**Evaluation of graduates’ perception of the Master’s Degree of Project Management at the University of Botswana**

A dissertation submitted in partial fulfilment of the requirements for the degree of Masters of Project Management

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# Statement of originality

The work in this dissertation was carried out by the author at the University of Botswana between August 2014 and June 2019. It is the original work except where due reference is made and neither has been nor will be submitted for the award of a degree by any other university. Citations of the contents were clearly referenced and where ever necessary a bibliography was made.

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# Abstract

Evaluation is an important process in project management and it should be done during and /or after completion of every programme. All projects have set objectives and evaluation has to be conducted in order to give feedback on their performance. According to International Federation of Red Cross and Red Crescent Societies (IFRC) (2011) evaluation isan assessment, as systematic and objective as possible, of an on-going or completed project, programme or policy, its design, implementation and results. This is to say that no programme should be run without evaluation.

The University of Botswana is an organisation that is operating with a set of academic programmes in order to meet its vision and mission. The University has Learning and Teaching policy as a set of regulations to guide the on-going programmes. In 2005 the University approved a proposal from the Department of Civil Engineering to introduce a new programme called Masters of Project Management (MPM). The programme is mandated to generally produce graduates with Knowledge areas in Project Management, graduate attributes outlined by University of Botswana policy and Competencies in Project Management.

With this study the MPM graduates were evaluated to get their perceptions of Masters of Project Management programme regarding its intended objectives. The study investigated graduates on the skills, knowledge, and competencies they have gained from the programme and how the programme had assisted them on their career development. Although the study is about graduates’ perception the non-graduates were also investigated in order to get their perception regarding the nature of the programme.

Kirkpatrick’s 4-level Model and the CIRO models were used as the evaluation model for this study and the conceptual framework was outlined to answer the research objectives. The survey method was used to collect the quantitative data. All graduates were used as the study population (census). Questionnaire were sent by email to collect data form the respondents and. SPSS was used to analyse data. Low response rate from the respondents was indicated as one the study limitations while ethical issues were considered and observed by the researcher.

The findings of the study are that according to the graduates perceptions the programme is producing graduates with acquired MPM knowledge area and competencies and UB graduates skills. The knowledge area and competencies were acquired by majority graduates at a medium level while the UB graduates skills were acquired by majority at a low level. The findings had also shown that the graduates perceive the programme to have assisted them improves their career after completion of the programme and that majority of both the respondents were not challenged during the programme except for work related issues. In conclusion the results had shown that according to the graduates’ perception the programme has been found to be meeting its intended objectives.

The study recommended an improvement on research supervision as the respondents had identified it to be poorly arranged with many years passing without interjection. The respondents suggested the programme to be accredited with international professional bodies and PMI was given as an example. A comprehensive university-wide study was recommended by the researcher to investigate why the students do not complete their graduate programmes and find out why they show less interest on completion of dissertation courses in order to complement the findings presented on this research study.

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# List of Abbreviations

|  |  |
| --- | --- |
| CIPP | Context, Input, Process, Product |
| CIRO | Content, Input, Reaction Outcome |
| HI | Higher Institution |
| MPM | Masters of Project Management |
| TE | Tertiary Education |
| UB | University of Botswana |

# CHAPTER 1: INTRODUCTION

## Preamble

This document is a report of the findings of a study conducted on Evaluation of the graduates’ perception on the Masters of Project Management Programme of the University of Botswana. Evaluation of projects seeks to assess how the projects are performing in terms of meeting their objectives. Project is an all-encompassing term used to describe work being carried out in the community and a programme is a group of projects. Examples of projects range from educational/academic courses to community campaigns, Information Technology, construction and health.Different authors presented their views and revealed the constructive nature of evaluation and claimed that evaluation is a vital component of programme development. Rolfe (1994) for example, expressed concerns about the practicality of educational evaluation and also emphasised that evaluation is an important element of curriculum development and implementation. O’Neill (1986) stressed that evaluation is one of the most significant facets of curriculum development, even if it is carried out solely for the purpose of providing the faculty with a sense of security.

In 2004 the Department of Civil Engineering within the University of Botswana made a proposal to introduce a programme called Masters of Project Management (MPM). The programme was approved in 2005 by the University. The MPM programme is offered in a duration of 18 months when full time student and 36 months when part time student. This research study therefore evaluated the Masters of Project Management programme offered by the University of Botswana by getting the perception of graduates regarding some of its specific aspects and availed feedback on whether the set objectives of the University and the Programme are being met or not.

This chapter provide the background of the study, the statement of the problem, the research aim followed by the research objectives. The chapter also defines the scope of the research the usefulness of the findings and finally present the chapter summary that comes at the end of the chapter.

## Background of the study

This subchapter provides information on evaluation of projects and background on the Masters of Project management programme. The background of the study elaborates more on project evaluation which is divided into subchapters to touch base on rationale for evaluating programmes, evaluation of academic programmes and evaluation of the Masters of Project Management programme.

**1.2.1 Project evaluation**

Project evaluation is a very crucial process in project management and every project/programme has to be evaluated in order to give feedback to whether it is performing or meeting its set objectives. Different literature sources defined evaluation in different ways.

The aim of evaluation is usually not limited to determining the relevance and fulfilment of objectives, efficiency in development, effectiveness, impact and sustainability of a project/programme. IFRC (2011) claims an evaluation should provide information that is credible and useful, enabling the incorporation of lessons learned into the decision-making process of both beneficiaries and sponsors.

According to UNFPA (2004) there are two most common evaluation purposes. The two types are formative evaluation which is done to improve the design and performance of an on-going programme and the summative evaluation which is mostly done tomake an overall judgment about the effectiveness of a completed programme, often to ensure accountability. Summative evaluation will enable you to make decisions regarding specific services and the future direction of the programme that cannot be made during the middle of a programme cycle. UNFPA (2004) further explains that summative evaluations findings should be provided to funders and constituents with an interest in the programme. When relating the types of evaluation to this this study the summative evaluation seems to suit the study rather than the formative and so the study was taken as a summative evaluation. The summative evaluated the outcome of the MPM programme being the graduates by getting their perceptions of some aspects of the programme.

As already mentioned above, programmes evaluation includes all programmes even the academic programmes. Treasury Board of Canada Secretariat explains that goals of academic programme evaluations are to obtain graduate feedback regarding courses and teaching for improvement purposes and to provide a defined and practical process to ensure that actions are taken to improve the programme. Public Service Commission (2008) further indicates that governments are increasingly called upon to demonstrate results. It is expected of them to demonstrate that they are making a real difference to the lives of their people and that value for money has been delivered and this can be ensured by evaluation of programmes and giving feedback. The graduates are the outcome of an academic programme who are expected to have acquired graduate skills perceived as employability skills and therefore they should be evaluated in order to make a conclusion that the programme is achieving its objectives or not.

**1.2.2 Masters of Project Management programme**

The University of Botswana has a mission of improving economic and social conditions for the Nation while advancing itself as a distinctively African university with a regional and international outlook and specifically, the University will:

1. Provide excellence in the delivery of learning to ensure society is provided with talented, creative and confident graduates
2. Advance knowledge and understanding through excellence in research and its application
3. Improve economic and social development by high impact engagement with business, the professions, government and civil society

According to Public Service Commission (2008) programme evaluation is not used for the evaluation of individual faculty performance. Rather, good programme evaluation is a collegial process that involves a free and open discussion of general effective teaching and assessment practices conducted in a climate where risk-taking and innovation are encouraged rather than scrutinizing the performance of individuals.

The MPM programme was designed and developed to respond to the technological, social and economic needs of Botswana and that of the region, especially the areas that deal with managing, monitoring and evaluation of projects. According to the Department of Civil Engineering (2003), the programme contributes towards the strategic role of meeting the country’s development needs through advancing human resource development and developing research and innovation capacity. Master in Project Management is an on-going programme that was approved in 2005 and the first graduates graduated in 2007.

Department of Civil Engineering (2003) indicates the MPM Programme literally admits applicants with all types of undergraduate qualifications including STEM related subjects, business, medicine, economics and law. The Department further explains that the MPM programme with the intension to meet the demand of the donors, clients, communities, project implementers and the government will produce a cadre of skilled persons equipped with sufficient knowledge and skills to investigate, analyse, communicate, organise, plan and coordinate all aspects relating to projects, including resources, money, technology and information. The skills acquired in the programme should enable the graduates to contribute to the formulation of appropriate responses to problems, challenges and issues facing the African continent and sub region such as globalisation, regionalism, poverty alleviation and sustainable utilization of environmental resources.

A background check was done and it was found that since inception of the programme there was never any summative evaluation conducted hence this study. Programme evaluation are conceptualised by models. Public Service Commission (2008) explains that logic models are used as a way to conceptualise a programme. They help in evaluation of the success of a programme explaining relationships between the means and the ends.

Master of Project Management as a programme has inputs, processes, outputs and outcome and Figure 1 illustrated as how the programme appears.

Impacts Evaluation of

Outcomes programme outcomes

(Graduate skills, knowledge

& competencies)

Outputs (graduates)

Processes (tests, tutors) Implementation Phase

Inputs (lectures, financial resources, students)

**Figure 1.1: How the MPM is viewed as a programme**

*Source: Public Service Commission, Republic of South Africa (2008)*

The model above shows the phase on which the MPM programme was evaluated. The programme comprises of the inputs and the processes which when put together form the implementation phase of the programme which will produce the outputs. The outputs will have outcome that will eventually bring impact to the environment. The study was focusing on the outcome of the programme which on this case were the skills and knowledge acquired by the graduates.

After completing the MPM programme graduates are expected to have gained or enhanced their knowledge, skills and competencies on project management. An employee who has Masters of Project Management is expected to eventually excel when applying the skills/attributes, knowledge, tools and techniques that he/she had gained/advanced and eventually bring an impact to the environment she/he is working in. Project management graduates are expected to have particularly gained;

1. Knowledge areas in project management
2. Graduate attributes/skills outlined by University of Botswana policy
3. Competencies in project management

For those who enrolled for the programme before they start working, they should after graduation have acquired the project management employable skills and attributes and ready to penetrate the market and make a change.

The University of Botswana is using its resources to keep the Masters of Project Management programme running and that proves that there need to somehow evaluate the programme to establish whether graduates have acquired knowledge, skills and competencies that were intended and to what extent of achievement. The evaluation is also done to get perception of graduates on the general makeup of the programme. Evaluation is not only to measure achievement it is also to capture lessons learned to assist the future projects hence why this study.

## Statement of the problem

Project evaluation is a very important process in project management. In its journey to meet set mission and objectives, the University of Botswana has since introduced Masters of Project Management (MPM) programme. The programme is tasked with producing graduates that are equipped with graduate skills and employability skills that will assist them in either finding a good job or excelling/enhancing work environment for those who are already working. The programme is also tasked with producing graduates who poses MPM knowledge areas and competencies. In addition to just producing the graduates it is an expectation that the graduates will complete the programme within a scheduled programme period. With this study the MPM was evaluated through getting graduates perception to get whether they have gained knowledge areas, competencies and skills as per the programme objectives. They were also investigated to find how they perceive the nature of the programme. This study was carried out with the intention of giving feedback to whether the programme is meeting its set objectives, get feedback on how graduates view its nature and the challenges they encountered during their stay in the programme.

## Research aim and Objectives

The aim of this study is to investigate the graduates’ perceptions of Masters of Project Management programme regarding the nature of the programme and its intended objectives.

The objectives of this study are;

1. To investigate graduates’ perception on the level of knowledge, skills and competencies which they had acquired during the programme.
2. To investigate graduates’ perceptions on the contribution of the programme to their career.
3. To investigate the graduates’ perceptions in relation to the nature of the programme, including its structure, content, design and duration.
4. To identify the challenges the graduates encountered during their study.

## Research scope

All the Masters of Project Management programme graduates were investigated to get their perception on specific aspects of the programme including its nature to determine whether the objectives of the programme were met or not. The study was focusing on all the University of Botswana MPM graduates from the year 2007 to date.

## Usefulness of the findings

It is anticipated that the findings will provide feedback to the department on how the graduates view the programme in terms of its objectives, structure, content, design and delivery. Evaluation of graduates’ perception maybe beneficial to the department of Civil Engineering as feedback will be given regarding the performance of programme and suggestions on how the programme can be improved.

## Chapter summary

In order to see the result of an on-going programme or to determine that the programme delivers or produce the intended objective a summative evaluation should be conducted. The goals of academic programme evaluations are to obtain graduate feedback regarding courses and teaching for improvement purposes and to provide a defined and practical process to ensure that actions are taken to improve the programme. The graduates are expected to have acquired graduate skills and knowledge perceived as employability skills which they will use to make an impact to the economy when they graduate and join and/or go back to the work force. Masters of Project Management graduates are expected to have particularly gained, knowledge areas in project management, competencies in project management and graduate attributes/skills outlined by University of Botswana policy. The programme has also a time frame which students are expected to complete the programme within.

The study evaluated the MPM programme through its graduates to find out if the intended objectives which are to produce graduates with employability skills are met. The graduates perceptions were requested on the skills, knowledge areas, and competencies they have gained through the programme and find out if the programme had assisted them on their career development. The graduates perceptions were also gathered on general structure, content, design and duration of the programme. The researcher had made a background check and found out that the programme was never evaluated on this regard hence this study.

The findings and recommendations are intended to benefit mostly the Department of Civil Engineering as the host department of the programme and the University of Botswana as a whole. The findings and recommendations of the evaluation of this programme are expected to give a suggestion on determining the relevance, effectiveness and efficiency of the MPM programme.

On chapter 2, literature surrounding evaluation of programmes and Project Management as a discipline was reviewed. Literature review will also touch base on nature of programmes and how they supposed to assist graduates develop their careers and challenges that graduates face during enrolment. Finally the literature review will outline conceptual framework on which the programme will be evaluated.

# CHAPTER 2: LITERATURE REVIEW

## **Introduction**

This chapter presents reviewed literature relating to programme evaluation. Review of literature brings into light the Evaluation of programmes/projects which will dwell on the types of evaluation including formative and summative evaluations. The chapter also include general overview of Masters of Project Management programme as a discipline, its nature and how it should add to career development of graduates. Furthermore the chapter will cover the challenges that graduate face during enrolment and finally the chapter summary.

## **Evaluation of programmes/projects**

The process of managing a project/programme requires evaluation. This exercise is the integral part of a project cycle and it is important to ensure that the due process and adherence to project objectives are followed. It is a very critical function in the life cycle of a programme either while it is still going on or at the end. Evaluation is important for management and accountability in a programme. Different authors have different ways of defining project evaluation. According to Igbokwe-Ibeto and Justine (2011), project evaluation is a policy analysis undertaken on a project/program that is already in effect, that is the systematic examination of any activity or group of activities by the government or organisation to make a determination about the effects, both short and long rage. UNFPA (2004) further defines programme evaluation as a management tool and it is a time-bound exercise that attempts to assess systematically and objectively the relevance, performance and success of on-going and completed programmes and projects.

Public Service Commission, (2008) define a programme evaluation as evaluation of the success of a programme and how the design and implementation of the programme contributed to that success. They further defined evaluation as an episodic (not continuous, usually mid-term and at the end of the project) assessment of an on-going or completed project to determine mainly its actual impact against the planned impact (strategic goal or objectives for which it was implemented), sustainability, effectiveness and efficiency. According to International Federation of Red Cross and Red Crescent Societies (IFRC) (2011) evaluation isan assessment, as systematic and objective as possible, of an on-going or completed project, programme or policy, its design, implementation and results. Furthermore it is worth mentioning that external evaluation can be delegated to professional evaluators. When it comes to the educational organization’s internal evaluations, simpler evaluation tools that can be applied and used by non-professionals evaluators to do the evaluation as the purpose of evaluation is the continued improvement of educational and scholastic achievement in its numerous forms. Evaluation is undertaken selectively to answer specific questions to guide decision-makers and/or programme managers, and to provide information on whether underlying theories and assumptions used in programme development were valid, what worked and what did not work and why. Evaluation commonly aims to determine the relevance, efficiency, effectiveness, impact and sustainability of a programme or project.

The coastal planning and management manual views the importance of evaluation as follows UNFPA (2004):

* to be accountable to those who are funding the project
* to reflect on how you are developing as a group or organisation and whether you need to improve the way things are being done
* to review and adjust the management methods and techniques used in an area
* to develop the skills and understanding of people involved in a project by enabling them to reflect on, and learn from their experiences
* to create a historical record of management success over time
* To determine whether you have met project objectives.

Muzinda, (2007) cited Unitto (2004) explaining that evaluations are an assessment of an on-going or completed project including its design, implementation and results. He further argues that evaluations asses the relevance, efficiency of implementation, and effectiveness of the projects. Project evaluation can be done any time of the project but the most appropriate time is said to be governed by the nature of the project and the reason for carrying out the evaluation.

*Assessing* relevance of a continuing project is important as it will determine if it is necessary to continue with funding or the funding should be channelled somewhere else if the project is not working. In this case if the programme is found to not be working the University should be in a position to terminate the programme so that the funds could be channelled to a programme which will produce better results.

*Effectiveness* will determine if the resources (inputs) were efficiently converted into outputs and this will be defined by the extent to which the project objectives were met. In this case effectiveness will be determined by the extent in which the graduates had acquired the employability skills that they were intended to acquire when enrolled for the MPM programme.

*Efficiency* looks at how the programme had fared in terms of meeting the set schedule and allocated budget. In this case do the graduates take anticipated numbers of semesters to complete the course as stipulate on the graduate calendar.

Treasury Board of Canada Secretariat further explains that while the specific details of evaluation will be unique to a programme, issues can be often be grouped into the following classes;

1. **Continued Relevance:** The extent to which the programme continues to be relevant to government priorities and the needs of citizens.
2. **Results:** The extent to which the programme meets its objectives, within the budget and without causing significant unwanted results
3. **Cost Effectiveness:** the extent to which the programme involves the most appropriate, efficient and cost-effective method to meet objectives.

**2.2.1 Rationale for evaluating projects/programmes**

Evaluation is done for various benefits to the programme. IFRC (2011) outline the benefits of evaluating a programme as follows;

1. Support project/programme implementation with accurate, evidence-based reporting that informs management and decision–making to guide and improve project/programme performance.
2. Contribute to organisational learning and knowledge sharing by reflecting upon and sharing experiences and lessons so that we can gain a full benefit from what we do and how we do it.
3. Uphold accountability and compliance by demonstrating whether or not our work had been carried out as agreed and in compliance with established standards and with other requirements
4. Provide opportunities for stakeholder feedback, especially beneficiaries, to provide input into and perceptions of work, modelling openness to criticism, and willingness to learn from experiences and to adapt to changing needs.
5. Promote and celebrate work by highlighting accomplishments and achievements, building morale and contributing to resource mobilization.

Like IFRC, Agyei (2012) agrees that before any programme or project is evaluated the reasons should be clearly defined. If the purpose is not clear, then there is a risk that the evaluation will focus on the wrong concerns, draw wrong conclusions and provide recommendations which will not be useful for the intended users of the evaluation results.

It was found it necessary to evaluate the graduates’ perceptions regarding the MPM Programme to assess its relevance and its effectiveness and efficiency.

**2.2.2 Types of evaluation**

Evaluation can be divided into two types which are formative and summative. The two kinds of evaluation are differentiated by the time of evaluation. According to Brophy, (2002) the formative evaluation is concerned with learning lessons as a programme or project progresses while summative evaluation seeks to look back over a programme or project when it has been completed to determine its success and failures. The two types are described below;

***2.2.2.1 Formative evaluation***

Formative evaluation is done during the implementation of the programme. The purpose of formative evaluation is to assess initial and on-going project activities. Mark, (2007) quoted from PASSIA, (2004) that formative evaluation are mainly implementation process oriented, reviewing the overall performance of the project in terms of input use, schedule of project and output. They also look at strengths, weakness and challenges of the project and whether the continued project plan will be able to deliver the project activities or it needs redesigning. Formative is sometimes referred to as interim or mid-term evaluation as its purpose is to improve the programme or projects while the programme is still on-going.

According to UNFPA (2004) the following are a sample of evaluation questions typically asked by the intended users for formative evaluation to improve the design and performance of an on-going programme;

1. What are the programme’s strengths and weaknesses?
2. What kinds of implementation problems have emerged and how are they being addressed?
3. What is the progress towards achieving the desired outputs and outcomes? Are the activities planned sufficient (in quantity and quality) to achieve the outputs?
4. What is happening that was not expected?
5. Want to change?
6. Are the originally identified assumptions still valid?
7. What new ideas are emerging that can be tried out and tested?

***2.2.2.2 Summative evaluation***

Summative evaluation collects information about project outcomes, related processes, strategies, and activities that have led to them. Westat (2002) stated that evaluation is an appraisal of worth or merit and it is usually needed for making any of the following alternative decisions: disseminating the project to other agencies; continue funding; increase funding; continue on probationary status; modify and try again; and discontinue.

UNFPA (2004) stated that for summative evaluation a range of questions may be asked tomake an overall judgment about the effectiveness of a completed programme, often to ensure accountability. The mostly asked questions are;

1. Did the programme work?
2. Did it contribute towards the stated goals and outcomes? Were the desired outputs achieved?
3. Should the programme be continued or terminated? Expanded? Replicated?

When relating the above questions to this dissertation the summative evaluation will rightfully suit the purpose of the dissertation as the following questions were answered at the end of the evaluation;

1. Is the MPM programme working?
2. Does it contribute towards the stated goals and outcomes? Were the desired outputs achieved as stated on the University of Botswana policy as well as on the Proposal for Introducing MPM Programme?

It is explained that summative evaluation is usually conducted sometime after the project or when the programme has been completed or fully implemented with the objective of studying how well the project achieved its objectives and to learn lessons for similar projects in the future. Moreover with summative evaluations, the findings that emerge during data collection or data analyses may never have been anticipated when the project design was first made. It is therefore important that unanticipated outcomes are considered when a summative evaluation is conducted. Summative evaluation is sometimes referred to as ex-post evaluation. The summative evaluation was used on this study to get the perception of the graduates on whether the programme is achieving its objectives.

**2.2.3 Evaluation methods**

An evaluation can use quantitative or qualitative data, and often includes both. Both methods provide important information for evaluation, and both can provide important information for evaluation. These methods are rarely used alone; combined, they generally provide the best overview of the project.

***2.2.3.1 Quantitative Method***

Quantitative data provide information that can be counted. According to CTSA Community Engagement Key Function Committee (2011) quantitative information answers such questions as “How many?”, “Who was involved?”, “What were the outcomes?” and “How much did it cost?” He further explains that quantitative data can be collected by surveys or questionnaires, pre-tests and post-tests, observation or review of existing documents and databases or by gathering clinical data. After data is collected it analysed through statistical analysis from basic descriptive statistics to complex analyses.

***2.2.3.2 Qualitative Methods***

Qualitative data cannot be counted. According to CTSA Community Engagement Key Function Committee (2011) qualitative data answer such questions as “What is the value added?”, “Who was responsible?”, and “When did something happen?’’ Qualitative data are collected through direct or participant observation, interviews, focus groups, and case studies and from written documents. He further explains that analyses of qualitative data include examining, comparing and contrasting, and interpreting patterns. CTSA Community Engagement Key Function Committee (2011) further explains that analysis will likely include the identification of themes, coding, clustering similar data, and reducing data to meaningful and important points, such as in grounded theory-building or other approaches to qualitative analysis.

***2.2.3.3 Mixed methods***

The evaluation of some programmes may need both qualitative and quantitative methods because of the complexity of issues addressed for example, population evaluated, type of project, and the objectives of the programme. The methods of evaluation should selected looking at the need for the evaluation, its timeline, and available resources.

***2.2.3.4 Evaluation method used***

The MPM graduates’ perception regarding the MPM programme was evaluated using the qualitative method of evaluation. It is so because the study concentrated more on the outcome of the programme. The aim of this study was to investigate the perceptions of Masters of Project Management programme graduates regarding the nature of the programme and its intended objectives hence why the study is considered a summative evaluation. Data was collected using a questionnaire which is why the qualitative method of evaluation was the most suitable.

**2.2.4 Generic** **Educational** **Evaluation** **Model**

Educational programme are said to use information acquired through evaluation to make decisions about the value or worth of an educational programme. More formally defined, the process of educational programme evaluation is the ‘systematic collection and analysis of information related to the design, implementation and outcomes of a programme, for the purpose of monitoring and improving the quality and effectiveness of the programme, Accreditation Council for Graduate Medical Education (2010). It is said that educational programmes are fundamentally about change and stakeholders including learners, teachers or lectures, administrators and other professionals who participate in educational programmes. They are interested in knowing if the change is occurring, the nature of the change and if the change is deemed successful. These questions can only be answered through an effective programme evaluation. According to Frye and Hemmer (2012) an educational programme itself is rarely static, so an evaluation plan must be designed to feed information back to guide the programme’s continuing development. In that way the programme evaluation becomes an integral part of the educational change process.

There are a few different methods of educational evaluation models. When selecting evaluation model, evaluators should be thoughtful to structure their planning and to assure that important information is not overlooked. On this research three common models were discussed although there are other models in literature. The models were discussed in details including the typical questions asked and what the evaluator expect when using the model. Model/models which seemed to be perfectly matching what the study intends was chosen to guide in evaluation of the MPM programme.

***2.2.4.1 The CIPP (Context/Input/Process/Product) model***

The CIPP approach consists of four complementary sets of evaluation studies that allow researchers or evaluators to consider important but easily overlooked programme dimensions. According to Frye & Hemmer (2012) the CIPP components when taken together they will accommodate the ever changing nature of most educational programme as well as educators appetite for programme improvement data. The CIPP model addresses all the phases of the education programme; planning, implementation and a summative of final retrospective assessment if desired. The first three elements of the CIPP model which are context, input and process are useful for improvement focused (formative) evaluation studies, while the last or the fourth element which is the product approach is very appropriate for the final (summative) studies.

1. Context evaluation**;**

This is conducted during planning of the programme. It defines the programme goals and priorities and opportunities relevant to the programme. It provides a baseline for late evaluating outcomes. Frye & Hemmer (2012) further outlined the common questions that are asked when conducting the context evaluation as follows;

* What the needs of the programme?
* What are relevant opportunities?

1. Input evaluation**;**

An input evaluation study assesses the feasibility or cost effectiveness of alternative or competing approaches to the programme need including various staffing plans and ways to allocate other relevant resources Frye & Hemmer (2012). An input evaluation is therefore can be regarded as an assessment of a programme’s plan of action. Such an evaluation will help to prescribe the specific activities and strategies by which the programme plans to bring about change. An input is usually done at the beginning of the programme to justify the funds and other resources that are to be allocated to the proposed project. For example when the MPM programme in the University of Botswana was proposed the faculty administrator had to come up with a proposal in a written form to justify why the programme had to be funded.

1. Process evaluation**;**

This is used to assess implementation of the programme. With the process study the evaluator is able to interpret the outcome of the project/programme. This study can be done during the programme which will be the formative or even after the programme to assist the evaluator to understand how the results of the programme. The information gathered from the process evaluation can be used help in programme strategies, procedures and any other activities to improve the on-going programme.

1. Product evaluation;

This type of evaluation focuses mostly on the outcome of the programme. It is used in summative evaluation. This type of evaluation study aims to identify and assess the program outcomes, including both positive and negative outcomes, intended and unintended outcomes, short-term and long-term outcomes, say Frye & Hemmer (2012). They further added that it also assesses, where relevant, the impact, the effectiveness, the sustainability of the program and/or its outcomes, and the transportability of the programme.

***2.2.4.2 Brinkerhoff’s Success Case Method.***

Brinkerhoff’s Success Case Method (SCM) involves identifying the most and least successful cases within a learning program and studying them in detail. According to Downes (2016) by comparing the successes to the failures, you can learn what to change to ensure success in future endeavors. Based on what you learn, you can also write and publicize success stories to show how valuable your program has been.

According to Brinkerhoff (2005) there are a number of steps involved in SCM and they are as follows;

1. Develop an impact model: Identify the goals of the learning opportunity and determine how these goals are connected to business needs. The impact model defines what success should look like.
2. Survey participants to identify best cases and worst cases. (For example, a survey question might ask: How have you applied what you learned to achieve a business result?)
3. Obtain corroborating evidence that would “stand up in court” (e.g., using interviews, document reviews or other methods).
4. Analyze the data.
5. Communicate findings: Share what successes have occurred and what organizational resources have supported these successes. As important, share examples of non-successes. What barriers kept people from applying what they learned?

***2.2.4.3 Kirkpatrick’s 4-level model (1996)***

The Kirkpatrick’s 4-level Model had been used mostly in educational programmes to assess their programme design and outcomes. According the Kirkpatrick (1996) information is gathered to assess four hierarchical level of programme

1. Learner satisfaction or reaction to the programme
2. Measures of learning attributed to the programme e.g. knowledge gained, skills improved and attitudes changed
3. Changes in a learners behaviour in the context for which they are being trained and
4. The programme’s final results in the larger context.

The model is said to have four levels which includes reactions, learning, behaviour and results in which; *reactions* focuses on participants’ opinions about the training, process and results, *learning* focuses on the degree to which learning actually took place, *behaviour* focuses on the linkage between learning and workplace performance and *results* focuses on bottom line results.

**Table 2.1: Analysis of Kirkpatrick model**

|  |  |  |  |
| --- | --- | --- | --- |
| Level | What does it  measure | Level description | When is it done |
| 1 | Reaction | How do learners view the course | At the beginning/ the end |
| 2 | Learning | Has learners gained the skills and information listed | At the end |
| 3 | Behaviour | Have participants transferred knowledge and skills to their jobs? | At the end |
| 4 | Results | What effect has training had on the organization and the achievement of its objectives | At the end |

*Source: Guha,Mukhopadhyay and Patra (1996)*

Table 2.1 illustrates how the Kirkpatrick model of evaluation was analysed after review of different literature.

***2.2.4.4 CIRO model***

In 1970, the CIRO model for the evaluation of managerial training was proposed explained Warr, Bird & Rackson (1970). This model was based on the evaluation of four aspects of training: context, input, reaction and outcomes. The context evaluation measures the context in which the programme is established. The levels are meant to answer the questions that follow;

1. Context – what needs to be addressed?
2. Input – what is likely to bring about the changes?
3. **Reaction** – how did the learners react to the training?
4. **Outcome** – what are immediate, intermediate and ultimate outcomes?

According to Topno (2012) it scrutinises the way performance needs were identified, learning objectives were established, and the way the objectives link to and support the necessary competencies. Input evaluation is concerned with the design and delivery of the programme activity. Reaction evaluation looks at gaining and using information about the quality of programme experience. Outcome evaluation focuses on the achievement gained from the activity. Outcomes are evaluated in terms of what actually happened as a result of training. Topno (2012) further explains that outcomes are measured at any or all of the following four levels, depending on the purpose of the evaluation and on the resources that are available;

1. The learner level
2. The workplace level
3. The team or department level
4. The business level

Figure 2.1 further illustrate how the four levels of CIRO model are described.

LEVEL

OUTCOME

REACTION

INPUT

CONTEXT

Description

Evaluate the initial objectives and organizational incentives for the training program

Evaluate the training process what were the criteria for selecting instructors and how were the topic chosen

Evaluate reaction to the material present at training, its relevance and trainees degree of satisfaction with the training process

Measure the outcome of the training by evaluating employees’ performance after a predefined period of time has elapsed since training

**Figure 2.1: CIRO Evaluation Model illustration**

*Source: Guha,Mukhopadhyay and Patra (1996)*

Literature had indicated that there are several evaluation models but this research narrowed comparison only to three training models in terms of their merits, demerits and relevance of each model. A comparison of the three models is summarized on Table 2.2.

**Table 2.2: Matrix of the Training Evaluation Models**

|  |  |  |  |
| --- | --- | --- | --- |
| Models | Merits | Demerits | Relevance |
| Kirkpatrick’s Model (1996) | Four level vividly described | Costly reaction level | Higher work moral, few accident |
| CIPP Evolution Model (1983) | In first step this model identify the program objective and match it with organizational objective | This model may be directed only by outsiders or instructors. For this reason it is vital to identify process in which various stakeholders can be meaningfully involved | Input evaluation involves evaluation in existing policies, budgets, schedules and procedures for organizing programme.  Process evaluation stage is a continuous process to provide feedback to organization for the employee |
| CIRO Approach (1970) | Before and after measurement of training |  | Discuss on the impact and learning transfer of the trainees. User friendly |

*Source: Guha,Mukhopadhyay and Patra (1996)*

**2.2.5 Conceptualised evaluation model for the study**

The Kirkpatrick’s Model and the CIRO model were found to best suiting the research study and the two models were used to guide the evaluation. The two models were used together to address all the areas of the summative evaluation. According to Frye and Hemmer (2012) Kirkpatrick (1996) focus on programme outcome and has clear descriptions of outcomes beyond simple learner satisfaction. Frye and Hemmer (2012) further explains that the CIRO outcome evaluation study aims to identify and assess the program outcomes including both positive and negative, intended and unintended outcomes, short term and long term outcomes.

The models were applied as follows;

**a) Kirkpatrick’s Model**

**Reaction**- These were the perceptions of MPM Graduates regarding the nature of the programme including its structure, content, design and duration. Reaction also included the challenges that were faced by the graduates during their time in the programme.

**Learning**-These were the MPM graduate’s rating on the UB graduate skills, Project Management knowledge and competencies gained upon completion of the programme.

**Behaviour**- This was how the MPM programme had developed individual graduate career since graduation.

**Results**-These were general achievements of the MPM programme that were gathered from the MPM graduates regarding its intended objectives.

**b) CIRO Model**

The CIRO model was also used and the focus was on the Reaction and Outcome level. The CIRO model was used in order to explain more on the reaction of the graduates towards the nature of the programme. It was also used as the conceptualised model as the research was focused on the view of the graduates concerning the outcome of the programme. The Context and Input evaluation part of the CIRO model fell off as the study was a summative evaluation.

**Reaction**- Just as on Kirkpatrick model these were the MPM Graduate perceptions on the nature of the programme including its structure, content, design and duration.

**Outcome**- These were general achievements of the MPM programme as explained on the Results level from Kirkpatrick model. This focused on the immediate, intermediate and ultimate outcomes of the MPM programme. The CIRO level was used with the Kirkpatrick Level as the CIRO model goes into details of explaining how the outcomes are measured being the immediate and the intermediate outcomes.

## Project Management as a discipline

The Project Management Institute (PMI) has divided the large field of project management into 10 more digestible parts, which it calls the 10 project management knowledge areas in its A Guide to the Project Management Body of Knowledge (PMBOK). MPM Programme as an academic programme adopted these fields as its programme contents and are expected to be acquired by graduates upon completion of the programme. Under these knowledge areas there are also key tools and techniques that are learned by graduates. With acquired knowledge and skills graduates will then be are expected to have competencies in project management. All these will be discussed in this subsection

**2.3.1 Project Management Knowledge Areas**

According to PMBOK the 47 project management processes identified are further grouped into ten separate Knowledge Areas. A knowledge area represents a complete set of concepts, terms and activities that make up the professional field, project management field or area of specialisation PMBOK (2013). The 10 knowledge areas are within the objectives of the MPM programme as graduates are required to have acquired them upon completion the programme. Table 2.3 lists the 10 knowledge areas that are supposed to be acquired by the MPM graduates upon completion of the programme. The graduates are expected to apply acquired knowledge to the work environment. For an MPM graduate to be able to graduate they are expected to have gained the knowledge areas and be able to apply them in order to run successful project or become successful project managers.

**Table 2.3: The 10 Project Management Knowledge Areas and their descriptions**

|  |  |
| --- | --- |
| Knowledge Area | Descriptions |
| Project Integrations Management | * Creating a cohesive document with needs, expectations and project plans. * Managing project changes |
| Project Scope Management | * What’s included and not included in the project * Clear boundaries and statement of work * Clear parameters to project team |
| Project Time Management | * Developing realistic timelines and activities needed to complete a project |
| Project Cost Management | * Establishing a budget and estimating costs * Controlling costs |
| Project Quality Management | * Weighing the finished products against the features, performance and values promised at the start |
| Project Human Resource Management | * Identifying, developing and managing the human element of the project |
| Project Communications Management | * Communicating internally and externally and mange reporting |
| Project Risk Management | * Understanding of uncertainties and plan to combat them |
| Project Procurement Management | * Identifying resources that will be needed in order to complete deliverables |
| Project Stakeholder Management | * Manage people within the project who have the power to create change (positive/negative) |

*Source: PMBOK (2013)*

**2.3.2 Project Management key tools and techniques**

Together with the knowledge areas students get to learn the many tools and techniques that are used by expects to aid them to smoothly run the projects and programmes. PMBOK (2013) has also outlined the tools and techniques used in project management. The researcher chose to outline a few tools and techniques used in project management just to give an overview of what a graduate in MPM programme should have achieved upon completion of the programme.

**Table 2.4: Examples of tools and techniques used in Project Management**

|  |  |
| --- | --- |
| Tools and techniques | Elements |
| Expert judgement | * Tailor the process to meet the project needs * Determine resources and skills needed to perform project work * Determine which project documents will be subject to formal change * Prioritize the work to ensure resources are allocated appropriately |
| Critical path method | * Estimate project duration * Determine the amount of scheduling flexibility on the logical network paths * Calculate the early start and late finish dates for all activities * Determine the critical path |
| Project performance appraisals | * Clarification of roles and responsibilities * Constructive feedback to team members * Discovery of unknown and unresolved issues * Development of training plans |
| Information management systems | * Hard copy management * Electronic communication management; email, fax, voicemail |
| Probability and Impact matrix | * Prioritise risks based on their probability and impact * Classify risks as high, moderate and low risks * Assist organisations to prepare for the risks |
| Make or buy analysis | * Determine whether the work can be accomplished by project team or should be outsourced |
| Stakeholder analysis | * Uses power/interest grid to group stakeholders * Assist you determining communication methods for your stakeholders * Analyse potential impact of stakeholders to your project * Analyses reaction of your stakeholders towards your project |
| Earned Value Management (ENM) | * Combines scope, schedule and resources measurements assess project performance and progress * Develops and monitors 3 dimensions for each work packages and control account (planned value, earned and actual cost) |
| Quality audits | * Determine if the project activities comply with organisational and project policies, processes and procedures * Subsequent effort to correct and deficiency * Can confirm the implementation of approved change request including updates, corrective actions and preventive actions |

*Source: PMBOK (2013)*

Table 2.4 outlines some of the tools and techniques that are expected to be acquired by the UB graduates upon completion of the MPM Programme.

**2.3.3 Project Management competencies**

MPM programme documents had shown that knowledge and skills acquired in project management should enable graduates to have competencies specifically for project management. In this study a competence is defined as the ability to apply knowledge and skills learnt in MPM programme in a work related environment. The competences that are required to have been acquired by the MPM graduate are guided by the skills and knowledge areas acquired during the course of the programme.

**Table 2.5: Project Management Key Competencies and their elements**

|  |  |
| --- | --- |
| Competence | Elements |
| Ability to develop a project business case | Detailed business case  Present defend a business case |
| Ability to develop feasibility study | Detailed analysis including impact assessment |
| Ability to develop a detailed project plan | Time plan  Risk management and change management  Human resources and project teams  Budget management |
| Ability to monitor, report and control project progress | Manage stakeholders  Report progress to relevant personnel |
| Ability to perform project close-up | Closed up notes  Lesson learnt summary |
| Ability to perform project evaluation | Formative evaluation  Summative evaluation |

*Source: Author*

Table 2.5 summarises the project management competencies that were derived from the project management knowledge areas. With acquired knowledge areas, MPM graduates should be competent on the tabulated aspects.

## Nature of the programmes

A project is a regarded as a human endeavour to which create change, is limited to in time and scope, has mixed goals and objectives, involves a variety of resources and is unique Turner and Muller (2003). Projects or programmes are of different kinds including academic programmes. MPM is a an academic programme at the University of Botswana and it has all the qualities of programmes just like any programmes.

**2.4.1 Masters of Project Management Programme**

In order to fulfil the University of Botswana’s principle of producing graduates with employability skills, knowledge and competencies The Department of Civil Engineering introduced the MPM Programme which was implemented in 2007. The programme was said to have been developed after inquiries by individuals, organisations and from both the public and private sector which had shown a growing need for personnel equipped with project management knowledge and skills. According the Department of Civil Engineering, (2003) MPM programme was proposed considering the technological, social and economic needs of Botswana and that of the region, especially in the areas that deal with managing, monitoring and evaluation of projects. The programme is said to have to contribute towards the strategic role of meeting the country’s developments needs through advancing human resources development and developing research and innovation capacity. The programme is further considered to cover one of the 2036 pillar of vision of producing ‘sustainable economic development, human and social development and sustainable environment as well as two key future imperatives of innovation and sustainability.

The Department of Civil Engineering, (2003) further clarified the Mission statement of the proposal to offer the MPM programme as to;

* Provide Batswana with centre for advanced study and excellence, preparing planners, designers, engineers and project managers for leadership positions in public, private and social sectors of the economy.
* Undertake research and evaluation applied to a better understanding of planning, development, design and management of projects in the Botswana context as well as generate new knowledge about basic issues and problems in the field.

The objectives of the MPM Programme were outlined as to;

* Produce high quality human resources for management of Projects in Botswana and SADC countries.
* Develop academics for higher institutions of learning with relevant programmes.
* Respond to the needs of private sector and Botswana Government through research and consultancy

Before the course was approved the Department of Civil Engineering had done a benchmarking exercise to compare the qualification to other Universities already offering the same qualification. The University that were compared to were University of Pretoria, South Africa, University of Cape Town, South Africa, Northwestern University, USA, University of Warwick, UK and RMIT University, Australia. According to The Department of Civil Engineering, (2003) MPM programme offered compares very well with international norms in terms of structure, content, learning outcomes and career pathways. The Department of Civil Engineering, (2003) further indicates that the qualification allow graduates the adaptability, flexibility , ability to cope with the dynamics in the world of work and exercising initiative in the enterprising world of organisational and project management. It also caters for the contextual aspect of the local environment but also prepares graduates for international mobility.

The programme like any other has human resource capacity in order for it to deliver its intended objectives. The MPM team consists of 1 coordinator and 2 associate professor and 7 senior lectures and 11 lectures.

According to the Department of Civil Engineering, (2003) the NDP 8 as well as NDP 9 documents, the Governments had indicated a desire to increase its project implementation capacity but there was a constant reference to the lack of project management skills. Furthermore, the Department was inundated with enquiries from its graduates as well as industry as to when a project management programme would be introduced. This study evaluated this programme through its graduates and see if the objectives listed above had been achieved. It is a requirement that the programme be evaluated and to come up with findings and recommendations.

The general information for the MPM Programme is listed by the Department of Civil Engineering, (2003) as on Table 2.6.

**Table 2.6: Masters of Project Management Profile summary**

|  |  |
| --- | --- |
| 1. Name of programme | Master of Project Management |
| 1. Abbreviated title | MPM |
| 1. Faculty hosting the programme | Faculty of Engineering and Technology |
| 1. Department hosting the programme | Civil Engineering |
| 1. Programme type | Professional |
| 1. Qualification designation | Master of Project Management |
| 1. Majors/field of study | Project Management |
| 1. BQA Level | 8 |
| 1. Minimum Credits | 48 |
| 1. Minimum duration for full time (years) | 2 years |
| 1. Minimum duration for part time (years) | 1. years |
| 1. Date when programme started | August 2005 |
| *Source: The Department of Civil Engineering (2003)* |  |

On working on fulfilling the UB policy of producing employable graduate, The Department of Civil Engineering (2003) mentioned that a holder of the Master of Project Management maybe employed in a number of areas relating to the project delivery chain in the area of specialization. They may hold different titles such as project officer, coordinator, manager or leader. They maybe in various sectors including but not limited to;

* Project management officers
* Construction as project leaders of a team of designers
* IT as system developers
* Business as business developers
* Development sectors as economic planners, monitoring and evaluation
* Procurement as contracts managers
* Project leaders for facility developers
* Project leaders in production or manufacturing

The courses that are offered by the MPM programme are shown on Table 2.7.

**Table 2.7: Courses offered by the MPM programme**

|  |  |  |
| --- | --- | --- |
| Course Name | Course Code | Course Type |
| Project Planning | MPM 650 | Core |
| Project Environment Analysis | MPM 652 | Core |
| Project Quality, Health and Safety Management | MPM 653 | Option |
| Project Impact Assessment, Monitoring and Evaluation | MPM 655 | Option |
| Project Resources Procurement and Administration | MPM 661 | Core |
| Project Risk Analysis | MPM 664 | Option |
| Project Finance, Cost Estimation and Control | MPM 667 | Core |
| Project Leadership and Conflict Management Strategies | MPM 668 | Option |
| Project Legal Environment | LAW 669 | Option |
| Research Proposal | MPM 700 | Core |
| Research Methodology | CEM 603 | Core |
| Dissertation | MPM 701 | Core |

*Source: The Department of Civil Engineering (2003)*

Apart from the courses offered by MPM programme in University of Botswana the researcher made a mini bench marking to find out some of the courses that are offered by various universities. The courses found were;

1. Strategy and Organisational Dynamics offered by University of Kwazulu Natal
2. Leading and Managing Project Teams offered by University of Liverpool
3. Information Management offered by University of Pretoria
4. Strategic Project Management offered by University of Pretoria
5. International Project Management and Practice offered by University of Sunderland through Botswana Accountancy College
6. Decision Support for Management offered by University of Sunderland through Botswana Accountancy College

It is worth mentioning that the MSc Project Management programme offered by University of Sunderland through Botswana Accountancy College is in 2 stages. Stage ones are postgraduates’ certificates and diplomas. The University have an option of intermediate awards of those postgraduates’ certificates and diplomas for students who do not wish to or are unable to complete the MSc programme by completing their dissertations. Stage 3 is for students who had completed their dissertation or project.

## How the programme add to career development of graduates

In order for academic institutions to reach the target of producing employable graduates’, academic institutions curriculum should be developed taking in account of their learners’ future employment needs including skills and abilities in the workplace. One of the key reasons why many students invest in university education is to improve their employment prospects. However, whilst achievement of good academic qualifications is highly valued, it no longer appears sufficient to secure employment Yorke (2006). Confederation of British Industry (2008) had further mentioned that employers expect students to have well developed employability skills, so that they can make an immediate contribution to the workplace when recruited, thus, whilst some employers screen job applications on the basis of degree classification, such achievements are much less important at the short-listing stage. According to Cranmer (2006), the current trend of placing increased emphasis on graduate/key skills therefore dictates that the High Education curriculum incorporates opportunities to develop such skills in conjunction with subject-specific skills and knowledge. Cranmer (2006) further explains that this should enhance applicants’ potential for success in the recruitment process by producing ‘business ready’ graduates, able to make a dynamic start and rapidly adapt to change. To this end, different academic programmes in different universities are adopting various strategies by, for example, offering work experience, work-related learning and employability skills modules, and ‘ready for work’ events, as well as involving employers in course design and delivery.

Universities should develop their curriculum in such a way that they are able to produce graduate with graduate skills which will benefit employers who hires graduates out there on the market. University output should match the needs the market needs so that the world can be a better place. In order to make sure that the Higher Education produces employable graduates in Botswana Tertiary Education (BTE) policy was published. The TE policy (2008) proposes that the education sector can only produce a valuable national human resource capacity by;

1. Establishing a relationship between the tertiary education supply of graduates, the current stock of tertiary level graduates in the workforce and demand in terms of wants/needs and expectations of employers and stakeholders.
2. Creating a realistic match between supply and demand in both qualitative and quantitative terms to avoid the unemployment of graduates not fit for purpose
3. Enhancing the delivery of customer focused and relevant tertiary education
4. Entrenching a culture of lifelong learning within tertiary education that addresses the needs of learners, the labour market and society in general

Graduate employability skills, knowledge and competencies that graduates acquire or advance upon completion of an academic programme are considered the most important aspects when it comes to career development of graduates. The subsection provides insight on general graduates’ employability skills, graduates knowledge and competencies and finally narrows down to UB graduates skills that are expected to be acquired by the graduates in preparation for their career development.

* + 1. **Graduate employability skills**

Employability skills are a set of achievements skills, understandings and personal attributes that make graduates more likely to gain employment and be successful in their chosen occupations, which benefits themselves, the workforce, the community and the economy at large. According to the definition adopted by the Scottish Government and Scottish center for healthy working lives employability is the combination of factors and processes which enable people to progress towards or get into employment, to stay in employment and to move on in workplace.

Bell et al (2010) also define employability skills as a set of attributes, skills and knowledge that all labour market participants should possess to ensure they have the capability of being effective in the workplace to the benefit of themselves, their employer and the wider economy. Bell et al (2010) goes on to explain that the skills then described include self-management, team –working, business and customer awareness, problem solving, communication and literacy, application of numeracy, and application of IT, underpinned by ‘can-do’ approach and demonstrating relative innovation, creativity, collaboration and intellectual risk taking.

Employability is not the same as gaining a graduate job, rather it implies something about the capacity of the graduate to function in a job and be able to move between jobs, thus remaining employable throughout their life. The USEM model, Knight and Yorke (2006) outlines employability as four broad and inter-related components:

* Understanding
* Skillful practices (including deployment of skills)
* Efficacy beliefs (including students views of themselves)
* Meta-cognition (including self-awareness and a capacity to reflect on learning)

Employability skills framework from the department of education, Victoria, Australia, 2006 categories the skills as shown by Table 2.8. The table explains the employability skills that graduate should possess when they graduate from the institution of study. Employers’ wish is to hire graduates with the above skills so that they improve the working environment and the economy at large. Just like any other institute the University of Botswana had outline its intended graduates attributes within its documented guiding policy and they are automatically part of the MPM programme.

**Table 2.8: Examples of graduate skills and their elements**

|  |  |
| --- | --- |
| Skill | Element (aspects of skill that employers think is important) |
| Communication | -listening and understanding and sharing information  -speaking clearly and directly  -writing, reading and using numeracy  -establishing and using networks  -being assertive |
| Team work | -Working across different ages irrespective of gender, race, religion or political persuasion  -working as an individual and as a member of a team  -identifying the strengths of the team member  -coaching and mentoring skills including giving feedback |
| Problem solving | -developing creative, innovative solutions and practical solutions  -solving problems in teams  -applying a range of strategies across a range of areas  -resolving customer concerns in relation to complex projects issues |
| Initiative and enterprise | -adapting to new situations and being creative  -identifying opportunities not obvious to others  -initiating innovative solutions |
| Planning and organizing | -managing time and priorities-setting time lines  -being resourceful, taking initiatives and making decisions  -allocating people and other resources to tasks  -collecting, analyzing and organizing information |
| Self-management | -having personnel vision and goals  -evaluating and monitoring own performance  -articulating own ideas and visions and taking responsibility |
| Learning | -managing own learning  -contributing to the learning community at the workplace  -having enthusiasm for ongoing learning  -being open to new ideas and techniques  -acknowledging the need to learn in order to accommodate change |
| Technology | -having a range of basic IT skills and using IT to organize data  -being willing to learn new IT skills |

*Source: Victoria Department of Education, (2006)*

* + 1. **Graduates knowledge and competencies**

Competency generally means capability or ability. Competency is usually used together with skills and knowledge as they are related in a way that for a person to become competent in the task they perform they need to have knowledge in that certain area and have necessary skills. United Nations Evaluation Group (2016) defines competencies as clusters of related knowledge, skills, abilities and other requirements necessary for successful job performance. Likewise, Essilfie (2014) quoted Field and Drysdale (1991) defining competence as the ability to perform work roles and jobs to the required standard or desired level.

Table 2.9 shows examples of competencies that graduates should possess upon completion of their studies from their institutions of learning. MPM as an educational programme is expected to have some of these embedded in its curriculum.

**Table 2.9: Examples of Core competencies and their descriptions**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Core Competency | Elements | | Description | |
| [Communication](http://gradprofdev.web.unc.edu/core-competency-framework/core-competency-actions-activities/?core-competency=%22communication%22) | | -Effective communication  -Interpersonal understanding  -Relationships  -Collaboration and team-building  -Networking | Ability to;   * communicate, both orally and in writing, for various audiences. * empathize, listens, and be sensitive to others. * effectively respond to advice and criticism, as well as be able to guide and provide constructive criticism. * contribute to groups, avoid and/or resolve conflicts, motivates others, and fosters a collaborative environment. * build relationships with others, establish rapport. |
| [Academic Development](http://gradprofdev.web.unc.edu/core-competency-framework/core-competency-actions-activities/?core-competency=%22academic-development%22) | | -Conceptualize research  -Initiative  -Critical thinking and problem solving | Ability to;   * define a research question and strategically plan an approach * be pro-active, self-motivated, persistent and decisive. * generate and test theories and seek solutions to problems. |
| [Leadership & Professionalism](http://gradprofdev.web.unc.edu/core-competency-framework/core-competency-actions-activities/?core-competency=%22leadership-professionalism%22) | | -Professional ethics  -Goal and milestone planning  -Problem solving strategies and solutions  -Evaluation and feedback | Ability to;   * strategically plan and set goals and milestones. * lead a group creates a vision, build a sense of purpose, and motivate a group regardless of their race, gender, sexual orientation or religious affiliation. * define a problem and devise solutions with sensitivity to the context. * provide constructive criticism. |
| [Career Development](http://gradprofdev.web.unc.edu/core-competency-framework/core-competency-actions-activities/?core-competency=%22career-development%22) | | -Personal and professional organization/planning  -Professional flexibility  -Professional competitiveness | Ability to;   * develop skills that are useful in multiple work environments. * develop materials and utilize resources that will make you competitive on the job market. |
| Project and Task Management | | -You plan, implement, manage and measure projects and tasks in a timely and directed manner | Ability to;   * plan and carry out projects with well-defined goals and outcomes * adapt to changing work priorities and workplace practices * use a range of assessment techniques to monitor a project or task * establish priorities to meet deadlines * carry out multiple tasks or projects at the same time |

*Source: United Nations Evaluation Group (2016)*

* + 1. **University of Botswana Graduate Attributes**

According to the International Engineering Alliance (2013) the Graduate Attributes are assessable outcomes, supported by level statements, developed by the signatories that give confidence that the educational objectives of programmes are being achieved. International Engineering Alliance (2013) further explains that the quality of a programme depends not only on the stated objectives and attributes to be assessed but also on the programme design, resources committed to the programme, the teaching and learning process and assessment of students, including confirmation that the graduate attributes are satisfied.

One of the educational principle of the UB policy academic progression which reads ‘programmes should be coherent and cohesive, within a credit framework, enabling students to make informed choices and decisions, and providing clear progression pathways’.

According to the Learning and Teaching policy, (2008) the University’s academic programmes will encompass the following graduate attributes to be achieved by all students;

* Information and communication technology knowledge and skills
* Self –directed, lifelong learning skills
* Critical and creative thinking skills
* Problem solving skills
* Communication skills
* Entrepreneurship and employability skills
* Organisational and teamwork skills
* Research skills and information literacy
* Social responsibility and leadership skills
* Interpersonal skills
* Cross-cultural fluency
* Accountability and ethical standards

And each programme will be required to demonstrate how these graduate attributes will be integrated into curriculum design and assessment.

The UB policy goes on to explain that graduate attributes are the qualities, skills and understandings a university community agrees its students should develop during their time with the institution. These attributes include but go beyond the disciplinary expertise or technical knowledge that has traditionally formed the core of most university courses. They are qualities that also prepare graduates as agents of social good in an unknown future. University of Botswana graduates should be employable when they finish their studies.

Literature had shown that there should be a relationship between employers and higher education institution in order for both entities to benefit from each other. According to Bulawa et al (2012) universities have become major agents for government investments in human development. Bulawa et al (2012) quoted Alexander (2000) noting that global economic advantages are rapidly emerging in nations where widespread educational investments have become national priorities. Consequently, education policies globally have been strongly influenced by the new global demand that the education and training offered by the higher education institutions should become more responsive to the needs and expectations of industry, of the state and of society, to ensure economic and social prosperity Bulawa et al (2012).

Higher education institutions in African countries have not been left behind the global call to re-design the curricula such that their academic programmes prepare learners for employability as economics have been increasingly integrated into the global production process, noted Bulawa et al (2012). Furthermore the underlying principle is the felt need to develop a workforce which satisfies the requirements of global demand to meet international standards and quality production. Many African countries have therefore re-oriented their education systems, particularly higher education, to meet both national and global labour market requirements. The University of Botswana is not alone in Africa in its quest to train for employability as higher education institutions in its neighbouring countries, South Africa and Zimbabwe are also involved in training of learners for the labour market Bulawa et al (2012). Bulawa et al (2012) further quoted Teferra & Altbatch (2004) noting that in these countries, as it is a trend globally, the twenty- first century is regarded as a knowledge era and the expectation is that higher education should play a pivotal role as it is considered a key force for the modernisation and development. This study investigated how the programme had assisted graduates gains the necessary skills and knowledge for them to develop their career.

## Challenges that graduate face during enrolment

The world has become a global village and developments in all fields of life have changed the trends and styles. Students get an exposure of life in different ways at personal, academic and administrative level and they face many challenges Yasmin et al (2018). Numerous researchers have forwarded their models, theories and philosophies to identify the problems confronted by university students and their impact on their academic performances. Yasmin et al (2018) further explains.

Cross (1981) has identified three obstacles to adult learning which are applicable to the university students as well. There was; situational barriers which include personal challenges like family, children and domestic responsibilities etc., there is mention of institutional barriers which includes restrictions concerning procedures that institutions use to plan, deliver and implement learning activities, it also includes financial support for learners an lack of support services. And lastly Cross (1981) mentioned dispositional barriers which include learners feelings and perceptions of their capabilities to complete learning activities. It also includes feeling being overburdened, bad health and incompetence in communication skills. Carp et al (1973) have described some barriers in order of importance as; cost, limited time, refusing to attend to attend school for full-time, home responsibilities, job responsibilities and the amount of time to finish the programme. This study got the views of MPM graduates on the challenges they faced during the period of their study.

## Conceptual Framework to evaluate Graduates perception regarding the MPM

Table 2.10 shows a summary of how the evaluation of graduates’ perception about MPM programme was carried out in order to answer the research questions.

**Table 2.10: Conceptual Framework**

|  |  |
| --- | --- |
| What to achieve | Information gathered |
| a) Perception of MPM graduates on how much they have gained knowledge, skills and competencies upon completion | * UB graduate Skills-section 2.5.3 * Project management Knowledge areas-section 2.3.1 * MPM Competencies-section 2.3.3 |
| b) Graduates perception on how much the programme had contributed to their career development | * Increased responsibility at work * Promotion and increase in salary * Changing of work for better remuneration * Finding a job after graduation |
| c) Graduates perception regarding the nature of MPM programme | * Structure * Content * Design * Duration |
| d) Challenges encountered by Graduates and general views concerning the programme | * General challenges * General views |

*Source: Author*

## Chapter Summary

Evaluation are said to be a very critical aspect of a project. It should be carried out to assess the relevance, efficiency of implementation, and effectiveness of the projects. Project evaluation can be done any time of the project but the most appropriate time is said to be determined by the nature of the project and the reasons for carrying out the evaluation. Evaluation can either be formative or summative and this study used summative evaluation.

When a programme is evaluated a certain model should be followed to guide the researcher to effectively carry out the process of evaluation. There are a few different methods of evaluation approach. The several models that were discussed in this chapter were the Kirkpatrick’s 4-level Model, CIPP model and the CIRO model. The Kirkpatrick and CIRO model were found suitable for evaluating the MPM programme as they related more to the objectives of the research. The focus was on all the levels of Kirkpatrick model and only the last two levels of CIRO when evaluating the programme as it was a summative evaluation.

MPM as an academic programme adopted the 10 fields of project management (knowledge areas) from the PMBOK as part of its content. With that content MPM aims at producing graduates who will be specialising in sectors not limited to Project management officers, Construction as project leaders of a team of designers, IT as system developers, Business as business developers, Development sectors as economic planners, monitoring and evaluation, Procurement as contracts managers, Project leaders for facility developers and Project leaders in production or manufacturing.

With the objectives in place the programme graduates perception were evaluated to find whether the programme has achieved the intended objectives or not. Finally the conceptual framework was outlined on how the research objectives will be answered. The graduates and the non-graduates were investigated on how they viewed the nature of the programme.

On chapter 3 the data collection method and tool was explained. The chapter further explained how the population and the sample were selected. Also the chapter covered how the data collection tool was distributed. It was finally explained how the collected data was analysed and ethical issues and limitations of the research were also outlined.

# CHAPTER 3: RESEARCH METHODOLOGY

## Introduction

This chapter covers the research paradigms, research strategy used, and details on how the subject of the study was selected. The chapter also covers the research design on which details on data collection and instrument used. Finally the summary of the chapter would follow at the end.

## 3.2 Research Paradigms

There are two categories of research approach which are quantitative and qualitative research. According to Dudovskiy (2018) quantitative defines infers, and resolves problem using numbers. Emphasis is on the collection of numerical data, summary of those data and the drawing of inferences from the data. Dudovskiy (2018) further explains that [qualitative research](https://research-methodology.net/research-methods/qualitative-research/observation/) is based on words, feelings, emotions, sounds and other non-numerical and unquantifiable elements.

Table 3.1 summarises the difference between the qualitative research method and the quantitative method and how they are characterised, their sampling and data collection methods.

**Table 3.1 Distinguishing qualitative and quantitative research**

|  |  |  |
| --- | --- | --- |
|  | Qualitative research | Quantitative research |
| Type of knowledge | Subjective | Objective |
| Aim | Exploratory and observational | Generalizable and testing |
| Characteristics | Flexible | Fixed and controlled |
| Contextual portrayal | Independent and dependent variables |
| Dynamic, continuous view of change | Pre and post measurement of change |
| Sampling | Convenience | Random |
| Data collection | Semi structured or unstructured | Structured |
| Nature of data | Narratives, quotations, descriptions | Numbers, statistics |
| Value uniqueness, particularly | Replication |
| Analysis | Thematic | Statistical |

*Source: The Open University (2000)*

This study falls in quantitative it was analysed by means of mathematical techniques and the questions were structured.

## 3.3 Justification of Research Strategy

When doing a research there are various research strategies that a researcher can choose to collect data.

**Ethnography** is the study of social interactions, behaviours, and perceptions that occur within groups, teams, organisations, and communities. According to Blumberg et al (2005) the central aim of ethnography is to provide rich, holistic insights into people’s views and actions, as well as the nature (that is, sights, sounds) of the location they inhabit, through the collection of detailed observations and interviews. The ethnography was not used in this study as the researcher was not going to be immersing themselves in the subjects’ environment.

**Historical method** involves examining an account of what happened in the past. Oklahoma (1997) further adds that it is employed by researcher who is interested in reporting events and/or conditions that occurred in the past. The information can be collected and interpreted through the use of documents, interviews and artefacts. This method was not used as they were not collection of any information from the past.

**Case study research** explores and understands the complex issues through use of reports of past studies. Blumberg et al (2005) further add that this strategy is used to make in-depth review of selected cases from one up to six fully understand the phenomenon of investigation case. Case study was not used as the intension of this research was not to in depth of fully understanding the case but to dwell on the outcome of the programme.

**Experimental research** involves an attempt to determine or predict what may occur when the researcher maintain control over all factors that may affect the result of an experiment. The research basically aims at testing cause-effects relationships. In this case the researcher did not use experimental research as they were not trying to explain how and why phenomenon occurs.

**Action research** is more practically oriented in that the research study is conducted to solve an actual problem in any human endeavour, be it social or work related. It aims at immediately changing or improving practices and mind sets in the human endeavour Blumberg etal (2005). This method did not suit this case as the research was not conducted to immediately change any practice.

**Survey method** is said to be a descriptive method, in other words a descriptive research mainly deals with the ‘description of the state of affairs as it is at present’ and there is no control over variables in descriptive. Although exact figures are not available, it is well known that surveys are the most widely used method of data collection in commercial marketing research. They are also used extensively in monitoring public opinion, noting social trends, and even being used as evidence in court cases, says Burns and Bush (2006). According to Burns and Bush (2006) survey method has a number of advantages listed as follows;

* Standardization which insures that all respondents are asked the same questions and exposed to the same response options for each question. This is because questions are pre-set and organised in a particular arrangement on a questionnaire.
* Ease of administration; a mail survey in which questionnaires are sent to prospective respondents can be used to ease administration for both the researcher and the respondents.
* Ability to tap the ‘unseen’; the four questions of what, why, how and who help uncover ‘unseen’ data.
* Suitability to tabulation and statistical analysis; a large sample size and computer processing allow quick tallies, cross-tabulations, and other statistical analyses
* Sensitivity to subgroup differences; respondents can be divided into segments or subgroups for comparisons in the search for meaningful differences.

Based on the description and advantages of the survey method the study used the survey method. There are two methods of survey which are communication and observation. Communication was chosen because the graduates that were investigated were not staying in one country hence it was easier to communicate with them rather that observation. The communication will be done through email.

## 3.4 Population and Sampling strategy

A population is defined as the group under study as specified by the objectives of the research project, explains Burns and Bush (2006). Samples could be taken from the entire group which could be group of persons, objects, organisations and others. It is mentioned that in most cases researchers always opt to use sample of the population because they cannot use the whole population. According to Burns and Bush (2006) a sample is a subset of a population that suitably represent the entire group. In relation to this study census was used. The entire population of 47 MPM graduates was used as respondents. The entire population was used as graduates are a small group and it did not require a lot of resources to reach them even though it took a lot of time for them to respond.

Although this research study focus on graduates it was felt that non-graduates perceptions will also give an insight on the nature of the programme and get their views on the challenges they faced during the programme. Convenience sampling was used to select MPM non-graduates. The method was used as there was no intension of generalising the findings of the study. The non-graduates were selected basing on availability of their email addresses and willingness to participate on the study. Table 3.2 shows the population and sample sizes of the participants.

**Table 3.2: Population and sample size**

|  |  |  |  |
| --- | --- | --- | --- |
| Category | Population size | Sample size | Method used |
| MPM Graduates | 47 | 47 | Census |
| MPM non-graduates | 200 | Anyone available | Convenience sampling |

*Source: Author*

## 3.5 Research Design

A summary of design matrix is per Table 3.3 which is divided into data collection and data analysis

**Table 3.3: Design Matrix**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Research question | Data Required | Source of Data | Instrument | Data analysis method | Data analysis tool |
| 1. To investigate graduates’ perception on the level of knowledge, skills and competencies which they had acquired during the programme. | Ratings on Project Management Knowledge areas, UB Graduate skills and Project Management competencies acquired during the programme | Graduates responses | Questionnaire | Graduates percentage level on who had gained more on each knowledge areas, skills and competencies offered on the programme. | SPSS |
| 1. To investigate graduates’ perceptions on the contribution of the programme to their career | Level of contribution of the programme to the development of individuals career wise | Graduates responses | Questionnaire | Graduates percentage level who had been assisted mostly by each career related dimensions of the programme to develop graduates’ careers | SPSS |
| 1. To investigate the graduates’ perceptions in relation to the nature of the programme, including its structure, content, design and duration. | Perception of graduates and non-graduates on nature of the MPM programme including;   * Structure of the programme * Type of the programme * Mode of delivery * Duration of the programme * Strengths of the programme | Graduates responses  Non-graduates responses | Questionnaire | Graduates and non-graduates percentage level on how they prefer the nature of the programme.  Graduates and non-graduates percentage level on they view the strength of the programme | SPSS |
| 1. To identify the challenges the graduates encountered during their study. | * Factors contributed to students not completing the programme * Other things related to the programme | Graduates responses  Non-graduates responses | Questionnaire | Non-graduates percentage level on how different factors contributed to them not completing the programme  Graduates and non-graduates views on the challenges they faced during the programme and their suggestions to improve the programme, | SPSS |

*Source: Author*

* + 1. **Data collection**

A survey study can use several data collection methods not limited to interviews, document analysis and questionnaires. According to [Singleton & Straits (2009](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4601897/#A9)) interviews may be conducted by phone, computer, or in person and have the benefit of visually identifying the non-verbal response(s) of the interviewee and subsequently being able to clarify the intended question.

Interviews can be costly and time intensive, and therefore are relatively impractical for large samples. Interviews were not used for this study as some of the respondents do not stay in the country and it was going to be very time consuming.

Questionnaire is another method of data collection used in survey research. Questionnaire may be self-administered or administered by the researcher. De Vaus (2002) defines questionnaire as a general term used to describe all techniques of data collection in which each person (respondent) is asked to respond to the same set of questions in a predetermined order. It may be administered individually or in a group. According to [Ponto et al. (2010](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4601897/#A8)) questionnaires may be in paper form and mailed to participants, delivered in an electronic format via email or an Internet-based program such as Survey Monkey, or a combination of both, giving the participant the option to choose which method is preferred. Using a combination of methods of survey administration can help to ensure better sample coverage (i.e., all individuals in the population having a chance of inclusion in the sample) therefore reducing coverage error, explained [Dillman et al (2014](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4601897/#A5)). [Check & Schutt (2012](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4601897/#A3)) further explained that self-administered mailed, group, or Internet-based questionnaires are relatively low cost and practical for a large sample.

Dillman et al. ([2014](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4601897/#A5)) have described and tested a tailored design method for survey research. Improving the visual appeal and graphics of surveys by using a font size appropriate for the respondents, ordering items logically without creating unintended response bias, and arranging items clearly on each page can increase the response rate to electronic questionnaires, explains Dillman et al. (2014). Attending to these and other issues in electronic questionnaires can help reduce measurement error (i.e., lack of validity or reliability) and help ensure a better response rate. This method was used for data collection for the following reasons:

* It was easier to contact respondents through email and questionnaire was easy to analyse as SPSS was used to easily find frequencies.
* Respondents were given time to respond on their own pace or schedule even though it took a longer time waiting for their responses.
* It was the cheapest method of collecting data.
* It reduced biasness as questions presentation was uniform.

Considering the above mentioned advantages, questionnaire was found be the best suitable data collection method for this study. The questionnaire was administered through the email as the participants were not staying in one country. The email addresses of the participants were requested from the MPM programme coordinator. In cases where the coordinator did not have the emails the available participants were requested to provide emails of those participants they know.

***3.5.1.1 Design of data collecting instrument***

As shown on Table 3.3, questionnaire was used to gather all information from the subjects and there were two set of questionnaire. One set for graduates and the other for non-graduates. The questionnaire items were designed in a way that they were guided by the Kirkpatrick model and the part of the CIRO model. The summative level of the CIRO model was the reaction of the graduates to the programme and output of the programme as mentioned in chapter 2. All the 4 levels in Kirkpatrick model were used and they were the students’ reaction to the programme, the measures of the learning attributed to the programme, the changes in the learners behaviour in context for which they are being trained for and the programme’s final results in the larger context. The questionnaire was mostly close ended questions in a likert scale whereby the respondent chose from a range of responses. The research collected quantitative information hence why close ended questions were used.

* + 1. **Data Analysis**

The questionnaire for graduates was aligned to the research objectives as shown on Table 3.4.

**Table 3.4: Alignment of the graduates’ questionnaire to the objectives and evaluation models**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Objective number | Questionnaire Section | Section subtitle | Kirkpatrick model level | CIRO Model level |
| 1 | 3, 4,5 | 1. Project Management Knowledge areas 2. Project Management Competencies. 3. UB Graduate skills. | Measures of learning | Outcome |
| 2 | 1,2,6 | 1. Background Information 2. Factors that contributed to graduate enrolment to the programme 3. Project Management career related dimensions developed for graduates | * Final results * Changes in a learners behaviour | Outcome |
| 3, 4 | 7,8,9,10,11,12 | 1. Nature of the Programme 2. Importance of current courses offered 3. Importance of suggested courses if they were to be offered 4. Major strengths of the programme 5. Challenges and graduates views related to the programme | Reaction/satisfaction | Reaction |

*Source: Author*

The questionnaire used for non-graduates was similar to the one for graduates except for the following as shown on Table 3.5;

1. Section 3- Project Management Knowledge areas
2. Section 4- Project Management Competencies
3. Section 5- UB Graduate skills.

**Table 3.5:** **Alignment of the non-graduates’ questionnaire to the objectives and evaluation models**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Objective number | Questionnaire Section | Section subtitle | Kirkpatrick model level | CIRO Model level |
| 3, 4 | All | 1. Background Information 2. Nature of the Programme 3. Importance of current courses offered 4. Importance of suggested courses if they were to be offered 5. Major strengths of the programme 6. challenges that contributed in students not completing the programme 7. non-graduates views related to related to the programme | Reaction/satisfaction | Reaction |

*Source: Author*

The questionnaire administered is attached as **Appendix 1 and Appendix 2**. A research permit is also attached.

* + 1. **Graduate questionnaire**

The intention of the first part of the graduates’ questionnaire (Section 1 and 2) was to get background information of their employment before graduation, their current employment, and reasons for their enrolment. Data was computed to get percentage levels on the aspect which contributed to graduates enrolling for the MPM Programme. Percentage levels for factors that did not contribute and that contributed a little to their enrolment were added to find no or little contribution totals. The percentage levels for factors that contributed a lot and a great deal to their enrolment were also added to get a lot or great deal contribution totals. This was done in order to draw conclusion on reasons the graduates enrolled for the programme. The background information assisted to generally get a view of what the graduates were doing before they enrolled for the programme and after graduation and time period they took to complete the programme and sectors they are generally working for.

For section 3 of the questionnaire the aim was to find percentage frequency of graduates who perceived they had gained the knowledge areas as per the objective of the programme and those who did not gain. To determine whether the knowledge was not gained, gained at low, medium or high gain, the graduates were requested to rate themselves on a likert scale of 1-4 in which 1 was representing level *‘none’* , 2 representing *‘poor’*, 3 representing *‘good’* and 4 representing *‘excellent’* before and after graduation. To find the level at which the graduates gain the knowledge, data was then computed using SPSS to find the difference between the knowledge level before graduation and after graduation. The differences were rated on a scale of 0-3 in which 0 was representing level ‘no gain’, 1 representing *‘low gain’*, 2 representing *‘medium gain’* and 3 representing *‘high gain’.* The percentage of graduates who gained was then subtracted from those who gained and with the percentage of those who gained, *Relative Gain Index (RGI)* was calculated to find the level of gain for each knowledge area. An average of RGI was then calculated by adding all the knowledge areas rated then dividing by their total. The same analysis approach was applied to find competencies and UB graduate skills on sections 4 and 5 of the questionnaire.

Section 6 intended to get graduates percentages on different career dimensions which they perceived the programme had assisted them develop as per the objective of the programme as mentioned on programme documents. Graduates frequency percentages were computed using SPSS for every dimension rated. Graduates percentages for the dimensions that were not and poorly rated were added and those that were goodly and excellently rated were also added to make conclusions on whether the programme developed the graduates’ career or not.

Section 7 was to get graduates view regarding the nature of programme. Suggested opinions in terms of the structure, duration and mode of delivery of other universities offering the same programme were compared to that of the UB MPM programme and graduates were requested to rate them. Graduates frequency percentage were computed using SPSS and a conclusion was drawn on whether more graduates prefer the programme as is currently offered or they prefer the other options listed.

Section 8 was intended to get graduates perceptions on the current MPM courses offered. Graduates frequency percentage for the graduates ratings were computed using SPPS. The graduates percentages for those who rated the courses as not important and least important were added together to conclude if the graduates consider the courses not important. Those that rated the courses moderate important and highly important were also added to conclude if the graduates consider the course as important. The same analysis was followed on section 9 to find out the opinions of the graduates on the suggested courses which were mentioned in section 2.4

On section 10 the opinions of the graduates were investigated on the major strengths of the programme and graduate frequency percentage were computed to find which strength of the programme was rated low or medium and high or very high by graduates. Section 11 showed how graduates were challenged during the programme and percentage were computed to find total percentages on factors that did not or least contributed and contribute a lot or great deal to challenges to make a conclusion on which factor challenged most graduates.

Finally, on section 12 the graduates were requested to give general comments on the aspects of the programme that they wished to in order to get their experiences and the suggestions on the programme. The comments were computed and a conclusion was derived from them.

As for non-graduates the questionnaire was to get background information of the non-graduates current employment, their enrolment year and whether they have made career progress since they have not graduated. The background information assisted in obtaining percentage level of non-graduates who worked or changed careers even before completion of programme and how many years ago have they enrolled for the programme.

On section 2 the intention was to find out if the non-graduates prefer nature of the programme as is or prefer the suggested opinions. For section 3 and 4 the opinions of the non-graduates were gathered on the current courses offered and suggested courses to be offered respectively to get a conclusion on which courses they prefer. On section 5 the non-graduates were investigated on the major strengths of the programme. Section 6 of the questionnaire wanted to find out the reasons that contributed mostly to students not completing the programme and finally on section 7 the non-graduates were requested to comment on every aspects of the programme that they wish in order to get their experiences and the suggestions on the programme.

Sections 2, 3, 4, 5, and 6 were analysed the same way as section 7, 8, 9 and 10 of the questionnaire for graduates respectively where frequency percentage of non-graduates was computed and conclusion was derived. The comments on section 7 were computed and a conclusion was derived from them.

## 3.6 Limitations

Table 3.6 summarised all the limitations that were surrounding the study

**Table 3.6: Limitations and their implications**

|  |  |
| --- | --- |
| Limitation | Implication |
| Population | Follow up of respondents who do not meet the deadline of the submitting back the questionnaire was a challenge; because they had to be contacted through email as they are all over the world. It was impossible to physically meet with respondents outside the outside because of distance. |
| Sample | It was difficult to get response from the non-graduates as most of the email provided were not working and the researcher had to rely on the people who know those students for their contact details.as convenience l sampling was used.  It was difficult to trace the participants and some of the emails were bouncing back. |
| Data collection | Low response rate was experienced when collecting data from non-graduates were not willing to participate. |
| Data analysis | Some of the respondents skipped the question so it became difficult to make conclusions out of such sections. |

*Source: Author*

## 3.7 Ethical issues

A number of scholars and institutions of higher learning consider it a universal norm to comply with research ethics. Research ethics are the principles that we use to make decisions about what is acceptable practice in any research project explains Macaskill (2016).

When conducting this study, research ethics were complied with as shown on Table 3.7;

**Table 3.7: Ethical issues**

|  |  |
| --- | --- |
| Ethical issues | How it has been addressed in the research study |
| Informed consent | The informed consent from MPM graduates and non-graduates (participants) was obtained prior to them commencing with questionnaires. The confidentiality of the information or data collected in this study was maintained as participants were not required to disclose their names. |
| Voluntary Participation | Participants were given the option to withdraw from the study by clearly stating that the participation was voluntarily. |
| Plagiarism | All sources of information used in the content of this research study were acknowledged. |
| Seeking permission to conduct research | A permission to conduct the research study was sought from the Office of Research and Development (ORD), UB which later referred the researcher to the Ministry of Education where the permit was obtained. |
| Falsification of data or prejudicing research method | Clear and accurate information was given to participants that the information will be used for academic purposes and for the benefit of the MPM programme. |

*Source: Author*

## Chapter Summary

The survey method was used to collect qualitative data. Even though the study was get the perception of graduates regarding the programme the study added the non-graduates as another set of respondents to get more insight of the programme. Census was used a sampling method for graduates and convenience sampling was used for non-graduates. Questionnaire was used as data collection method for this study and it was in two set. One set was for the graduates and the other one was for non-graduates. The questionnaire was in the form of a likert scale. It was administered through email as the graduates and non-graduates were not in one place. The course coordinator was requested for the email addresses or contacts of all the graduates and available contacts for non-graduates, other contacts for non-graduates were requested from other non-graduates. Responses got from the respondents were analysed using SPSS. There were limitations that were encountered during the study such as low response rate and some questionnaire not being answered. The ethical issues were compiled to as indicated on the chapter had been considered and were observed throughout the study.

The questionnaire that was administered is attached as appendix 1 and 2. The research permit is also attached. The results will be presented and discussed on Chapter 4 that follows. Chapter 4 will at the end answer all research question and research aim.

# CHAPTER 4: DATA ANALYSIS AND DISCUSSION

## 4.1 Introduction

This chapter presents the analysis of data that was collected through questionnaire survey. The questionnaire was sent to respondents through email. The chapter also covers how the questionnaire was distributed and the nature of responses and response rate. The chapter is presented in a way that the findings address the research aim and research objectives in chapter 1.4. The importance of the findings is also covered on this section. The limitations of the study are mentioned and the recommended how the study will be taken further.

## 4.2 Background information of respondents

Theresponse rate for graduates and non-graduates were as per Table 4.1. The table indicates that 21 responses were received out the 47 population. Out of the 200 non-graduates the researcher managed to get only 20 emails of which only eight (8) responded. The study experienced a low response rate from the non-graduates as they were not willing to respond to the questionnaire sent to them even those that responded did that after several reminders.

**Table 4.1: Response rate**

|  |  |  |  |
| --- | --- | --- | --- |
| Category | Population | Number of responses received | Responses rate |
| Graduates | 47 | 21 | 45% |
| Non-graduates | 200 | 8 | 4% |

*Source: Author*

Furthermore Table 4.2 shows the main attributes of the graduates and non-graduates e.g. gender, citizenship and source of sponsorship. The attributes are divided into those for graduates (column A) and non-graduates (column B)

**Table 4.2 (1-7): Respondents background information**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Background description | A  Graduates  N=21 | B  Non-graduates  N=8 |
| 1) | Gender | Male | 76.2% | 75% |
|  | Female | 23.8% | 25% |
|  |  | **Total** | **100%** | **100%** |
| 2) | Citizenship | Citizens | 71.4% | 87.5% |
|  | Non-citizens | 28.6% | 12.5% |
|  |  | **Total** | **100%** | **100%** |
| 3) | Undergraduate degree | Engineering undergraduate degree | 48% | 37.5% |
|  | Non-Engineering undergraduate degree | 47% | 62.5% |
|  | Unknown undergraduate degree | 5% | None |
|  |  | **Total** | **100%** | **100%** |
| 4) | Sponsorship | Self-sponsored | 90.4% | 75% |
|  | Scholarship/Company sponsored | 9.6% | 25% |
|  |  | **Total** | **100%** | **100%** |
| 5) | Employment before enrolment | Unemployed | 4.8% | None |
|  | Self-employed | None | 12.5% |
|  | Local Government | 42.9% | None |
|  | State owned Company | 23.8% | 50% |
|  | Private Firm | 19% | 12.5% |
|  | NGO | None | 25% |
|  | Other | 9.5% | None |
|  |  | **Total** | **100%** | **100%** |
| 6) | Current employment | Unemployed | None | 12.5% |
|  | Self-employed | 9.5% | 12.5% |
|  | Local Government | 28.6% | 12.5% |
|  | State owned Company | 28.6% | 50% |
|  | Private Firm | 23.7% | 12.5% |
|  | NGO | 4.8% | None |
|  |  | Other | 4.8% | None |
|  |  | **Total** | **100%** | **100%** |
| 7) | Sector working for | Construction | 42.9% | 25% |
|  | IT | None | 12.5% |
|  | Business | 9.5% | 12.5% |
|  | Mining | 4.8% | None |
|  | Other | 42.9% | 25% |
|  | Not indicated | None | 25% |
|  |  | **Total** | **100%** | **100%** |

*Source: Field data*

* + 1. **Gender and citizenship**

The results shows a wide difference of gender on the students who enrolled and graduated from MPM programme. This is evident as Table 4.2 (1)shows that out of the 21 MPM graduates who responded 76.2% were male and 23.8% were female. Table 4.2 (2) further shows that out of the 8 MPM non-graduates 75% were male and 25% were female These results show that the programme have a challenge of gender imbalance and there should be a strategy to promote gender balance for the programme.

According to the Department of Civil Engineering, (2003) one of the objectives of the MPM Programme is to produce high quality human resources for management of Projects in Botswana and SADC countries. With the results collected it is evident that the programme is achieving the objective as the programme enrols both citizens and non-citizens. Out of the 21 graduates respondents 71.4% were citizen and 28.6% were non-citizen while out of the 8 non-graduates respondents 87.5% were citizen and 12.5% were non-citizen as shown by Table 4.2 (2). Even though the results shows that there were more citizen enrolling for the programme but non-citizens were also represented. This shows that MPM enrolled students from all parts of Africa and that means the programme is well marketed.

* + 1. **Academic background**

The study had shown that students who enrolled for MPM programme were of different academic background as Table 4.2 (3) shows that 47% of the graduates who responded did non-engineering undergraduates degree. Although more respondents (48%) did engineering undergraduate it shows that the programme enrolled students from different academic backgrounds. The table also shows that 5% of the respondents did not indicate their undergraduates’ degree.

Non-graduates statistics also had proven the programme documents that had indicated that the programme is generic. The results on Table 4.2 (3) indicated that 67.5% of non-graduates respondents did non-engineering undergraduates degree and only 37.5% did engineering undergraduate degree.

* + 1. **Source of sponsorship**

Literature had shown that candidates with scholarships or stable funding are often successful in completing their studies within the stipulated minimum time periods. Results on Table 4.2 (4) shows that 90.4% of the respondents were self-sponsored, 9.6% were sponsored by the company that they worked for/scholarship. This showed that there were little chances of students finding scholarships and organisations or companies they work for sponsoring them. Also the study gathered data that shows that 75% of non-graduates were self-sponsored and only 25% were sponsored by the company that they worked for/scholarship. This is evident that the students are not doing well on the part of gaining sponsorship/scholarship and thus the programme may come up with strategies to encourage companies to sponsor their employees to enrol for MPM or come up with scholarships in order to market the programme so as to help to motivate the students to complete their studies and on time.

* + 1. **Employment history**

The Department of Civil Engineering, (2003) indicated that the MPM programme was proposed considering the technological, social and economic needs of Botswana and that of the region, especially in the areas that deal with managing, monitoring and evaluation of projects. To find evidence on that MPM graduates were requested to indicate where they were working before enrolment and where they were currently working. They were also requested to indicate the sectors they are working for. Results on Table 2.4 (5) show that out of the 21 respondents, 42.9% were working for local government, 4.8% were unemployed and no one was self-employed before enrolment. Table 4.2 (5) also presents the results in which 50% of the non-graduates were working for state owned companies before they enrolled for the MPM programme.

When compared to current employment Table 2.4 (6) shows that currently amongst graduates, 28.6% were working for local government, 9.5% were self-employed and no one was unemployed. The information proved that there was improvement on employment history for graduates from the period of enrolment and after graduation. Table 4.2 (6) proves that for graduates no one was currently unemployed but 12.5% of the non-graduates were still unemployed. There was an improvement noticed on the employment of the graduates although it was not evident that the improvement was entirely brought by them being MPM graduates. When compared to current employment Table 2.4 (6) shows that even currently 50% of the non-graduates were still working for state owned companies. This shows that most of the non-graduates have not switched jobs and this maybe the reason that they had not advanced their qualifications.

According to the MPM programme documents the programme was intended to assist graduates to find jobs if they were unemployed and results had proved that graduates are more progressing career wise than non-graduates.

Results provided on Table 4.2 (7) shows that 42.9% of graduates worked for construction sector and 57.1% worked on different sectors including mining and business. This shows that MPM graduates were not working for one sectors and a variety of sectors across were benefiting from the MPM programme through its graduates. Also Table 4.2 (7) shows that 25% of the non-graduates worked for construction sector and the rest were working on different sectors across the industries. The results provided are evidence that the programme is doing well as graduates proved to be working in different sectors and contributing towards the strategic role of meeting the country’s developments needs through advancing human resources development and developing research and innovation capacity.

* + 1. **Graduates completion periods**

Still on investigating the background of the respondents the graduates were asked to state their enrolment and graduation years to find their completion period. The completion period is the time it takes a student to complete a degree after initial enrolment. The graduate’s completion period was computed by finding the variance between the enrolment year and graduation year. The figure 4.1 shows the categories in which the graduate completion period were presented. The results of the study indicated that the first category of the years was set at 0-3 years as the minimum programme duration. This was because a Master’s degree at the University of Botswana is two (2) years full-time and three (3) years for part-time study as indicated on the UB graduate calendar (2018). The second category was for the graduates who took more the stipulated minimum period. And the last category was for those who took more than double of the stipulated period.

**Figure 4.1: Programme completion periods for graduates**

*Source: Field data*

The results show that 52.4% of the graduates took 3 years or less to complete the programme as shown by Figure 4.1. This study shows that more than half of the graduates finished their studies within 36 months of the programme duration. The study further shows that the rest of graduated students took more time than the programme duration in which amongst them 42.8% took 4-7 years and only 4.8% took more than double the programme duration. Literature had shown that taking longer than the minimum programme duration is equally undesirable because it clogs the systems and leads to high and unbearable numbers of students per supervisor which can lead to supervisors working under pressure and not doing their best.

* + 1. **Enrolment years for non-graduates**

To find how many years ago since the non-graduates were enrolled for programme the variance between their enrolment year and the current year (2019) which is the year the research was conducted was calculated.

**Figure 4.2: Number of years ago after enrolment of the** **non-graduates**

*Source: Field data*

According to the study 37.5% of the non-graduates had enrolled 6 years ago and 62.5% enrolled 7-14 years ago as shown by Figure 4.2. These results means that 37.5% of non-graduates who enrolled 6 years ago still have a chance to continue with the programme if they wish to as the UB graduate calendar (2018) states that the duration of the study should be maximum of 12 semesters and 62.5% do not have a chance of going back to the programme as they have exhausted their required semesters.

## Project management Knowledge, Competencies and skills acquired by graduates

According to MPM programme documents and UB policy one of the objectives of the MPM programme is to produce the graduates with Project Management knowledge areas, competencies and UB graduate skills. In order to get their perception on how much they had gained the graduates were requested to rate their level of knowledge, competencies and skills before they enrolled for the programme and after they graduated.

On section 4.3.1 that follows, a computation of the difference was conducted where zero (0) indicated no gain while three (3) indicated high gain of knowledge. One (1) indicated the graduates had gained but at a low level and two (2) indicated medium gain as stated on section 3.5.3 (pg38). The same concept was applied for Competencies and Skills gained by graduates on section 4.3.2 and 4.3.3 that follow respectively.

* + 1. **Perception on level of knowledge acquired**

The Graduates were requested to indicate whether they gained knowledge from the programme. On average (10.5% of the respondents) minority indicated that they did not gain from the programmes in the various areas as shown on Table 4.3. However, on average (89.5%) majority indicated that they gained from the programme in various areas, for example, 95.2% of the graduates indicated that they gained *‘the ability to explain the purpose of aligning projects to organizational strategy’*. For those who gained knowledge when they were asked the levels at which they gain a particular aspect on a scale of *1-low gain to 3-high gain* they indicated the results in the last column of Table 4.3. See section 3.5.3 above. As an example knowledge relating to *‘the* *ability to explain the purpose of various processes and tasks required for project cycle’* the graduates indicted that they had gained a level of 1.83 out of a maximum of 3. The highest level of gain was 1.84 (item 2), lowest gain was 1.47(item 3) and the average gain was 1.69 (as shown at the bottom of Table 4.3 which is equivalent to medium gain).

**According to the graduates perception the objective of the programme of producing graduates equipped with Project Management Knowledge areas had been met as the results shows that on average more graduates had gained the knowledge areas at medium level upon completion of the programme.**

**Table 4.3 (1-5): Level of gain on Project Management Knowledge areas**

|  |  |  |  |
| --- | --- | --- | --- |
| **Knowledge**  **Ability to;** | **N=21**  **Total=100%** | | |
| **%No gain** | **%Gained** | **Level of gain** |
| 1) Explain the purpose of aligning projects to organizational strategy | 4.8% | 95.2% | 1.70 |
| 2) Describe the role and responsibilities of a project leader | 9.5% | 90.5% | 1.84 |
| 3) Analyse the effects of environment on the project goals | 9.5% | 90.5% | 1.47 |
| 4) Being able to analyse the impact of the project on the environment | 14.3% | 85.7% | 1.61 |
| 5) Explain the purpose of various processes and tasks required for project cycle. | 14.3% | 85.7% | 1.83 |
| **Average** | **10.5%** | **89.5%** | **1.69** |

*Source: Field data*

**4.3.2 Perception on the level of competencies gained**

As already mentioned another objective of Masters for Project Management is to produce graduates with Project management competencies so they can make an impact in the work environment. The same approach in section 4.3.1 was used to determine whether this MPM objective was met.

**Table 4.4 (1-15): Level of gain on Project Management competencies**

|  |  |  |  |
| --- | --- | --- | --- |
| **Competency**    **Ability to;** | **N=21**  **Total=100%** | | |
| **%No gain** | **%Gained** | **Level of gain** |
| 1) Develop a project plan with scope | 4.8% | 95.2% | 1.70 |
| 2) Develop a project plan with deliverables | 9.5% | 90.5% | 1.84 |
| 3) Develop a project plan with stakeholders Management | 9.5% | 90.5% | 1.84 |
| 4) Develop a project plan with quality and safety | 9.5% | 90.5% | 1.58 |
| 5) Develop a project business case | 9.5% | 90.5% | 1.58 |
| 6) Develop a project plan with Role and responsibility assignment | 14.3% | 85.7% | 1.72 |
| 7) Develop a project plan with schedule | 14.3% | 85.7% | 1.67 |
| 8) Develop a project plan with resources | 14.3% | 85.7% | 1.56 |
| 9) Develop a project plan that includes Risk | 19.0% | 81.0% | 1.94 |
| 10) Develop a project plan that includes Monitoring and evaluation | 19.0% | 81.0% | 1.75 |
| 11) Develop feasibility study | 19.0% | 81.0% | 1.71 |
| 12) Perform a project close-up | 19.0% | 81.0% | 1.69 |
| 13) Develop a project plan that includes budget | 23.8% | 76.2% | 1.63 |
| 14) Develop a project plan that includes Communication | 28.6% | 71.4% | 1.80 |
| 15) Develop a project plan that includes Procurement | 28.6% | 71.4% | 1.73 |
| **Average** | **21.9%** | **78.1%** | **1.74** |

*Source: Field data*

When requested to indicate whether they have gained the competencies on average (21.9% of the graduates) the minority indicated that they did not gain from the programmes in the various areas as shown on Table 4.4. However, on average (78.1%) the majority indicated that they gained from the programme in various areas. An example in Table 4.4(1) shows that 95.2% of the graduates gained *‘the ability to develop a project plan with scope’*. For those who gained when asked the level at which they gain a particular aspect on a scale of *1-low gain to 3-high gain* they indicated the results in the last column of Table 4.4. An example on Table 4.4 (15) shows the competency *‘the* *ability to develop a project plan that includes Procurement’* in which the graduates indicated that they had gained a level of 1.73 out of a maximum of 3. The highest level of gain was 1.84 (item 2 and 3), lowest gain was 1.56 (item8) and the average gain was 1.74 (as shown at the bottom of Table 4.4 which is equivalent to medium gain).

**According to this study the programme objective of producing graduates equipped with Project Management Competencies had been met as the results shows that on average more graduates had gained the knowledge areas at medium level upon completion of the programme.**

**4.3.3 Perception on the level of skills gained**

Still within the MPM programme objectives the intention was to produce graduates with UB graduates skills listed on section 2.5.3 (pg23) of literature review. The graduates were requested to assess their gain on UB graduate skills after completion of the programme and the results are shown on Table 4.5. On average (41.9% of the graduates) minority of the graduates indicated that they did not gain the various UB graduates skills. However on average (58.1%) majority indicated they gained the various skills. For example Table 4.5 (1) shows the highest skill gained being the *‘possession research skills and information literacy’* was gained by 85.7% of the graduates. Graduates who gained the skills when asked the level at which they had gained a particular aspect on a scale of *1-low gain to 3-high gain* indicated the results in the last column of Table 4.5.

Table 4.5 (12) shown an example of a skill of *‘being accountable and uphold ethical standards’* was which was gained by 38.1% of graduates in which the graduates indicated that they had gained a level of 1.14 out of a maximum of 3. The highest level of gain was 1.60 (item 10), lowest gain was 1.13 (item 4) and the average gain was 1.32 (as shown at the bottom of Table 4.5 which is equivalent to low gain). It is worth noting that even though the results shows that most of the graduates did not gain the UB skills the fact of the matter is that raw data shows that most graduates were rating their skills as excellent (4) before enrolment and after completion (that is they already had the skills when they enrolled for the programme) hence why is seems like they did not gain the skills after the comparatives were computed.

**According to this study the objective of producing graduates with UB graduates skills was met as the results shows that the graduates had gained the skills upon completion of the programme even though it was gained at a low level.**

**Table 4.5 (1-12):Level of gain on UB Graduate skills**

|  |  |  |  |
| --- | --- | --- | --- |
| **Skill**  Ability | **N=21**  **Total=100%** | | |
| **%No gain** | **%Gained** | **Level of gain** |
| 1) Research skills and information literacy | 14.3% | 85.7% | 1.41 |
| 2) Entrepreneurship and employability skills | 28.6% | 71.4% | 1.29 |
| 3) Being a critical and creative thinker | 28.6% | 71.4% | 1.14 |
| 4) Organisational and teamwork skills | 28.6% | 71.4% | 1.13 |
| 5) To communicate effectively | 38.1% | 61.9% | 1.17 |
| 6) To effectively interact with others | 38.1% | 61.9% | 1.17 |
| 7) Being a self–directed and lifelong learner | 38.1% | 61.9% | 1.08 |
| 8) To be cross-cultural fluency | 42.9% | 57.1% | 1.27 |
| 9) Being a problem solver at work | 47.6% | 52.4% | 1.50 |
| 10) Having social responsibility and leadership skills | 52.4% | 47.6% | 1.60 |
| 11) Being able to use ICT\* knowledge and skills | 52.4% | 47.6% | 1.20 |
| 12) Being accountable and uphold ethical standards | 61.9% | 38.1% | 1.14 |
| **Average** | **41.9%** | **58.1%** | **1.32** |

*Source: Field data*

When analysing section 4.3, it shows that graduates had gained the project management knowledge areas, competencies and UB graduates skills as per the objective of the programme. This is evident as Table 4.3 had shown that on average 89.5% of the graduates had gained the knowledge areas at medium level, 78.1% gained competencies at medium level as shown by Table 4.4 and lastly 58.1% gained the UB graduates skills at low level upon completion of the programme as shown by Table 4.5.

## Career development for MPM graduates

MPM programme documents mentioned that MPM programme is intended to assist graduates acquire employability skills and hence assist with increased responsibility at work, promotion and increase in salary, changing of work for better remuneration and finding a job after graduation. The graduates were asked to indicate the motivation for their enrolment and how the programme developed them after graduation in order to investigate these aspects. The results were then discussed on the next section.

**4.4.1 Factors that contributed to graduates enrolling for the MPM programme**

Table 4.6 shows the results for different factors that contributed to graduates enrolling for the programme. The table shows that out of six factors that were rated graduates indicated that three did not contribute or contributed a lot for their decision to enrol for the programme. Furthermore three aspects contribute a lot and a great deal to their decisions. For example the factor that contributed a lot or great deal to most graduates enrolling for MPM programme was for them *‘to obtain a higher qualification’* (95.5% of graduates) as shown by Table 4.6 (1). The factor did not contribute or contributed a little to only 4.8% of the graduates.

Table 4.6 (5) shows that graduates did not enrol for the programme to *‘networking with other students from other parts of the country’* as 85.7% of graduates indicated that the factor did not contribute or contributed a little to their decision. Only 14.3% of the graduates said it contributed a lot or a great deal to their decision. Possibility is that the factor did not contribute at all or contributed a little to graduates enrolling for the programme as they were from different employment sectors and maybe felt networking with people from different sectors won’t benefit them in anyway. It worth mentioning that 95.2% of graduates did not enrol for the programme *‘just because they wanted to pass time’* .as shown by Table 4.6 (6) and only 4.8% felt that the factor contributed a lot or a great deal to their decision. This is possibly because most of the graduates were already working before they enrolled for the programme.

**The results from this study clearly show that students generally enrolled for the programme for obtaining a higher qualification thus develop their careers.**

**Table 4.6 (1-6): Contribution levels of factors that contributed to graduate enrolment**

|  |  |  |
| --- | --- | --- |
| **Factor** | **N=21**  **Total=100%** | |
| Not contributed+ very little | Contributed a lot + a great deal |
| 1) Obtaining higher qualification | 4.8% | 95.2% |
| 2) Positioning oneself for getting a decent employment | 23.8% | 76.2% |
| 3) Increasing chances of succeeding in self-employment | 28.6% | 71.4% |
| 4) Increasing chances of getting promotion | 57.2% | 42.8% |
| 5) Networking with other students from other parts of the country | 85.7% | 14.3% |
| 6) Passing time because one was unemployed | 95.2% | 4.8 |

**\**1/2=not contributed + contributed a little \*3/4= Contributed a lot + contributed a great deal***

*Source: Field data*

**4.4.2 Career dimensions developed by MPM programme**

As already mentioned the programme is intended to assist graduates to develop career wise. Table 4.7 shows the graduates views on how the programme developed their careers on different dimensions. The results for instance on Table 4.7 (1) shows that all 95.2% of the graduates are good or excellent in *‘conducting themself in a manner that is professional and ethical’* while 4.8% indicated that the programme did not develop them in that dimension or they are still poor in that regard. Even though the programme did not or did poorly on helping 57.1% of the graduates to get a *‘promotion at work’* at least 42.9% of them indicated that they got promoted as shown by Table 4.7 (6). It is of note that 4.8% of graduates did not respond on the factor on Table 4.7 (2). On average the MPM programme goodly or excellently developed 77% of the graduates in different career dimensions and 22.3% of graduates were not or poorly developed on different dimensions. **This study shows that in general the MPM programme met its objective of helping graduates develop their careers.**

**Table 4.7 (1-6): Level of ratings on career dimensions developed by MPM programme**

|  |  |  |
| --- | --- | --- |
| **Dimension** | **N=21**  **Total=100%** | |
| None+ Poor | Good+ Excellent |
| 1) Conducting oneself in a manner that is professional and ethical | 4.8% | 95.2% |
| 2) Able to apply appropriate knowledge and skills to manage the project life-cycle of a project. | 4.8% | 90.4% |
| 3) Able to lead and manage project stakeholders to achieve a project goal. | 9.6% | 90.4% |
| 4) Able to solve project related problems. | 14.3% | 85.7% |
| 5) Used the qualification to get job offer/switch jobs | 42.9% | 57.2% |
| 6) Got promoted at work | 57.1% | 42.9% |
| **Average total percentage** | **22.3%** | **77%** |

***\*1/2=none + poor \*3/4=good + excellent***

*Source: Field data*

After getting graduates perceptions on why they enrolled for the programme and how the programme helped the graduates develop career wise it is of conclusion that the MPM graduates enrolled for the programme for obtaining a higher qualification and thus career development and indeed the programme contributed positively to development of their careers hence their needs were met and also the programme objective of developing graduates career wise was met.

## 4.5 Nature of the MPM programme

Respondents were asked to state their views on the nature of the MPM programme including the structure, the type, delivery mode, duration. As already mentioned on chapter 3 both graduates and non-graduates were further requested to rate the importance of the currently offered courses, the suggested courses and rate the strength of the MPM programme. Table 4.8 provides the results on these investigations. The aspects are divided into those for graduates (column A) and non-graduates (column B).

**Table 4.8 (1-5): Respondents preference on the nature of the MPM programme**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Programme preference | A  Graduates  N=21 | B  Non-graduates  N=8 |
| 1) | Structure: | Fully Coursework | 4.8% | 37.5% |
|  | Course work with a semester project | 19% | 25% |
|  | Half coursework and Half dissertation as currently offered | 61.9% | 25% |
|  | Fully Dissertation | 14.3% | 12.5% |
|  |  | **Total** | **100%** | **100%** |
| 2) | Type | Generic programme as currently offered | 71.4% | 62.5% |
|  | MPM with specialization | 28.6% | 37.5% |
|  |  | **Total** | **100%** | **100%** |
| 3) | Mode of Delivery | Block release | 19% | 37.5% |
|  | Semesterisation as currently offered | 81% | 62.5% |
|  |  | **Total** | **100%** | **100%** |
| 4) | Duration-Full time | 12 months | 28.6% | 25% |
|  | 18 months | 42.9% | 75% |
|  | 24 months-as currently offered | 28.6 | 0% |
|  |  | **Total** | **100%** | **100%** |
| 5) | Duration-Part time | 24 months | 28.6% | 50% |
|  | 36 months-as currently offered | 66.7% | 50% |
|  | 48 months | 4.8% | 0% |
|  |  | **Total** | **100%** | **100%** |

*Source: Field data*

**4.5.1 Structure of the programme**

The study shows that the graduates preferred the structure of the programme to remain as it is currently but non-graduates have a different view. This is shown by Table 4.8 (1) that 61.9% of the graduates indicated that they preferred the programme as half coursework and half dissertation and 37.5% of non-graduates prefer the programme as fully coursework. Table 4.8 (1) further shows that, only 25% of non-graduates prefer the programme to remain as is. **The results generally shows that graduates prefer the structure of the programme as it is currently while most of the non-graduates prefers it to be fully coursework.**

**4.5.2 Type of the programme**

The results show that both graduates and non-graduates prefer the type of the programme as generic. This is shown by Table 4.8 (2) that 71.4% and 62.5% of the graduates and non-graduates indicated respectively that they prefer the programme as generic. **These results show that respondents appreciate the programme type as it is currently offered.**

**4.5.3 Delivery mode of the programme**

As for delivery mode both the graduates and non-graduates preferred the programme as semesterisation. This was shown by Table 4.8 (3) as 81% of the graduates and 62.5% of non-graduates indicated that they prefer semesterisation over block release. **These results also show that respondents prefer the programme delivery mode as it is currently is.**

**4.5.4 Duration of the programme**

Table 4.8 (4) indicates that the graduates prefers the duration of the programme to 18 months for full-time and 36 months for part-time (as currently offered). This is evident as 42.9% of graduates and 75% non-graduates indicated that they prefer 18 months for full time and 66.7% of graduates and 50% of non-graduates indicated that they prefer 36 months for part-time. It is worth mentioning though that another 50% of non-graduates preferred the part-time programme to be 24 months. **These results shows that respondents prefer the duration of the programme as is currently for part-time but prefer full time to be reduced to 18 months .** This is not a problem though as according to the UB graduate calendar (2018) students are allowed a chance to shorten their duration as long as they take the minimum of 4 semesters and maximum of 12 semesters for a programme.

**4.5.5 MPM programme currently offered courses**

Table 4.9 shows how the respondents assessed the importance of the currently offered courses. The courses are divided into those for graduates (column A) and non-graduates (column B). Table 4.9 (1) for instance shows that *‘Research methodology’* is considered moderate or highly important by 100% of the graduates and 87.5% of the non-graduates while 12.5% of non-graduates consider it as not or least important. ‘*Project Quality, Health and Safety Management’* course was considered moderate or highly important by 95.2% of the graduates and 100% of the non-graduates while 4.8% of graduates consider it as not or least important as shown by Table 4.9 (12). It is worth mentioning that ‘*Research Proposal*’ and ‘*Dissertation’* courses were considered by 37.5% and 50% of non-graduates as not or least important as shown by Table 4.9(8) and (9) respectively. This could possibly be because they indicated on section 4.5.1 that they prefer the structure of the course to be fully coursework. Even though that is the case on average only 1.2% of graduates and 8.3% of non-graduates consider the courses not or least important while 98.8% of graduates and 91.7% of non-graduates consider them moderate or highly important. **These results show that generally respondents are of a view that the courses currently offered are moderate and highly important to them and the programme.**

**Table 4.9 (1-12): Levels of importance on courses currently offered by MPM programme**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Courses offered** | **A**  **Graduates**  **N=21 Total=100%** | | **B**  **Non-graduates**  **N=8 Total=100%** | |
| Not + least important | Moderate+ very important | Not + least important | Moderate + very important |
| 1) Research Methodology | 0% | 100% | 12.5% | 87.5% |
| 2) Project Planning | 0% | 100% | 0% | 100% |
| 3) Project Environment Analysis | 0% | 100% | 0% | 100% |
| 4) Project Impact Assessment, Monitoring and Evaluation | 0% | 100% | 0% | 100% |
| 5) Project Resources Procurement and Administration | 0% | 100% | 0% | 100% |
| 6) Project Risk Analysis | 0% | 100% | 0% | 100% |
| 7) Project Finance, Cost Estimation and Control | 0% | 100% | 0% | 100% |
| 8) Research Proposal | 0% | 100% | 37.5% | 62.5% |
| 9) Dissertation | 0% | 100% | 50% | 50% |
| 10) Project Leadership and Conflict Management Strategies | 4.8% | 95.2% | 0% | 100% |
| 11) Project Legal Environment | 4.8% | 95.2% | 0% | 100% |
| 12) Project Quality, Health and Safety Management | 4.8% | 95.2% | 0% | 100% |
| **Average total percentage** | **1.2%** | **98.8%** | **8.3%** | **91.7%** |

***1/2= Not important + least important 3/4= Moderate important + very important***

*Source: Field data*

**4.5.6 Suggested courses for the programme**

Table 4.10 present the results on how the graduates view the suggested courses for MPM programme. Table 4.10 (1) for example shows that the *‘Strategic Project Management’* course was considered moderate or highly important by 100% of the graduates and 87.5% of the non-graduates while 12.5% of non-graduates consider it as not or least important. *‘Decision Support for Management’* course was considered moderate or highly important by76.2% of the graduates and 75% of the non-graduates while 23.8% of graduates and 25% of the non-graduates consider it as not or least important as shown by Table 4.9 (6). These results shows on average that only 12.5% of graduates and 14.5% of non-graduates consider the courses not or least important while 87.3% of graduates and 85.5% of non-graduates consider them moderate or highly important. **These results indicate that the suggested courses are viewed as important to the programme by the respondents and they may be considered to be included as part of the programme.**

**Table 4.10 (1-6): Levels of importance on suggested courses for MPM programme**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Suggested courses** | **A**  **Graduates**  **N=21 Total=100%** | | **B**  **Non-graduates**  **N=8 Total=100%** | |
| Not + least important | Moderate + very important | Not + least important | Moderate + very important |
| 1) Strategic Project Management | 0% | 100% | 12.5% | 87.5% |
| 2) Leading and Managing Project Teams | 4.8% | 95.2% | 12.5% | 87.5% |
| 3) Strategy and Organisational Dynamics | 4.8% | 95.2% | 12.5% | 87.5% |
| 4) Information Management | 19% | 81% | 12.5% | 87.5% |
| 5) International Project Management and Practice | 23.8% | 76.2% | 12.5% | 87.5% |
| 6) Decision Support for Management | 23.8% | 76.2% | 25% | 75% |
| **Average total percentage** | **12.7%** | **87.3%** | **14.5%** | **85.5%** |

***1/2= Not important + least important 3/4= Moderate important + very important***

*Source: Field data*

**4.5.7 Strength of MPM programme**

Table 4.11 present the results on how the respondents view the major strength of the MPM programme. The table is divided with strengths rated by graduates (column A) and the ones for non-graduates (column B). Table 4.11 (1) for example shows that 81% of the graduates were of a view that the major strength of the MPM programme was the *‘staff qualifications’* which they rated high or very high and only 19% rated it low or medium. When compared to the non-graduates; they of a view that the major strength of the programme is the *‘teaching and learning environment’* as 100% of them rated it high and very high and no one view it as low or medium as shown by Table 4.11(4). Table 4.11 (10) continue to show that 57.1% of graduates and 75% of non-graduates found *‘quality of facilities and equipment in labs’* dissatisfying as they rated it as low or medium, only 42.9% of graduates and 25% of non-graduates rated it as high or very high In general results show that in average 36.6% of the graduates and 26.3% of non-graduates rated the strengths as low and medium while 63.4% of graduates and 73.7% rated them as high or very high. **According to this study the programme’ strength are on average rated as high or very high by the respondents but the programme still had more to improve on the strengths rated.**

**Table 4.11 (1-10): Ratings on the major strength of MPM programme**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Strength** | **A**  **Graduates**  **N=21 Total=100%** | | **B**  **Non-graduates**  **N=8 Total=100%** | |
| Low+ medium | High+ very high | Low+ medium | High+ very high |
| 1) Staff qualifications | 19% | 81% | 25% | 75% |
| 2) Relevance of the programme to professional requirements | 23.8% | 76.2% | 12.5% | 87.5% |
| 3) Lecturer/student relationship | 23.8% | 76.2% | 12.5% | 87.5% |
| 4) Teaching and learning environment | 28.6% | 71.4% | 0% | 100% |
| 5) Student workload | 33.3% | 66.7% | 37.5% | 62.5% |
| 6) Interdisciplinary learning | 38.1% | 61.9% | 12.5% | 87.5% |
| 7) Opportunity to contact staff out of class | 47.6% | 52.4% | 25% | 75% |
| 8) The cost of the programme | 47.6% | 52.4% | 37.5% | 62.5% |
| 19) The payment structure of the programme i.e. paying for credit taken | 47.6% | 52.4% | 25% | 75% |
| 10) Quality of facilities and equipment in labs | 57.1% | 42.9% | 75% | 25% |
| **Average total percentage** | **36.6%** | **63.4%** | **26.3%** | **73.7%** |

***\*1/2=low + medium \*3/4=high + very high***

*Source: Field data*

Section 4.5 has shown that both graduates and non-graduates prefer the programme to be offered as is currently is regarding its nature except for structure of the programme in which non-graduates prefer it to be fully coursework . Both respondents are found to view both the currently offered courses and the suggested courses to be important to them and the programme. With regard to the strengths of the programme on both graduates and non-graduates majority rated them as very high though the researcher have a feeling that there is still room for improvement especially for ‘quality of facilities and equipment in labs’ strengths.

## 4.6 Challenges and other issues encountered by the graduates and non-graduates

As part of the evaluation the respondents were asked to assess the extent at which some aspects challenged them during the programme. They were also asked to make general comments on how they view the programme. The following sections elaborate more on the results collected.

**4.6.1 Factors that contributed to challenges for graduates and non-graduates**

Table 4.12 shows the results how the respondents assessed the factors that contributed to them being challenged during the programme. The results shows that 81% of the graduates and 62.5% of the non-graduates indicated that ‘work related challenges’ contributed a lot or a great deal to their challenges during the programme and only 19% of the graduates and 37.5% of the non-graduates indicated that they did not or contributed a little as shown by Table 4.12 (1). Table 4.12 (7) further shows that 100% of both respondents indicated that they never found the programme irrelevant to them. **In general the results shows that majority of both the respondents were not challenged by the programme except for work related issues.**

**Table 4.12(1-7): Challenges encountered by respondents**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Factors** | **Graduates**  **N=21 Total=100%** | | **Non-graduates**  **N=8 Total=100%** | |
| Not + Very little contribution | Contributed a lot + a great deal | Not + Very little contribution | Contributed a lot + a great deal |
| 1) Work related challenges | 19% | 81% | 37.5% | 62.5% |
| 2) Social related challenges | 71.4% | 28.6% | 62.5% | 37.5% |
| 3) Financial challenges | 76.2% | 23.8% | 62.5%% | 37.5% |
| 4) Not coping with the programme material | 95.2% | 4.8% | 87.5 | 12.5% |
| 5) The programme environment not conducive | 95.2% | 4.8% | 87.5% | 12.5% |
| 6) Found an alternative programme | 100% | 0% | 87.5% | 12.5% |
| 7) Found the programme not relevant | 100% | 0% | 100% | 0% |

***\*1/2=not contributed + contributed a little \*3/4= Contributed a lot + contributed a great deal***

*Source: Field data*

**4.6.2 Other issues noted by respondents about MPM programmes**

At the end of each set of the questionnaire respondents were given a chance to comment on general matters that they have a view about regarding the programme. The study collected the following on the feedback.

***4.6.2.1 Issues noted by graduates***

According to data collected 38% of the candidates did not respond on this part. Out of the ones who responded it was gathered that graduates’ view is that there should be an option of flexible mode programme supported by online learning and the Department should consider accreditation of the Programme with international professional bodies’, for example PMI. Graduates further suggested that the programme should be aligned with project management body requirements so that it can be internationally recognised and the syllabus should be the same as the other institutes offering the same programme.

Majority of the graduates view was that the department should consider combining Research Methodology and Research Proposal as one module and the module be offered over 2 semester to reduce number of students failing to complete their dissertation. It was also noted that Project risk analysis should be core rather than being an option. Graduates added to say Microsoft Projects Computer programme and other IT based skills of the programmes should be introduced as core module in the MPM programme as it is critical for project management.

Graduates were of a view that more practical examples from practitioners in the field should be included as part of programme of learning. More over graduates added that MPM programme should be more practical than theory and students hand-on training on project resources scheduling, monitoring and other relevant aspects of a project management was suggested. Graduates suggested that private individuals working on projects in the fields should be part of the programme structure.

Data collected shows that graduates noted that there was very poor arrangement of research supervision which has taken many years without interjection. Graduates are of a view that Dissertation is paramount in learning because it gives the learner a wider spectrum of opportunity to go through literature and more information that might have been shared by other experts in the discipline so there should be more focus to enhance student research skills.

Finally on data collected there was a suggestion that the Department should start offering PhD programmes.

***4.6.2.2 Issues noted by non-graduates***

According the results non-graduates were of a view that Dissertation were more engaging than anticipated. They had indicated that there was lack of support on starting and completing dissertation from the supervisors. One of the students’ comments read. ‘*The suspension of the course was due to failure to find a suitable research topic to pursue but the programme is very good and has assisted me in consultancy*’. Non-graduates also suggested that lecturers supervising students should provide support and guidance and should avoid favouritism and they should improve on their availability when needed for assistance.

On another note non-graduates suggested that the Department consider the option of offering the programme without dissertation and Professional Based alternative to be found to replace dissertation. Non-graduates further suggested that the programme should be a 2 year programme. They were of a view that a Certificate should be awarded after coursework completion as the knowledge acquired is sufficient to be applied in the work environment. They further indicated that it should be possible to acquire the transcript for coursework for other use either for change of course or to use at work.

Just like the graduates, non-graduates were of a view that MPM programme should integrate ICT usage platform and related courses such as Prince 2. Students also suggested considering the inclusion of professional PM membership from a recognised body.

Finally the research showed that non-graduates were of a view that Qualitative research methodology was lacking and yet it was crucial in understanding why projects fails.

It was concluded that both the graduates are challenged by the work related issues and their general view are that Department should consider accreditation of the Programme with international professional bodies’, for example PMI and further suggested that the programme should be aligned with project management body requirements so that it can be internationally recognised and the syllabus should be the same as the other institutes offering the same programme. From the views it was concluded that graduates consider the dissertation as of paramount importance but its supervision should be improved while the non-graduates feels it should be made an option.

On the last note, after investigating the perceptions of Masters of Project Management programme graduates and the non-graduates regarding the nature of the programme and its intended objectives, it was concluded that the MPM programme was meeting its intended objectives and most of the respondents prefer the programme to be offered as is currently is. According to MPM programme documents, MPM programme which has objectives of generally producing the graduates with Knowledge areas of Project Management, graduate attributes and competencies in Project Management. After evaluation of the programme, the study had shown that most of the graduates had gained the knowledge areas, the competencies as it was the intention of the programme.

The Department of Civil Engineering (2003) also mentioned that the MPM programme will assist the graduates with increased responsibility at work, promotion and increase in salary, changing of work for better remuneration and finding a job after graduation and the results had shown that this was achieved even though it was not of high magnitude.

When asked their view of the nature of the programme including the structure of the course, type, duration of the programme and mode of delivery most of both the respondents indicated that they preferred the programme as it is currently offered. The study showed that most of both the graduates and non-graduates rated most of the currently and suggested courses as important and were of a view that the suggested ones may be added to the programme. It is worth noting though that some of the graduates and non-graduates have a problem with the Research proposal and Dissertation courses and how the supervision of the mentioned courses was conducted.

## 4.7 Chapter summary

This chapter had provided analysis and findings from the study. The main findings include that MPM programme enrols students from different educational background and they are both citizens and non-citizens. The students that enrol for the programme are mostly male. The results also showed that the students enrolling for MPM are working for different sectors and that means different sectors benefit from the programme via its graduates. All the four research objectives were answered when analysing and discussing the data collected. It was concluded that according the graduates perception the MPM knowledge area, Competencies and UB graduates skills, were acquired by the MPM graduates upon completion of the programme even though the results shows that UB graduates skills were acquired at a lower rate as compared to the competencies and knowledge areas. But it was realised that most of the graduates when rating themselves indicated that they were at high level on UB graduate skills at the time of enrolment. The results had also shown that the graduates perceive the programme as to have contributed to the career development, for example; some graduates showed that they got promoted at work upon completion of the programme. Even though non-graduates showered that they have a problem with the proposal and dissertation courses most of the students indicated that they prefer the programme to be offered as is currently is and they showed that they preferred the suggested courses. The also results shows that majority of both the respondents were not challenged by the programme except for work related issues.

Finally the aim was summarised to say that according to the results the graduates are of a perception that the programme is meeting its intended objectives.

# CHAPTER 5: CONCLUSION AND RECOMMENDATIONS

## 5.1 Introduction

This study set out to evaluate the MPM programme by graduates’ perceptions to find out if the intended objectives of the programme are met. This chapter provides conclusion derived from the background of the study, the literature review, the methodology of the study and the findings of the data collected from this study. The recommendations will follow at the end.

The literature review had emphasised that projects have to be evaluated in order to give feedback on how their performance. Because the background check revealed that the MPM programme was never evaluated this study was conducted to evaluate the graduates perception regarding objective of the programme and to get views on the nature of the programme. MPM programme objectives were quoted on section 2.4. In order to answer the aim and objectives of the study a framework was outlined in section 2.7 and findings were derived from the results of the study which answered all the research objectives.

The main findings of the study were that according the graduates perception the set objectives of the programme are being met as the results had shown that the graduates had acquired the MPM knowledge area, Competencies and UB graduates skills upon completion of the programme even though the UB graduates skills were acquired at a lower rate as compared to the competencies and knowledge areas. The study had also found out that majority of the respondents prefer the nature of the programme to be as it is currently offered.

The findings and recommendations of the evaluation of this programme are expected to give a suggestion on determining the relevance, effectiveness and efficiency of the MPM programme. Recommendations are also intended to assist the department on the way forward about the programme.

## 5.2 Conclusion

The following conclusions were reached based on the findings of this study.

1.The perception of graduates was thatthe MPM knowledge area and MPM competencies were acquired upon completion of the programme and they were acquired at medium rate on average. However results shows that UB graduates skills were acquired at a low rate on average as compared to the competencies and knowledge areas and this was because raw data had shown that most of graduates rated themselves as good and excellent before and after enrolment for programme hence why they scored no gain ratings.

2.The perception of the graduates is that the programme had assisted in improving their career after completion of the programme. These results shows that in general the according to the graduates MPM programme met its objective of helping graduates develop their careers dimensions.

3.The results show that both the graduates and non-graduates preferred the current programme as is except for few suggestions. It is of note that they both prefer the current nature except for structure of the programme in which non-graduates prefer it to be fully coursework and thus indicated dissertation course to be not or least important.

4. The findings shows that majority of both the respondents were not challenged by the programme except for work related issues.

## 5.3 Recommendations

The following recommendations are proposed after identifying deficiency gaps in the programme regarding its intended objectives.

1. After analysing the general views the results shows that graduates noted that there was poor arrangement of research supervision which has taken many years without interjection. Graduates are of a view that Dissertation is paramount in learning because it gives the learner a wider spectrum of opportunity to go through literature and more information that might have been shared by other experts in the discipline so there should be more focus to enhance student research skills.

The study further recommend the Supervisors or department to provide a platforms in which students will work in groups when doing their dissertation where students will get a sense of belonging and share ideas with each other.

2. The study recommends the Department to consider accreditation of the Programme with international professional bodies’, for example PMI and further suggested that the programme should be aligned with project management body requirements so that it can be internationally recognised and the syllabus should be the same as the other institutes offering the same programme.

In addition the following recommendations are being made in relation to limitation of the research;

1. To complement the MPM evaluation findings presented on this research study, a comprehensive university-wide study could be conducted to investigate why the students do not complete their graduate programmes and why do they show less interest on completion of dissertation courses. More over a research study should be done on supervision style on Research Proposal and Dissertation courses offered by the MPM programme.

2. The same study could be done with increased number of programmes to at least two or more and the results be compared.

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**Appendix 1**

**UNIVERSITY OF BOTSWANA**

**FACULTY OF ENGINEERING AND TECHNOLOGY**

My name isMrs Helgah G. Samu, a student of the *Masters of Project Management*, at the University of Botswana. I am conducting a research on **‘Evaluation of graduates’ perception of the Master’s Degree of Project Management at the University of Botswana’**

You had been selected to participate on this study due to the fact that you are respected alumni of the MPM programme. Though your participation is voluntary I would be very grateful if you could take a few minutes to complete the attached questionnaire. Your name and identity are not required and will not be used in any way for this study and the subsequent report therefore your responses will be treated with utmost confidentiality as the information will be used strictly for academic purposes.

I would be most grateful if you could respond to each question honestly. I thank you in advance for your anticipated cooperation and assistance.

My contact details are:

Cell phone: +267 71900048

Email: [phelgah@gmail.com](mailto:phelgah@gmail.com) or [hphometsi@bec.co.bw](mailto:hphometsi@bec.co.bw)

Yours faithfully,

Helgah G. Samu (# 200502681)

**Appendix 1: MPM Graduate Questionnaire**

**SECTION 1: BACKGROUND INFORMATION** (Tick where appropriate and put N/A where it does not apply to you)

* 1. What is your gender? Male  Female
  2. What is your country of Citizenship?……………………….
  3. What was your undergraduate degree?.....................................
  4. When did you enroll for the MPM Programme?.......................
  5. When did you graduate from the MPM Programme?................
  6. What were you doing before you enrolled for the MPM programme?

Unemployed ☐ Self-employed ☐ Employed by Local Government  Employed by State owned Company  Employed by Private Firm  Employed by NGO

* 1. Who sponsored you to do the MPM programme?

Self-sponsored  The company/organization I work for ☐ Govt.-sponsored  Scholarship

* 1. Where are you currently employed?

Unemployed ☐ Self-employed ☐ Employed by Local Government ☐ Employed by State owned Company ☐ Employed by Private Firm ☐ Employed by NGO ☐

1.9 If you are employed in which sector are you working in?

Construction  IT  Business  NGO  Development Organization (e.g. UN) ☐

Other, state ………………………………………………………

**SECTION 2:** Please rate the extent to which the following factors contributed to your decision to enrol for the MPM programme.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Factors** | 4.Contributed a great deal | 3.Contributed a lot | 2.Very little contribution | 1.Not contributed at all |
| * 1. To obtain a higher qualification and hence increase my skills |  |  |  |  |
| * 1. To network with students from other parts of the country |  |  |  |  |
| * 1. To position myself for getting a decent employment |  |  |  |  |
| * 1. To increase my chances of succeeding in self-employment |  |  |  |  |
| * 1. To increase my chances of getting promotion |  |  |  |  |
| * 1. Just to pass time because I was unemployed |  |  |  |  |

**SECTION 3:** Please rate the **level** of your understanding of the following project management knowledge **before** enrolment and **after** graduation from MPM programme**.**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Level **before** Enrolment | | | | **Project Management Knowledge** | Level **after** Graduation | | | |
| 4.Excellent | 3.Good | 2.Poor | 1.None | 4.Excellent | 3.Good | 2. Poor | 1.None |
|  |  |  |  | 3.1 Being able to describe the role, functions and responsibilities of a project leader and project stakeholders in achieving the project goals |  |  |  |  |
|  |  |  |  | 3.2 Being able to explain the purpose of aligning projects to organizational strategy |  |  |  |  |
|  |  |  |  | 3.3 Being able to analyse the effects of environment on the project goals |  |  |  |  |
|  |  |  |  | 3.4 Being able to analyse the impact of the project on the environment |  |  |  |  |
|  |  |  |  | 3.5 Being able to explain the purpose of various processes and tasks required for project initiation, planning, execution, closure and post-closure |  |  |  |  |

**SECTION 4:** Please rate the levelof your project management competence **before** enrolment and **after** graduation from MPM programme**.**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Level **before** Enrolment | | | | **Project Management Competencies** | Level **after** Graduation | | | |
| 4 .Excellent | 3.Good | 2.Poor | 1.None | 4 .Excellent | 3.Good | 2. Poor | 1.None |
|  |  |  |  | 4.1 Ability to develop a project business case |  |  |  |  |
|  |  |  |  | 4.2 Ability to develop feasibility study |  |  |  |  |
|  |  |  |  | 4.3 Ability to develop a master project plan that includes |  |  |  |  |
|  |  |  |  | 4.3.1 Scope |  |  |  |  |
|  |  |  |  | 4.3.2 Deliverables |  |  |  |  |
|  |  |  |  | 4.3.3 Stakeholders Management |  |  |  |  |
|  |  |  |  | 4.3.4 Quality and safety |  |  |  |  |
|  |  |  |  | 4.3.5 Schedule |  |  |  |  |
|  |  |  |  | 4.3.6 Resources |  |  |  |  |
|  |  |  |  | 4.3.7 Budget |  |  |  |  |
|  |  |  |  | 4.3.8 Risk |  |  |  |  |
|  |  |  |  | 4.3.9 Role and responsibility assignment |  |  |  |  |
|  |  |  |  | 4.3.10 Procurement |  |  |  |  |
|  |  |  |  | 4.3.11 Communication  4.3.12 Monitoring and evaluation |  |  |  |  |
|  |  |  |  | 4.4 Ability to perform a project close-up |  |  |  |  |

**SECTION 5:** Please rate the level of your abilities in the following areas **before** enrolment and **after** graduation from MPM programme(Tick where appropriate)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Level **before** Enrolment | | | | **UB Graduate skills** | Level **after** Graduation | | | |
| 4.Excellent | 3.Good | 2.Poor | 1.None | 4.Excellent | 3.Good | 2. Poor | 1.None |
|  |  |  |  | * 1. Ability to use ICT\* knowledge and skills |  |  |  |  |
|  |  |  |  | * 1. Ability to be a self–directed and lifelong learner |  |  |  |  |
|  |  |  |  | * 1. Ability to be a critical and creative thinker |  |  |  |  |
|  |  |  |  | * 1. Ability to be a problem solver at work |  |  |  |  |
|  |  |  |  | * 1. Ability to communicate effectively |  |  |  |  |
|  |  |  |  | * 1. Possession of entrepreneurship and employability skills |  |  |  |  |
|  |  |  |  | * 1. Possession of organisational and teamwork skills |  |  |  |  |
|  |  |  |  | * 1. Possession research skills and information literacy |  |  |  |  |
|  |  |  |  | * 1. Social responsibility and leadership skills |  |  |  |  |
|  |  |  |  | * 1. Ability to effectively interact with others |  |  |  |  |
|  |  |  |  | * 1. Ability to cross-cultural fluency |  |  |  |  |
|  |  |  |  | * 1. Being accountable and uphold ethical standards |  |  |  |  |

**\***ICT –Information Communication Technologies

**SECTION 6:** Please describe **level at which the** MPM programme has developed the following dimensions of your career since graduation?

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Project Management Related Dimensions** | Level **after** Graduation | | | |
| 4. Excellent | 3. Good | 2. Poor | 1. None |
| * 1. I’m in position to apply appropriate knowledge and skills to manage the project life-cycle process and tasks for successful completion of a project |  |  |  |  |
| * 1. I’m in position to lead and manage project stakeholders to efficiently and effectively to achieve a project goal |  |  |  |  |
| * 1. I’m in a position to solve project related problems using evidence based information |  |  |  |  |
| * 1. I conduct myself in a manner that is professional and ethical |  |  |  |  |
| * 1. I used the qualification to get job offer/switch jobs |  |  |  |  |
| * 1. I got a promotion at work |  |  |  |  |

**SECTION 7:** Please describe how you will prefer the nature of MPM Programme in terms of the following attributes (Tick where appropriate)

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| * 1. Structure: | | Fully Coursework ☐ | | | Course work with a semester project ☐ | | | Half coursework and Half dissertation ☐ | | | Fully Dissertation ☐ | |
| * 1. Type: | Generic programme as currently offered ☐ | | | As area of specialization in Engineering/Construction ☐ | | | As area of specialization in Business/ ICT ☐ | | | As area of specialization in Development (e.g. health, education) ☐ | | Other…………………………………………………………………………… |
| 7.3 Mode of Delivery: | | | Block release ☐ | | | Semesterisation as currently offered ☐ | | | Other……………………………………… | | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| 7.4 Duration-Full time: | 12 months ☐ | 18 months ☐ | 24 months-as currently offered ☐ |
| 7.5 Duration-Part time: | 24 months ☐ | 36 months-as currently offered ☐ | 48 months ☐ |

**SECTION 8:** Please rate the importance of the current MPM Programme courses (Tick where appropriate)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Course Name** | 4.Very Important | 3.Moderate Important | 2.Least Important | 1Not Important |
| * 1. Research Methodology |  |  |  |  |
| * 1. Project Planning |  |  |  |  |
| * 1. Project Environment Analysis |  |  |  |  |
| * 1. Project Quality, Health and Safety Management |  |  |  |  |
| * 1. Project Impact Assessment, Monitoring and Evaluation |  |  |  |  |
| * 1. Project Resources Procurement and Administration |  |  |  |  |
| * 1. Project Risk Analysis |  |  |  |  |
| * 1. Project Finance, Cost Estimation and Control |  |  |  |  |
| * 1. Project Leadership and Conflict Management Strategies |  |  |  |  |
| * 1. Project Legal Environment |  |  |  |  |
| * 1. Research Proposal |  |  |  |  |
| * 1. Dissertation |  |  |  |  |

**SECTION 9:** The following courses are not included in the current programme content. Please rate the importance of the suggested courses if they were to be included in the MPM Programme.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Course Name** | 4.Very Important | 3.Moderate Important | 2.Least Important | 1.Not Important |
| * 1. Strategy and Organisational Dynamics |  |  |  |  |
| * 1. Leading and Managing Project Teams |  |  |  |  |
| * 1. Information Management |  |  |  |  |
| * 1. Strategic Project Management |  |  |  |  |
| * 1. International Project Management and Practice |  |  |  |  |
| * 1. Decision Support for Management |  |  |  |  |

**SECTION 10:** Which of the following best represents the **major strengths** of the MPM programme (Tick where appropriate)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Strength** | 4.Very High | 3.High | 2.Medium | 1.Low |
| 10.1 Relevance of the programme to your professional requirements |  |  |  |  |
| 10.2 Student workload |  |  |  |  |
| 10.3 Interdisciplinary learning |  |  |  |  |
| 10.4 Quality of facilities and equipment in labs |  |  |  |  |
| 10.5 Teaching and learning environment |  |  |  |  |
| 10.6 Lecturer/student relationship |  |  |  |  |
| 10.7 Staff qualifications |  |  |  |  |
| 10.8 Opportunity to contact staff out of class |  |  |  |  |
| 10.9 The cost of the programme |  |  |  |  |
| 10.10 The payment structure of the programme i.e. paying for credit taken |  |  |  |  |

**SECTION 11**: Rate the following reasons as far as they contributed in you being challenged during the programme. (Tick where appropriate)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Reason** | 4.Contributed a great deal | 3.Contributed a lot | 2.Very little contribution | 1.Not contributed at all |
| 11.1 Financial challenges |  |  |  |  |
| * 1. Work related challenges |  |  |  |  |
| * 1. Social related challenges |  |  |  |  |
| * 1. Could not cope with the programme material/found the programme to be more challenging than as expected |  |  |  |  |
| Found an alternative programme |  |  |  |  |
| * 1. The programme environment was not conducive for learning |  |  |  |  |
| * 1. Found the programme not relevant |  |  |  |  |

**SECTION 12:** State **any o**ther thing that you want to add above relating to the MPM programme …………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

END, THANK YOU FOR YOUR TIME

**Appendix 2**

**UNIVERSITY OF BOTSWANA**

**FACULTY OF ENGINEERING AND TECHNOLOGY**

My name isMrs Helgah G. Samu, a student of the *Masters of Project Management*, at the University of Botswana. I am conducting a research on **‘Evaluation of graduates’ perception of the Master’s Degree of Project Management at the University of Botswana’**

You had been selected to participate on this study due to the fact that that you were once enrolled for the MPM programme though you haven’t completed the programme yet. Though your participation is voluntary I would be very grateful if you could take a few minutes to complete the attached questionnaire. Your name and identity are not required and will not be used in any way for this study and the subsequent report therefore your responses will be treated with utmost confidentiality as the information will be used strictly for academic purposes.

I would be most grateful if you could respond to each question honestly. I thank you in advance for your anticipated cooperation and assistance.

My contact details are:

Cell phone: +267 71900048

Email: [phelgah@gmail.com](mailto:phelgah@gmail.com) or [hphometsi@bec.co.bw](mailto:hphometsi@bec.co.bw)

Yours faithfully,

Helgah G. Samu

**Appendix 2: Non-graduates questionnaire**

**SECTION 1: BACKGROUND INFORMATION** (Tick where appropriate and put N/A where it does not apply to you)

* 1. What is your gender? Male  Female
  2. What is your country of Citizenship?……………………….
  3. What was your undergraduate degree?.....................................
  4. When did you enroll for the MPM Programme?.......................
  5. What were you doing before you enrolled for the MPM programme?

Unemployed ☐ Self-employed ☐ Employed by Local Government  Employed by State owned Company  Employed by Private Firm  Employed by NGO

* 1. Who sponsored you to do the MPM programme?

Self-sponsored  The company/organization I work for ☐ Govt.-sponsored  Scholarship

* 1. Where are you currently employed?

Unemployed ☐ Self-employed ☐ Employed by Local Government ☐ Employed by State owned Company ☐ Employed by Private Firm ☐ Employed by NGO ☐

1.9 If you are employed in which sector are you working in?

Construction  IT  Business  NGO  Development Organization (e.g. UN) ☐

Other, state ………………………………………………………

**SECTION 2:** Please describe how you will prefer the nature of MPM Programme in terms of the following attributes (Tick where appropriate)

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 2.1 Structure: | | Fully Coursework ☐ | | | Course work with a semester project ☐ | | | Half coursework and Half dissertation ☐ | | | Fully Dissertation ☐ | |
| * 1. Type: | Generic programme as currently offered ☐ | | | As area of specialization in Engineering/Construction ☐ | | | As area of specialization in Business/ ICT ☐ | | | As area of specialization in Development (e.g. health, education) ☐ | | Other…………………………………………………………………………… |
| 2.3 Mode of Delivery: | | | Block release ☐ | | | Semesterisation as currently offered ☐ | | | Other……………………………………… | | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| 2.4 Duration-Full time: | 12 months ☐ | 18 months ☐ 24 months- as currently offered ☐ | |
| 2.5 Duration-Part time: | 24 months ☐ | 36 months-as currently offered ☐ | 48 months ☐ |

**SECTION 3:** Please rate the importance of the current MPM Programme courses (Tick where appropriate)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Course Name** | 4.Very Important | 3.Moderate Important | 2.Least Important | 1Not Important |
| * 1. Research Methodology |  |  |  |  |
| * 1. Project Planning |  |  |  |  |
| * 1. Project Environment Analysis |  |  |  |  |
| * 1. Project Quality, Health and Safety Management |  |  |  |  |
| * 1. Project Impact Assessment, Monitoring and Evaluation |  |  |  |  |
| * 1. Project Resources Procurement and Administration |  |  |  |  |
| * 1. Project Risk Analysis |  |  |  |  |
| * 1. Project Finance, Cost Estimation and Control |  |  |  |  |
| * 1. Project Leadership and Conflict Management Strategies |  |  |  |  |
| * 1. Project Legal Environment |  |  |  |  |
| * 1. Research Proposal |  |  |  |  |
| * 1. Dissertation |  |  |  |  |

**SECTION 4:** The following courses are not included in the current programme content. Please rate the importance of the suggested courses if they were to be included in the MPM Programme.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Course Name** | 4.Very Important | 3.Moderate Important | 2.Least Important | 1.Not Important |
| * 1. Strategy and Organisational Dynamics |  |  |  |  |
| * 1. Leading and Managing Project Teams |  |  |  |  |
| * 1. Information Management |  |  |  |  |
| * 1. Strategic Project Management |  |  |  |  |
| * 1. International Project Management and Practice |  |  |  |  |
| * 1. Decision Support for Management |  |  |  |  |

**SECTION 5:** Which of the following best represents the **major strengths** of the MPM programme (Tick where appropriate)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Strength** | 4.Very High | 3.High | 2.Medium | 1.Low |
| 5.1 Relevance of the programme to your professional requirements |  |  |  |  |
| 5.2 Student workload |  |  |  |  |
| 5.3 Interdisciplinary learning |  |  |  |  |
| 5.4 Quality of facilities and equipment in labs |  |  |  |  |
| 5.5 Teaching and learning environment |  |  |  |  |
| 5.6 Lecturer/student relationship |  |  |  |  |
| 5.7 Staff qualifications |  |  |  |  |
| 5.8 Opportunity to contact staff out of class |  |  |  |  |
| 5.9 The cost of the programme |  |  |  |  |
| 5.10 The payment structure of the programme i.e. paying for credit taken |  |  |  |  |

**SECTION 6**: Rate the following reasons as far as they contributed in you not completing or suspending the programme.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Reason** | 4.Contributed a great deal | 3.Contributed a lot | 2.Very little contribution | 1.Not contributed at all |
| * 1. Financial challenges |  |  |  |  |
| * 1. Work related challenges |  |  |  |  |
| * 1. Social related challenges |  |  |  |  |
| * 1. Could not cope with the programme material/found the programme to be more challenging than as expected |  |  |  |  |
| * 1. Found an alternative programme |  |  |  |  |
| * 1. The programme environment was not conducive for learning |  |  |  |  |
| * 1. Found the programme not relevant |  |  |  |  |

**SECTION 7**: State **any o**ther thing that you want to add above relating to the MPM programme

……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

END, THANK YOU FOR YOUR TIME