**Master of Business & Information Administration

in the Faculty of Business & Management Sciences

at the Cape Peninsula University of Technology

District Six, Cape Town
July 2021**

DATA SET: EXPLANATION SUMMARY

Thesis Title:

**THE USE OF DIGITAL PROJECT MANAGEMENT SOLUTIONS BY PROJECT BUSINESSES: A CASE STUDY OF A SELECTED MINE IN THE LIMPOPO PROVINCE**

Table of Contents

[GROUP A – DATA – SHEET 1 4](#_Toc99539678)

[SECTION A: GENERAL INFORMATION 4](#_Toc99539679)

[TABLE NAME: GENDER 4](#_Toc99539680)

[TABLE NAME: OCCUPATION 4](#_Toc99539681)

[TABLE NAME: EDUCATION 5](#_Toc99539682)

[TABLE NAME: ENGINEERING 5](#_Toc99539683)

[TABLE NAME: CONSTRUCTION 6](#_Toc99539684)

[TABLE NAME: OTHER NATURE OF BUSINESS 6](#_Toc99539685)

[TABLE NAME: NUMBER OF EMPLOYEES 7](#_Toc99539686)

[TABLE NAMES: YEARS OF OPERATION, YEARS IN THE MINING INDUSTRY 7](#_Toc99539687)

[TABLES NAME: LOCALITY 8](#_Toc99539688)

[SECTION B: PROJECT HISTORY AND CHALLENGES 9](#_Toc99539689)

[TABLE NAME: NUMBER OF PROJECTS 9](#_Toc99539690)

[TABLE NAME: TYPE OF PROJECTS 9](#_Toc99539691)

[TABLE NAME: SUCCESSFUL PROJECTS 9](#_Toc99539692)

[TABLE NAME: UNSUCCESSFUL PROJECTS 10](#_Toc99539693)

[TABLE NAMES: TIMEOUS DELIVERY, PROJECT NOT EXCEEDING THE BUDGET, APPROVAL BY THE CLIENT, DELIVERANCE OF EXCEPTIONAL SERVICE, PROJECT PLANNING, PROJECT EXECUTION, PROJECT CONTROL OR PERFORMANCE, PROJECT INITIATION, OTHER PHASES THAT AFFECT PROJECT SUCCESS, LACK OF RESOURCES, 10](#_Toc99539694)

[TABLE NAMES: LIMITED BUDGET, PROJECT REQUIREMENTS NOT CLEARLY DEFINED, PROJECT PLAN NOT UNDERSTOOD BY THE TEAM, PROJECT SCOPE NOT UNDERSTOOD BY THE TEAM, POOR COMMUNICATION, LIMITED SKILLS, CHANGE IN PROJECTS REQUIREMENTS, ORGANISATIONAL CHANGE, PROJECT REQUIREMENTS NOT UNDERSTOOD BY THE TEAM, 11](#_Toc99539695)

[TABLE NAMES: ECONOMICAL CHANGES, UNANTICIPATED WEATHER PATTERNS, POLITICAL CHANGES, SUPPLIER RELATED ISSUES 11](#_Toc99539696)

[SECTION C: BARRIERS TO ADOPTING DIGITAL PROJECT MANAGEMENT TOOLS 12](#_Toc99539697)

[TABLE: DQ1 12](#_Toc99539698)

[TABLE – DQ2, 12](#_Toc99539699)

[TABLES: SDNAS 1, SDNAS 2, SDNAS 3, SDNAS 4, SDNAS 5, SDNAS 6, SDNAS 7, SDNAS 8, SDNAS 9, SDNAS 10, SDNAS 11, , SDNAS 12, SDNAS 13, SDNAS 14, SDNAS 15, SDNAS 16, SDNAS 17, SDNAS 18, SDNAS 19, SDNAS 20, SDNAS 21, SDNAS 22 12](#_Toc99539700)

[GROUP B – DATA – SHEET 2 14](#_Toc99539701)

[SECTION A: GENERAL INFORMATION 14](#_Toc99539702)

[TABLE NAME: GENDER 14](#_Toc99539703)

[TABLE NAME: OCCUPATION 14](#_Toc99539704)

[TABLE NAME: EDUCATION 15](#_Toc99539705)

[TABLE NAME: ENGINEERING 15](#_Toc99539706)

[TABLE NAME: CONSTRUCTION 16](#_Toc99539707)

[TABLE NAME: OTHER NATURE OF BUSINESS 16](#_Toc99539708)

[TABLE NAME: NUMBER OF EMPLOYEES 17](#_Toc99539709)

[TABLE NAMES: YEARS OF OPERATION, YEARS IN THE MINING INDUSTRY 17](#_Toc99539710)

[TABLES NAME: LOCALITY 18](#_Toc99539711)

[SECTION B: PROJECT HISTORY AND CHALLENGES 19](#_Toc99539712)

[TABLE NAME: NUMBER OF PROJECTS 19](#_Toc99539713)

[TABLE NAME: TYPE OF PROJECTS 19](#_Toc99539714)

[TABLE NAME: SUCCESSFUL PROJECTS 19](#_Toc99539715)

[TABLE NAME: UNSUCCESSFUL PROJECTS 20](#_Toc99539716)

[TABLE NAMES: TIMEOUS DELIVERY, PROJECT NOT EXCEEDING THE BUDGET, APPROVAL BY THE CLIENT, DELIVERANCE OF EXCEPTIONAL SERVICE, PROJECT PLANNING, PROJECT EXECUTION, PROJECT CONTROL OR PERFORMANCE, PROJECT INITIATION, OTHER PHASES THAT AFFECT PROJECT SUCCESS, LACK OF RESOURCES, 20](#_Toc99539717)

[TABLE NAMES: LIMITED BUDGET, PROJECT REQUIREMENTS NOT CLEARLY DEFINED, PROJECT PLAN NOT UNDERSTOOD BY THE TEAM, PROJECT SCOPE NOT UNDERSTOOD BY THE TEAM, POOR COMMUNICATION, LIMITED SKILLS, CHANGE IN PROJECTS REQUIREMENTS, ORGANISATIONAL CHANGE, PROJECT REQUIREMENTS NOT UNDERSTOOD BY THE TEAM, 21](#_Toc99539718)

[TABLE NAMES: ECONOMICAL CHANGES, UNANTICIPATED WEATHER PATTERNS, POLITICAL CHANGES, SUPPLIER RELATED ISSUES 21](#_Toc99539719)

[SECTION C: BARRIERS TO ADOPTING DIGITAL PROJECT MANAGEMENT TOOLS 22](#_Toc99539720)

[TABLE NAME: DQ1 22](#_Toc99539721)

[TABLE NAME – DQ2, 22](#_Toc99539722)

[TABLE NAMES: DQ3, DQ4, DQ5, DQ6, DQ7, DQ8, DQ9, DQ10, DQ11, DQ12 22](#_Toc99539723)

[RELIABILITY DATA – SHEET 3 23](#_Toc99539724)

[CODING DESCRIPTION 1](#_Toc99539725)

**DATA SET - CONTENT EXPLANATION**

# **GROUP A – DATA – SHEET 1**

## SECTION A: GENERAL INFORMATION

\*The data was exported from SPSS v26.0

## **TABLE NAME: GENDER**

|  |  |  |  |
| --- | --- | --- | --- |
| **ITEM** | **FREQUENCY** | **PERCENT / VALID PERCENT** | **CUMILATIVE FREQUENCY** |
| Male: denotes the participants’ gender | The value represents the total number of male participants. | The value represents the percentage of male participants. | Represents the percentage of the cumulative frequency within each interval. |
| Female: denotes the participants’ gender | The value represents the total number of female participants. | The value represents the percentage of male participants. | Represents the percentage of the cumulative frequency within each interval. |
| Total: denotes the total number of participants |  |  |  |

## **TABLE NAME: OCCUPATION**

|  |  |  |  |
| --- | --- | --- | --- |
| **ITEM** | **FREQUENCY** | **PERCENT / VALID PERCENT** | **CUMILATIVE FREQUENCY** |
| Project Manager | The value represents the total number of participants with secondary school qualifications. | The value represents the percentage of project managers. | Represents the percentage of the cumulative frequency within each interval. |
| Contractor Site Manager | The value represents the total number of contractor site managers. | The value represents the percentage of contractor site managers. | Represents the percentage of the cumulative frequency within each interval. |
| Contractor Supervisor | The value represents the total number of contractor supervisor managers. | The value represents the percentage of contractor supervisor managers. | Represents the percentage of the cumulative frequency within each interval. |
| Other | The value represents the total number of participants in other senior positions. | The value represents the percentage of other senior position participants. | Represents the percentage of the cumulative frequency within each interval. |
| Total: denotes the total number of participants |  |  |  |

## **TABLE NAME: EDUCATION**

|  |  |  |  |
| --- | --- | --- | --- |
| **ITEM** | **FREQUENCY** | **PERCENT / VALID PERCENT** | **CUMILATIVE FREQUENCY** |
| Secondary School | The value represents the total number of participants with secondary school qualifications. | The value represents the percentage of participants with secondary school qualifications. | Represents the percentage of the cumulative frequency within each interval. |
| Technical College | The value represents the total number of participants with technical college qualifications. | The value represents the percentage of participants with technical college qualifications. | Represents the percentage of the cumulative frequency within each interval. |
| First Degree or Diploma | The value represents the total number of participants with first degree or diploma. | The value represents the percentage of participants with first degree or diploma. | Represents the percentage of the cumulative frequency within each interval. |
| Total: denotes the total number of participants |  |  |  |

## **TABLE NAME: ENGINEERING**

|  |  |  |  |
| --- | --- | --- | --- |
| **ITEM** | **FREQUENCY** | **PERCENT / VALID PERCENT** | **CUMILATIVE FREQUENCY** |
| Not Selected: denotes the number of participants that did not tick the item. | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval. |
| Selected: denotes the number of participants that did not tick the item. | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval. |
| Total: denotes the total number of participants |  |  |  |

## **TABLE NAME: CONSTRUCTION**

|  |  |  |  |
| --- | --- | --- | --- |
| **ITEM** | **FREQUENCY** | **PERCENT / VALID PERCENT** | **CUMILATIVE FREQUENCY** |
| ConstructionNot Selected: denotes the number of participants that did not tick the item. | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval. |
| ConstructionSelected: denotes the number of participants that did not tick the item. | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval. |
| Total: denotes the total number of participants |  |  |  |

## **TABLE NAME: OTHER NATURE OF BUSINESS**

|  |  |  |  |
| --- | --- | --- | --- |
| **ITEM** | **FREQUENCY** | **PERCENT / VALID PERCENT** | **CUMILATIVE FREQUENCY** |
| Mining | The value represents the total number of participants that listed the item. | The value represents the percentage of participants that listed the item. | Represents the percentage of the cumulative frequency within each interval. |
| Pest Control | The value represents the total number of participants that listed the item. | The value represents the percentage of participants that listed the item. | Represents the percentage of the cumulative frequency within each interval. |
| Recycling Projects | The value represents the total number of participants that listed the item. | The value represents the percentage of participants that listed the item. | Represents the percentage of the cumulative frequency within each interval. |
| Waste Management | The value represents the total number of participants that listed the item. | The value represents the percentage of participants that listed the item. | Represents the percentage of the cumulative frequency within each interval. |
| Total: denotes the total number of participants |  |  |  |

## **TABLE NAME: NUMBER OF EMPLOYEES**

|  |  |  |  |
| --- | --- | --- | --- |
| **RANGE** | **FREQUENCY** | **PERCENT / VALID PERCENT** | **CUMILATIVE FREQUENCY** |
| 1-9 | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval |
| 10-20 | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval |
| 21-50 | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval |
| 51-100 | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval |
| Total: denotes the total number of participants |  |  |  |

## **TABLE NAMES: YEARS OF OPERATION, YEARS IN THE MINING INDUSTRY**

|  |  |  |  |
| --- | --- | --- | --- |
| **RANGE** | **FREQUENCY** | **PERCENT / VALID PERCENT** | **CUMILATIVE FREQUENCY** |
| Less than 1 year | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval |
| 1-5 | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval |
| 6-10 | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval |
| 11-15 | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval |
| 16-20 | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval |
| 20 Years or More | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval |
| Total: denotes the total number of participants |  |  |  |

## **TABLES NAME: LOCALITY**

|  |  |  |  |
| --- | --- | --- | --- |
| **ITEMS** | **FREQUENCY** | **PERCENT / VALID PERCENT** | **CUMILATIVE FREQUENCY** |
| Mokopane Local Company | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval |
| Not a Mokopane Local Company | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval |
| Total: denotes the total number of participants |  |  |  |

## SECTION B: PROJECT HISTORY AND CHALLENGES

\*The data was exported from SPSS v26.0

## **TABLE NAME: NUMBER OF PROJECTS**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **VALUES** | **FREQUENCY** | **PERCENT/VALID PERCENT** | **CUMULATIVE PERCENT** | **MEAN** | **MAX** |
| The number of projects provided by the participants | The value represents the number of participants that provided the same value. | The value represents the percentage of participants that provided the same value. | Represents the percentage of the cumulative frequency within each interval | The NUMBER represents the average value withing the range of the numbers provided by the participants. | The value represents the maximum value withing the range of the numbers provided by the participants. |
| Sum: denotes the total number of projects. |  |  |  |  |  |

## **TABLE NAME: TYPE OF PROJECTS**

|  |  |  |  |
| --- | --- | --- | --- |
| **TYPES OF PROJECTS** | **FREQUENCY** | **PERCENT/VALID PERCENT** | **CUMULATIVE PERCENT** |
| Includes the type of projects. | The value represents the number of participants that render the projects that are specified. | The value represents the percentage of participants that render the projects that are specified. | Represents the percentage of the cumulative frequency within each interval |

## **TABLE NAME: SUCCESSFUL PROJECTS**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **VALUES** | **FREQUENCY** | **PERCENT** | **CUMULATIVE PERCENT** | **MEAN** | **MAX** |
| The number of projects provided by the participants | The value represents the number of participants that provided the same value. | The value represents the percentage of participants that provided the same value. | Represents the percentage of the cumulative frequency within each interval | The number represents the average value withing the range of the numbers provided by the participants. | The number represents the maximum value withing the range of the numbers provided by the participants. |
| Sum: denotes the total number of successful projects. |  |  |  |  |  |

## **TABLE NAME: UNSUCCESSFUL PROJECTS**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **VALUES** | **FREQUENCY** | **PERCENT** | **CUMULATIVE PERCENT** | **MEAN** | **MAX** |
| The number of projects provided by the participants | The value represents the number of participants that provided the same value. | The value represents the percentage of participants that provided the same value. | Represents the percentage of the cumulative frequency within each interval | The number represents the average value withing the range of the numbers provided by the participants. | The number represents the maximum value withing the range of the numbers provided by the participants. |
| Sum: denotes the total number of unsuccessful projects. |  |  |  |  |  |

## **TABLE NAMES: TIMEOUS DELIVERY, PROJECT NOT EXCEEDING THE BUDGET, APPROVAL BY THE CLIENT, DELIVERANCE OF EXCEPTIONAL SERVICE, PROJECT PLANNING, PROJECT EXECUTION, PROJECT CONTROL OR PERFORMANCE, PROJECT INITIATION, OTHER PHASES THAT AFFECT PROJECT SUCCESS, LACK OF RESOURCES,**

|  |  |  |  |
| --- | --- | --- | --- |
| **ITEM** | **FREQUENCY** | **PERCENT / VALID PERCENT** | **CUMILATIVE FREQUENCY** |
| Not Selected: denotes the number of participants that did not tick the item. | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval. |
| Selected: denotes the number of participants that did not tick the item. | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval. |
| Total: denotes the total number of participants |  |  |  |

## **TABLE NAMES: LIMITED BUDGET, PROJECT REQUIREMENTS NOT CLEARLY DEFINED, PROJECT PLAN NOT UNDERSTOOD BY THE TEAM, PROJECT SCOPE NOT UNDERSTOOD BY THE TEAM, POOR COMMUNICATION, LIMITED SKILLS, CHANGE IN PROJECTS REQUIREMENTS, ORGANISATIONAL CHANGE, PROJECT REQUIREMENTS NOT UNDERSTOOD BY THE TEAM,**

|  |  |  |  |
| --- | --- | --- | --- |
| **ITEM** | **FREQUENCY** | **PERCENT / VALID PERCENT** | **CUMILATIVE FREQUENCY** |
| Not Selected: denotes the number of participants that did not tick the item. | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval. |
| Selected: denotes the number of participants that did not tick the item. | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval. |
| Total: denotes the total number of participants |  |  |  |

## **TABLE NAMES: ECONOMICAL CHANGES, UNANTICIPATED WEATHER PATTERNS, POLITICAL CHANGES, SUPPLIER RELATED ISSUES**

|  |  |  |  |
| --- | --- | --- | --- |
| **ITEM** | **FREQUENCY** | **PERCENT / VALID PERCENT** | **CUMILATIVE FREQUENCY** |
| Not Selected: denotes the number of participants that did not tick the item. | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval. |
| Selected: denotes the number of participants that did not tick the item. | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval. |
| Total: denotes the total number of participants |  |  |  |

## SECTION C: BARRIERS TO ADOPTING DIGITAL PROJECT MANAGEMENT TOOLS

\*The data was exported from SPSS v26.0

## **TABLE: DQ1**

|  |  |  |  |
| --- | --- | --- | --- |
| **ITEM** | **FREQUENCY** | **PERCENT / VALID PERCENT** | **CUMILATIVE FREQUENCY** |
| Aware | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval. |
| Not Aware | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval. |

## **TABLE – DQ2,**

|  |  |  |  |
| --- | --- | --- | --- |
| **ITEM** | **FREQUENCY** | **PERCENT / VALID PERCENT** | **CUMILATIVE FREQUENCY** |
| Not Adopted | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval. |

## **TABLES: SDNAS 1, SDNAS 2, SDNAS 3, SDNAS 4, SDNAS 5, SDNAS 6, SDNAS 7, SDNAS 8, SDNAS 9, SDNAS 10, SDNAS 11, , SDNAS 12, SDNAS 13, SDNAS 14, SDNAS 15, SDNAS 16, SDNAS 17, SDNAS 18, SDNAS 19, SDNAS 20, SDNAS 21, SDNAS 22**

|  |  |  |  |
| --- | --- | --- | --- |
| **ITEM** | **FREQUENCY** | **PERCENT / VALID PERCENT** | **CUMILATIVE FREQUENCY** |
| Strongly Disagree | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval. |
| Disagree | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval. |
| Neutral | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval. |
| Agree | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval. |
| Strongly Agree | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval. |

**DATA SET - CONTENT EXPLANATION**

# **GROUP B – DATA – SHEET 2**

## SECTION A: GENERAL INFORMATION

\*The data was exported from SPSS v26.0

## **TABLE NAME: GENDER**

|  |  |  |  |
| --- | --- | --- | --- |
| **ITEM** | **FREQUENCY** | **PERCENT / VALID PERCENT** | **CUMILATIVE FREQUENCY** |
| Male: denotes the participants’ gender | The value represents the total number of male participants. | The value represents the percentage of male participants. | Represents the percentage of the cumulative frequency within each interval. |
| Female: denotes the participants’ gender | The value represents the total number of female participants. | The value represents the percentage of male participants. | Represents the percentage of the cumulative frequency within each interval. |
| Total: denotes the total number of participants |  |  |  |

## **TABLE NAME: OCCUPATION**

|  |  |  |  |
| --- | --- | --- | --- |
| **ITEM** | **FREQUENCY** | **PERCENT / VALID PERCENT** | **CUMILATIVE FREQUENCY** |
| Project Manager | The value represents the total number of participants with secondary school qualifications. | The value represents the percentage of project managers. | Represents the percentage of the cumulative frequency within each interval. |
| Contractor Site Manager | The value represents the total number of contractor site managers. | The value represents the percentage of contractor site managers. | Represents the percentage of the cumulative frequency within each interval. |
| Contractor Supervisor | The value represents the total number of contractor supervisor managers. | The value represents the percentage of contractor supervisor managers. | Represents the percentage of the cumulative frequency within each interval. |
| Other | The value represents the total number of participants in other senior positions. | The value represents the percentage of other senior position participants. | Represents the percentage of the cumulative frequency within each interval. |
| Total: denotes the total number of participants |  |  |  |

## **TABLE NAME: EDUCATION**

|  |  |  |  |
| --- | --- | --- | --- |
| **ITEM** | **FREQUENCY** | **PERCENT / VALID PERCENT** | **CUMILATIVE FREQUENCY** |
| Secondary School | The value represents the total number of participants with secondary school qualifications. | The value represents the percentage of participants with secondary school qualifications. | Represents the percentage of the cumulative frequency within each interval. |
| Technical College | The value represents the total number of participants with technical college qualifications. | The value represents the percentage of participants with technical college qualifications. | Represents the percentage of the cumulative frequency within each interval. |
| First Degree or Diploma | The value represents the total number of participants with first degree or diploma. | The value represents the percentage of participants with first degree or diploma. | Represents the percentage of the cumulative frequency within each interval. |
| Total: denotes the total number of participants |  |  |  |

## **TABLE NAME: ENGINEERING**

|  |  |  |  |
| --- | --- | --- | --- |
| **ITEM** | **FREQUENCY** | **PERCENT / VALID PERCENT** | **CUMILATIVE FREQUENCY** |
| Not Selected: denotes the number of participants that did not tick the item. | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval. |
| Selected: denotes the number of participants that did not tick the item. | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval. |
| Total: denotes the total number of participants |  |  |  |

## **TABLE NAME: CONSTRUCTION**

|  |  |  |  |
| --- | --- | --- | --- |
| **ITEM** | **FREQUENCY** | **PERCENT / VALID PERCENT** | **CUMILATIVE FREQUENCY** |
| ConstructionNot Selected: denotes the number of participants that did not tick the item. | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval. |
| ConstructionSelected: denotes the number of participants that did not tick the item. | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval. |
| Total: denotes the total number of participants |  |  |  |

## **TABLE NAME: OTHER NATURE OF BUSINESS**

|  |  |  |  |
| --- | --- | --- | --- |
| **ITEM** | **FREQUENCY** | **PERCENT / VALID PERCENT** | **CUMILATIVE FREQUENCY** |
| Mining | The value represents the total number of participants that listed the item. | The value represents the percentage of participants that listed the item. | Represents the percentage of the cumulative frequency within each interval. |
| Pest Control | The value represents the total number of participants that listed the item. | The value represents the percentage of participants that listed the item. | Represents the percentage of the cumulative frequency within each interval. |
| Recycling Projects | The value represents the total number of participants that listed the item. | The value represents the percentage of participants that listed the item. | Represents the percentage of the cumulative frequency within each interval. |
| Waste Management | The value represents the total number of participants that listed the item. | The value represents the percentage of participants that listed the item. | Represents the percentage of the cumulative frequency within each interval. |
| Total: denotes the total number of participants |  |  |  |

## **TABLE NAME: NUMBER OF EMPLOYEES**

|  |  |  |  |
| --- | --- | --- | --- |
| **RANGE** | **FREQUENCY** | **PERCENT / VALID PERCENT** | **CUMILATIVE FREQUENCY** |
| 1-9 | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval |
| 10-20 | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval |
| 21-50 | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval |
| 51-100 | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval |
| Total: denotes the total number of participants |  |  |  |

## **TABLE NAMES: YEARS OF OPERATION, YEARS IN THE MINING INDUSTRY**

|  |  |  |  |
| --- | --- | --- | --- |
| **RANGE** | **FREQUENCY** | **PERCENT / VALID PERCENT** | **CUMILATIVE FREQUENCY** |
| Less than 1 year | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval |
| 1-5 | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval |
| 6-10 | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval |
| 11-15 | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval |
| 16-20 | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval |
| 20 Years or More | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval |
| Total: denotes the total number of participants |  |  |  |

## **TABLES NAME: LOCALITY**

|  |  |  |  |
| --- | --- | --- | --- |
| **ITEMS** | **FREQUENCY** | **PERCENT / VALID PERCENT** | **CUMILATIVE FREQUENCY** |
| Mokopane Local Company | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval |
| Not a Mokopane Local Company | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval |
| Total: denotes the total number of participants |  |  |  |

## SECTION B: PROJECT HISTORY AND CHALLENGES

\*The data was exported from SPSS v26.0

## **TABLE NAME: NUMBER OF PROJECTS**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **VALUES** | **FREQUENCY** | **PERCENT/VALID PERCENT** | **CUMULATIVE PERCENT** | **MEAN** | **MAX** |
| The number of projects provided by the participants | The value represents the number of participants that provided the same value. | The value represents the percentage of participants that provided the same value. | Represents the percentage of the cumulative frequency within each interval | The NUMBER represents the average value withing the range of the numbers provided by the participants. | The value represents the maximum value withing the range of the numbers provided by the participants. |
| Sum: denotes the total number of projects. |  |  |  |  |  |

## **TABLE NAME: TYPE OF PROJECTS**

|  |  |  |  |
| --- | --- | --- | --- |
| **TYPES OF PROJECTS** | **FREQUENCY** | **PERCENT/VALID PERCENT** | **CUMULATIVE PERCENT** |
| Includes the type of projects. | The value represents the number of participants that render the projects that are specified. | The value represents the percentage of participants that render the projects that are specified. | Represents the percentage of the cumulative frequency within each interval |

## **TABLE NAME: SUCCESSFUL PROJECTS**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **VALUES** | **FREQUENCY** | **PERCENT** | **CUMULATIVE PERCENT** | **MEAN** | **MAX** |
| The number of projects provided by the participants | The value represents the number of participants that provided the same value. | The value represents the percentage of participants that provided the same value. | Represents the percentage of the cumulative frequency within each interval | The number represents the average value withing the range of the numbers provided by the participants. | The number represents the maximum value withing the range of the numbers provided by the participants. |
| Sum: denotes the total number of successful projects. |  |  |  |  |  |

## **TABLE NAME: UNSUCCESSFUL PROJECTS**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **VALUES** | **FREQUENCY** | **PERCENT** | **CUMULATIVE PERCENT** | **MEAN** | **MAX** |
| The number of projects provided by the participants | The value represents the number of participants that provided the same value. | The value represents the percentage of participants that provided the same value. | Represents the percentage of the cumulative frequency within each interval | The number represents the average value withing the range of the numbers provided by the participants. | The number represents the maximum value withing the range of the numbers provided by the participants. |
| Sum: denotes the total number of unsuccessful projects. |  |  |  |  |  |

## **TABLE NAMES: TIMEOUS DELIVERY, PROJECT NOT EXCEEDING THE BUDGET, APPROVAL BY THE CLIENT, DELIVERANCE OF EXCEPTIONAL SERVICE, PROJECT PLANNING, PROJECT EXECUTION, PROJECT CONTROL OR PERFORMANCE, PROJECT INITIATION, OTHER PHASES THAT AFFECT PROJECT SUCCESS, LACK OF RESOURCES,**

|  |  |  |  |
| --- | --- | --- | --- |
| **ITEM** | **FREQUENCY** | **PERCENT / VALID PERCENT** | **CUMILATIVE FREQUENCY** |
| Not Selected: denotes the number of participants that did not tick the item. | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval. |
| Selected: denotes the number of participants that did not tick the item. | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval. |
| Total: denotes the total number of participants |  |  |  |

## **TABLE NAMES: LIMITED BUDGET, PROJECT REQUIREMENTS NOT CLEARLY DEFINED, PROJECT PLAN NOT UNDERSTOOD BY THE TEAM, PROJECT SCOPE NOT UNDERSTOOD BY THE TEAM, POOR COMMUNICATION, LIMITED SKILLS, CHANGE IN PROJECTS REQUIREMENTS, ORGANISATIONAL CHANGE, PROJECT REQUIREMENTS NOT UNDERSTOOD BY THE TEAM,**

|  |  |  |  |
| --- | --- | --- | --- |
| **ITEM** | **FREQUENCY** | **PERCENT / VALID PERCENT** | **CUMILATIVE FREQUENCY** |
| Not Selected: denotes the number of participants that did not tick the item. | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval. |
| Selected: denotes the number of participants that did not tick the item. | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval. |
| Total: denotes the total number of participants |  |  |  |

## **TABLE NAMES: ECONOMICAL CHANGES, UNANTICIPATED WEATHER PATTERNS, POLITICAL CHANGES, SUPPLIER RELATED ISSUES**

|  |  |  |  |
| --- | --- | --- | --- |
| **ITEM** | **FREQUENCY** | **PERCENT / VALID PERCENT** | **CUMILATIVE FREQUENCY** |
| Not Selected: denotes the number of participants that did not tick the item. | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval. |
| Selected: denotes the number of participants that did not tick the item. | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval. |
| Total: denotes the total number of participants |  |  |  |

## SECTION C: BARRIERS TO ADOPTING DIGITAL PROJECT MANAGEMENT TOOLS

\*The data was exported from SPSS v26.0

## **TABLE NAME: DQ1**

|  |  |  |  |
| --- | --- | --- | --- |
| **ITEM** | **FREQUENCY** | **PERCENT / VALID PERCENT** | **CUMILATIVE FREQUENCY** |
| Aware | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval. |
| Not Aware | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval. |

## **TABLE NAME – DQ2,**

|  |  |  |  |
| --- | --- | --- | --- |
| **ITEM** | **FREQUENCY** | **PERCENT / VALID PERCENT** | **CUMILATIVE FREQUENCY** |
| Not Adopted | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval. |

## **TABLE NAMES: DQ3, DQ4, DQ5, DQ6, DQ7, DQ8, DQ9, DQ10, DQ11, DQ12**

|  |  |  |  |
| --- | --- | --- | --- |
| **ITEM** | **FREQUENCY** | **PERCENT / VALID PERCENT** | **CUMILATIVE FREQUENCY** |
| YES | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval. |
| NO | The value represents the total number of participants that ticked the item. | The value represents the percentage of participants that ticked the item. | Represents the percentage of the cumulative frequency within each interval. |

**DATA SET - CONTENT EXPLANATION**

# **RELIABILITY DATA – SHEET 3**

\*The data was exported from SPSS v26.0

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Research construct** |  | **Descriptive statistics** |  | **Cronbach’s test** |
| **Coding** | **Mean** | **Standard deviation** | **Item-Total Correlation** | **α Value** | **CR** | **AVE** | **Factor loading λ** |
| Represents the main construct that is being researched | Represents the items measured | Represents the mean value of the items measured | Represents the standard deviation value of the items measured | Represents the correlation value of the items measured | Represents the Cronbach alpha value of all items measured | Represents the Composite Reliability value of all items measured | Represents the Average Variance Reliability value of all items measured | Represents the Factor Loading value of all items measured |

Formula used to calculate COMPOSITE RELIABILITY (CR):

Step 1: λ2 (Factor loading)2

Step 2: (1 - λ2)

Step 3: Composite Reliability (CR) =

$$\frac{Sum (λ of all items) x Sum (λ of all items)}{Sum (λ of all items) x Sum (λ of all items) + Sum (1 - λ^{2} of all items)}$$

Formula used to calculate Average Variance Extracted (AVE):

Step 1: λ2 (Factor loading)2

Step 2: Average Variance Extracted (AVE) =

$$\frac{Sum(λ^{2} of all items)}{Total number of items}$$

# CODING DESCRIPTION

|  |  |
| --- | --- |
| **CODES** | **ITEMS MEASURED** |
| DQ1 | Level of digital PM tools Awareness |
| DQ2 | Level of digital PM tools usage in Projects |
| DQ3 | Use digital PM tools for planning in projects |
| DQ11 | Use digital PM tools for managing risks in projects |
| DQ12 | Use digital PM tools for managing safety in projects |
| DQ4 | Use digital PM tools for scheduling in projects |
| DQ7 | Use digital PM tools for time-tracking in projects |
| DQ8 | Use digital PM tools for Workflow Management in projects |
| DQ9 | Use digital PM tools for collaboration in projects |
| DQ5 | Use digital PM tools for budgeting projects |
| DQ6 | Use digital PM tools for human resource management in projects |
| DQ10 | Use digital PM tools for procurement purposes in projects |
| SDNAS1 | Lack of knowledge about digital project management solutions |
| SDNAS2 | High costs associated with digital project management solutions |
| SDNAS3 | Lack of resources to use digital project management solutions |
| SDNAS4 | Lack technological experts to handle digital project management solutions |
| SDNAS5 | Lack of information and popularity about digital project management solutions |
| SDNAS6 | Lack of competition driven by the adoption of digital project management solutions |
| SDNAS7 | Uncertainty about return on investment (ROI) of digital project management solutions |
| SDNAS8 | Complexity of processes in the mining sector |
| SDNAS9 | Recognise various digital project management solutions |
| SDNAS10 | Recognise opportunities and challenges of digital project management solutions |
| SDNAS11 | Recognise digital project management solutions that are applicable to the organisation |
| SDNAS12 | Recognise the benefits of digital project management solutions |
| SDNAS13 | Have a clear vision about implementing digital project management solutions |
| SDNAS14 | Have communicated the vision of implementing digital project management solutions throughout the organisation |
| SDNAS15 | Have defined roles, responsibilities and accountabilities regarding the adoption of digital project management solutions |
| SDNAS16 | Have enough technical skills (human capacity) to deploy and adopt digital project management solutions |
| SDNAS17 | Have evaluated the impact of digital project management solutions in the sector |
| SDNAS18 | Have sufficient resources to initiate the utilisation of digital project management solutions |
| SDNAS19 | Have the affordability to use digital project management solutions |
| SDNAS20 | Have analysed the organisational changes associated with the adoption of digital project management solutions |
| SDNAS21 | Staff members are ready for the changes associated with the adoption of digital project management solutions |
| SDNAS22 | Business data and transactions with employees online can be executed safely when using digital project management solutions |