in table 4.7 indicate that the scales had values above the threshold of 0.5 as determined by Williams, *et al.,* (2012) where; Delay in project completion (0.8862), Citizen Participation (0.8559), Project financing (0.7896), Technical capacity (0.8425) and Project design variation (0.6999). According to Williams, *et al.,* (2012) 0.50 is acceptable degree in KMO for sampling adequacy with values above 0.5 being better. Analysing whether samples are from populations had equal variances, Bartlett's Test of Sphericity provided p-values less than 0.05 hence showing a degree of sampling adequacy that was acceptable.

## 4.6 Descriptive Statistics

Descriptive analysis included an assessment of the influence of community involvement on delay of completion of infrastructure projects in Bomet County, Kenya. The descriptive measures, that is measures of central tendency as stated earlier are adopted; Mean measures the highly typical value in a set of values. The standard deviation shows how far from the mean the distribution is. The presentation in this section is based on the objectives of the study.

### 4.6.1 Citizen participation

The study sought to establish how the citizen participation on delay of completion of infrastructure projects. The responses were rated on a Likert scale and the results are as presented in table 4.8. The study results on management of infrastructural projects as a collective responsibility that involved all stakeholders, resulted to approximately 58% of the respondent agreeing with this statement whereas 16% strongly agreeing with the same. Only 15% disagreed with that fact. The mean of 3.69 implies that most of the respondents just agreed with this statement. Also the standard deviation of 1.02 showed that there was some variation.

On the other hand, approximately 41% and 32%, of the respondents just agreed and strongly agreed with the fact that the stakeholder participation enhances better utilization of public resources as the people play an oversight role. Only 7% disagreed with that statement. This made the mean for the statement to be 3.9 with a standard deviation 1.2 indicating some variation in responses.

The study also established that the majority, 77.3% of the respondents concurred that the structures established for stakeholder participation enables effective implementation of infrastructural projects. Their mean was also 3.9 while the standard deviation was 1.2 indicating variation in responses.

Approximately 55% and 24%, of the respondents just agreed and strongly agreed with the fact that frequent stakeholder investigation and reviewing the effects of the completed or ongoing projects to see whether the benefits which were planned to flow from the project have indeed been realized.

Only 12.6% disagreed with that statement. This made the mean for the statement to be 3.9 with a standard deviation 0.96 indicating some variation in responses. Lastly, the majority of the respondents, 79%, supported the fact that stakeholders hold frequent consultative meetings to deliberate on the progress of the project management. The mean and the standard deviation for this statement were 4.1 while the standard deviation was 0.98. The overall mean for the observed factors was 3.9, indicating that majority of the respondents just agreed with the statements. The standard deviation was 1.05, indicating that there was some variation in all of the responses.

**Table 4.8: Citizen Participation**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Percentage (%) | | | | | | | |
| **Statement** | **SD** | **D** | **N** | **A** | | **SA** | **Mean** | **STD** |
| Management of infrastructural projects is a collective responsibility that involves all stakeholders | 5.04 | 10.5 | 10.92 | | 57.98 | 15.55 | 3.685 | 1.022 |
| Stakeholder participation enhances better utilization of public resources as the people play an oversight role | 6.72 | 9.24 | 11.34 | | 41.18 | 31.51 | 3.815 | 1.173 |
| The structures established for stakeholder participation enables effective implementation of infrastructural projects | 3.78 | 10.08 | 8.82 | | 40.76 | 36.55 | 3.962 | 1.096 |
| Frequent stakeholder investigation and reviewing the effects of the completed or ongoing projects to see whether the benefits which were planned to flow from the project have indeed been realized | 2.1 | 10.5 | 7.56 | | 55.46 | 24.37 | 3.895 | 0.960 |
| Stakeholders hold frequent consultative meetings to deliberate on the progress of the project management | 0.84 | 10.08 | 7.98 | | 41.6 | 39.5 | 4.088 | 0.975 |
| **Overall Mean** |  |  |  | |  |  | **3.889** | **1.045** |

### 4.4.2 Project financing

The study sought to establish how the project financing influences the delay of completion of infrastructure projects. The responses were rated on a Likert scale and the results are as presented in table 4.11. The study results on whether there was accountability and transparency in the use of fund for the implementation of infrastructural projects, 85.7%, supported the statement that the school had enough resources for ICT integration. The mean and the standard deviation for this statement was 4.0 04 while the standard deviation was 0.9. The study also established that the majority, 77.3% of the respondents concurred that they were satisfied with the auditing process of infrastructural projects. Their mean was also 3.8 while the standard deviation was 1.1 indicating variation in responses. The study established that the majority, 45.8% of the respondents concurred that the funds were timely disbursed to the identified infrastructural projects which lowered project delays. Their mean was also 3.4 while the standard deviation was 1.2 indicating variation in responses. About 17% and 47%, of the respondents just agreed and strongly agreed with the fact that there were sufficient funds allocated for various aspects of infrastructural projects which resulted to their effective implementation. Only 28% disagreed with that statement. This made the mean for the statement to be 3.7 with a standard deviation 1.4 indicating some variation in responses.

Lastly, the majority of the respondents, 79%, agreed that the allocated funds were inadequate to the identified infrastructural projects which increased project delays The mean and the standard deviation for this statement was 3.98 and 1.1 respectively. The overall mean for the structural variable was 3.78, indicating that majority of the respondents just agreed with the statements. The standard deviation was 1.2, indicating that there was some variation in all of the responses.

**Table 4.9: Project financing**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Percentage (%) | | | | | | |
| **Statement** | **SD** | **D** | **N** | **A** | **SA** | **Mean** | **STD** |
| There is accountability and transparency in the use of fund for the implementation of infrastructural projects | 2.52 | 7.98 | 3.78 | 57.98 | 27.73 | 4.004 | 0.930 |
| I am satisfied with the auditing process of infrastructural projects | 4.2 | 14.71 | 3.78 | 47.06 | 30.25 | 3.845 | 1.135 |
| Funds are timely disbursed to the identified infrastructural projects which has lowered project delays | 8.82 | 13.87 | 31.51 | 23.95 | 21.85 | 3.361 | 1.217 |
| There are sufficient funds allocated for various aspect of infrastructural projects which has resulted their effective implementation | 9.66 | 18.49 | 7.98 | 17.23 | 46.64 | 3.727 | 1.446 |
| Allocated funds are inadequate to the identified infrastructural projects which has increased project delays | 4.2 | 10.5 | 5.88 | 41.6 | 37.82 | 3.983 | 1.114 |
| **Overall Mean** |  |  |  |  |  | **3.784** | **1.168** |

### 4.6.3 Technical capacity

The study sought to establish how the Teachers’ ICT capacity on academic performance. The responses were rated on a Likert scale and the results are as presented in table 4.12. The study results that stakeholders involved in the implementation of infrastructural projects required expertise in their domain had about 29% of the respondents just agreeing with this statement whereas 23% strongly agreed with the same. Only 17% disagreed with that fact. The mean of 3.5 implies that most of the respondents just agreed with this statement. Also the standard deviation of 1.2 showed that there was some variation. Similarly, the majority of the respondents, 40%, supported the fact that teachers used the internet materials for teaching and learning. The mean was 3.2 while the standard deviation was 1.2. The study also established that the most (that is 63%) of the respondents concurred with the fact that training encompassed all aspects of project management process which enhanced decision capabilities of stakeholders involved in the management of infrastructural projects. Their mean was also 3.4 while the standard deviation was 1.2 indicating variation in responses.

On the other hand, the study established that the majority, 83% of the respondents concurred that the stakeholders were equipped with prerequisite training, skills and approaches to adequately monitor and report the project’s status and progress and their mean was 4.23 while the standard deviation was 1.1indicating variation in responses. About 26% and 23%, of the respondents just agreed and strongly agreed respectively with the fact that responsibilities in the management of infrastructural projects was distributed according to academic qualification and knowledge in specific area of specialization. Only 11.8% disagreed with that statement. This made the mean for the statement to be 3.5 with a standard deviation 1.1 indicating some variation in responses.

Lastly, the majority of the respondents, 58%, supported the fact that there was sufficient technical capacity amongst human resources to effectively manage infrastructural projects. The mean was 3.8 while the standard deviation was 1.09. The overall mean for the structural variable was 3.7, indicating that majority of the respondents just agreed with the statements. The standard deviation was 1.1, indicating that there was some variation in all of the responses.

**Table 4.9: Technical capacity**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Statement | Percentage (%) | | | | | | |
|  | **SD** | **D** | **N** | **A** | **SA** | **Mean** | **STD** |
| Stakeholders involved in the implementation of infrastructural projects have required expertise in their domain | 7.98 | 9.24 | 31.09 | 28.57 | 23.11 | 3.496 | 1.176 |
| Training encompasses all aspects of project management process which has enhanced decision capabilities of stakeholders involved in the management of infrastructural projects | 7.14 | 21.85 | 8.4 | 46.22 | 16.39 | 3.429 | 1.202 |
| Stakeholders are equipped with prerequisite training, skills and approaches to adequately monitor and report the project’s status and progress | 5.04 | 2.1 | 10.08 | 30.25 | 52.52 | 4.231 | 1.056 |
| Responsibilities in the management of infrastructural projects is distributed according to academic qualification and knowledge in specific area of specialization | 6.3 | 5.46 | 39.08 | 26.05 | 23.11 | 3.542 | 1.097 |
| There is sufficient technical capacity amongst human resources to effectively manage infrastructural projects | 5.04 | 8.4 | 14.71 | 43.7 | 28.15 | 3.815 | 1.091 |
| **Overall Mean** |  |  |  |  |  | **3.702** | **1.124** |

### 4.6.4 Project design variation

The study sought to establish the influence of project design variation on delay of completion infrastructure projects. The responses were rated on a Likert scale and the results are as presented in table 4.12. The study results showed that 44% and 22%, of the respondents just agreed and strongly agreed with the addition or removal of specific designs that had initially been incorporated in a project influence project completion. Only 25% disagreed with that statement. This made the mean for the statement to be 3.6 with a standard deviation 1.2 indicating some variation in responses. Similarly, the majority of the respondents, 40%, supported the fact that many public infrastructure projects in developing countries incur design variation which had major cost and time overruns. The mean was 3.2 while the standard deviation was 1.2. The study also established that the most (that is 63%) of the respondents concurred that poor procurement process may cause project variation which in turn affects the quality of the building projects as well as time taken to construct the buildings. Their mean was also 3.4 while the standard deviation was 1.2 indicating variation in responses.

Lastly, the majority of the respondents, 82%, supported the fact that materials and equipment helped to ensure the proper progress of project implementation as well as completion of projects on time and also the quality was good. The mean was 4.2 while the standard deviation was 1.1. The overall mean for the structural variable was 3.6, indicating that majority of the respondents just agreed with the statements. The standard deviation was 1.2, indicating that there was some variation in all of the responses.

**Table 4.10: Project design variation**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Percentage (%) | | | | | | |
| **Statement** | **SD** | **D** | **N** | **A** | **SA** | **Mean** | **STD** |
| Addition or removal of a specific design that had initially been incorporated in a project influence project completion | 7.56 | 17.65 | 7.98 | 44.54 | 22.27 | 3.563 | 1.227 |
| Many public infrastructure project in developing countries incur design variation which has major cost and time overruns | 9.66 | 20.59 | 29.83 | 22.69 | 17.23 | 3.172 | 1.219 |
| Poor procurement process may cause project variation which in turn affects the quality of the building projects as well as time taken to construct the buildings | 7.14 | 21.85 | 8.4 | 46.22 | 16.39 | 3.429 | 1.202 |
| Materials and equipment help to ensure the proper progress of project implementation as well as completion of projects on time and also quality is good. | 5.04 | 2.1 | 10.08 | 30.25 | 52.52 | 4.231 | 1.056 |
| **Overall Mean** |  |  |  |  |  | **3.598** | **1.176** |

### 4.6.5 Delay in project completion

The study sought to explore the delay of completion of projects in Bomet County. The responses were rated on a Likert scale and the results are as presented in table 4.12. The study results showed that about 44% and 22%, of the respondents just agreed and strongly agreed with the fact infrastructural projects completion delay due to inadequate set timelines. Only 25% disagreed with that statement. This made the mean for the statement to be 3.6 with a standard deviation 1.2 indicating some variation in responses. Similarly, the majority of the respondents, 40%, supported the fact that infrastructural projects completion delay due to poorly set objectives. The mean was 3.2 while the standard deviation was 1.2. The study also established that the most (that is 63%) of the respondents concurred that infrastructural projects were delayed due to the cost/budget provisions. Their mean was also 3.4 while the standard deviation was 1.2 indicating variation in responses.

On the other hand, the study established that the majority, 83% of the respondents concurred with fact that infrastructural project delays were due to set technical requirements. Their mean was 4.23 while the standard deviation was 1.1indicating variation in responses. About 26% and 23%, of the respondents just agreed and strongly agreed respectively with the fact that Infrastructural projects delay in implementation as a result of intended quality standards. Only 11.8% disagreed with that statement. This made the mean for the statement to be 3.5 with a standard deviation 1.1 indicating some variation in responses.

Lastly, the majority of the respondents, 71%, supported the fact infrastructural projects were implemented amidst many user satisfaction. The mean was 3.8 while the standard deviation was 1.09. The overall mean for the structural variable was 3.6, indicating that majority of the respondents just agreed with the statements. The standard deviation was 1.1, indicating that there was some variation in all of the responses.

**Table 4.11: Delay in project completion**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Percentage (%) | | | | | | |
| **Macro Environment** | **SD** | **D** | **N** | **A** | **SA** | **Mean** | **STD** |
| Infrastructural projects completion delay due to inadequate set timelines | 7.56 | 17.65 | 7.98 | 44.54 | 22.27 | 3.563 | 1.227 |
| Infrastructural projects completion delay due to poorly set objectives | 9.66 | 20.59 | 29.83 | 22.69 | 17.23 | 3.172 | 1.219 |
| Infrastructural projects are delayed due to the cost/budget provisions | 7.14 | 21.85 | 8.4 | 46.22 | 16.39 | 3.429 | 1.202 |
| Infrastructural projects delays is due to set technical requirements | 5.04 | 2.1 | 10.08 | 30.25 | 52.52 | 4.231 | 1.056 |
| Infrastructural projects delay in implementation as a result of intended quality standards | 6.3 | 5.46 | 39.08 | 26.05 | 23.11 | 3.542 | 1.097 |
| Infrastructural projects are implemented amidst many user satisfaction | 5.04 | 8.4 | 14.71 | 43.7 | 28.15 | 3.815 | 1.091 |
| **Overall Mean** |  |  |  |  |  | **3.625** | **1.148** |

## 4.7 Correlation and Hypothesis Testing

### 4.7.1 Introduction

This section presents Structural Equation Modelling (SEM) in the hypothesis testing. After the measurement model had been determined and confirmed, the study tested the proposed structural and linear model. The relationships between citizen participation, project financing, technical capacity and project design in the influence of community involvement on delay of completion of infrastructure projects in Bomet County, was subjected to correlational and SEM analysis for hypothesis testing.

### 4.7.2 Correlation Analysis

In this study, correlation analysis of the latent variables was conducted and correlation coefficients obtained. This aids in assessment of the influence of all study variables on delay in completion of projects, as well as amongst themselves. The correlation of the Observed Index Matrix (OIM) was carried out and results presented in table 13. The correlation coefficient (r) value, measures the strength and direction of the relationship between two continuous or ratio/scale variables. The study also established that there was no highly correlated since correlations coefficients in most of the pairs was less than 0.5.

Table 4.12: Correlations Matrix

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Variables** | **Delay in project completion** | **Citizen participation** | project financing | technical capacity | project design |
| **Delay in project completion** | 1.000 |  |  |  |  |
| **Citizen participation** | 0.4846 | 1.000 |  |  |  |
| project financing | 0.4499 | 0.3451 | 1.000 |  |  |
| technical capacity | 0.8606 | 0.4889 | -0.4288 | 1.000 |  |
| project design | -0.4253 | 0.2311 | 0.3212 | 0.6212 | 1.000 |

The results in Table 4.12 showed that variables had weak to strong relationships in their respective pairs. The relationship between the citizen participation and delay in completion of projects was moderate (r=0.4846). The relationship between project financing and delay in completion of projects was also moderate (r=0.4499). The relationship between technical capacity and delay in completion of projects was very strong (r=0.8606).There was a negative relationship between the project design and delay in completion of projects was moderate (r=-0.4846). The relationship between infrastructural factors and citizen participation was weak (r=0.3451). Similarly, technical capacity and citizen participation was found to have a significant and moderating relationship (r=0.4889). The relationship project design and citizen participation was very weak (r=0.2311).The relationship between technical capacity and project financing were found to be negatively and had a moderate relationship (r=-4288). The relationship between project design and project financing was moderate (r=0.4352). Lastly, the relationship between teachers’ capacity and teaching and e-learning was strong (r=0.6212).

### 4.7.3 Hypothesis Testing

To examine the influence of Consumer price index and Exchange rates on the gross domestic product in Tanzania the following hypothesis will guide the test in developing insights on the relationship;-

H01:  Consumer price index has no effect on the gross domestic product in Tanzania.

H02: Exchange rates has no effect on the gross domestic product in Tanzania.

H05: There is no relationship between regulatory framework and academic performance of secondary schools in Kajiado County

#### 4.7.3.1 Model Fitness

All the structural factors were subjected to a modelling and from the goodness of fit of the model; it was found that all variables fitted the data well given that the overall p value of 0.000 implied the variables had a joint significance in explaining academic performance for both models. This was also confirmed by other criteria for model fitness such as Root mean squared error of approximation and R squared which was always above 95 percent except hypothesis one which is nevertheless above 85 percent and falls within an acceptable range of above three quarters. The results are as indicated in table 4.13.

Table 4.13: Goodness of Model Fitness

|  |  |  |
| --- | --- | --- |
| **Fit Statistic** | **Description** | **Value** |
| **Baseline Comparison** |  |  |
| CFI | Comparative Fit Index | 21234.215 |
| TLI | Tucker-Lewis index | 21577.969 |
| **Size of Residuals** |  |  |
| SRMR | Standardized Root Mean Squared Residual | 0.272 |
| CD | Coefficient of Determination | 0.998 |

From the fit statistics in Table 4.13, it the study concludes that estimation of the model or the four hypotheses could proceed and that estimates are not biased. This outcome does not have any effect before and after the introduction of moderating variable.

#### 4.7.3.2 Regression Analysis

The main objective of this study is to examine the influence of community involvement on delay of completion of infrastructure projects in Bomet County, Kenya. The study explored how citizen participation, project financing, technical capacity and project design in the influence of community involvement on delay of completion of infrastructure projects in Bomet County. The study findings are as shown in table 4.18.

Table 4.15: Standardized Structural Model

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Number of Observations = 238**  **Estimation Method = ml**  **Log likelihood = -10518.107** | | | | |
| **Delay in projects** | **Coefficients** | **P value** | **Confidence Interval** | |
| Citizen participation | **-0.1415**  **(-1.87)** | **0.062** | **-0.2902** | **0.0072** |
| Project financing | **0.1507\*\***  **(2.13)** | **0.033** | **0.0119** | **0.2895** |
| Technical capacity | **0.9220\*\***  **(35.60)** | **0.000** | **0.8713** | **0.9728** |
| Project design | **-0.0508**  **(-0.76)** | **0.445** | **-0.1811** | **0.0795** |

**\*\*Significance level of 5 percent**

**#Values in the parentheses show t statistics**

From the results in the Table 4.18, the unit increase in citizen participation resulted to a non-significant corresponding decline in delay in projects by 0.1415 holding other factors constant. The findings revealed that unit increase in project financing result to a significant corresponding rise in delay in projects by 0.1507 holding other factors constant. On the other hand, a unit increase in technical capacity give rise to a very significant corresponding rise in delay in projects by 0.9220 holding other factors constant. Finally, the findings further showed that unit increase in project design led to a non-significant corresponding reduction in delay in projects by 0.0508 holding other factors constant. However, the effect was not statistically significant. The following was the estimated model;

…………….. 4.1

Further, in equation 4.1, indicates the magnitude to which the four factors influence delay of completion of infrastructure projects in Bomet County. In equation 4.1, we have values in terms of magnitude, significance or direction. Project financing and technical capacity have greatly contributed as variables. However, from the model, the direction was negative for both citizen participation and project design, and was concluded to be non-significance. Based on these main properties as a result of the interaction between the dependent variable and the independent variable, the researcher concludes that project financing and technical capacity, are significant variables.