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Effects of Bottlenecks on Graduation Ceremonies: Case of University of KwaZulu-Natal

By

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Acknowledgment

My work is dedicated to my Queen (Mother)

Thandazile Nester Ngubane

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Abstract

Graduation ceremony plays a vital role in the lives of the individuals and families, as it is a much-revered ritual in educational institutions everywhere. Effective planning for better utilisation of available resources as well as accurate scheduling set of activities remain essential as it improve the flow of operations processes. The amplitude in staging graduation ceremonies epitomises a bottleneck effect, which reveals a number of mischievous problems through the supply chain networks. As graduands leave the ceremonies after receiving their certificates without the event even finishing, this has caused inefficiencies and the bottlenecks in the processes and flow of operations, due to the improper planning and information sharing for graduands. This study investigates selected graduands from College of Law and Management, IT and Governance, with emphasis in Supply Chain Management, Marketing and Management only at Westville campus. The effect of collaborative relationships remains the central hypothesis for instant information sharing on graduation planning, scheduling and flow of operations processes across supply chain trading partners. The main objective aims to determine bottlenecks experienced at graduation ceremonies, possibilities of collaborative relationships, staging graduation ceremonies and strategies to which reduced process bottlenecks can have on the process efficiency of the graduation ceremonies. The seamless linkages between supply chain partners seem to entrench effective planning for better information flow in graduation scheduling to improve the flow of operations processes. The study uses mixed methods to collect data. The quantitative approach uses frequency distributions to analyse individual variables. The qualitative approach uses thematic analysis to analyse respondent from Corporate Relations Division. The study found empirical research evidence on the optimised information sharing through collaborative planning, forecasting and replenishment model that graduation ceremonies can fastidiously adapt to engage graduands in staging their graduation ceremonies. The study discovered that (84%) of respondents are of conviction that UKZN graduation ceremonies are missing out on memorable experiences that could be lived on graduation due to bottleneck effects. The study also found that majority of the respondents (79%) agreed that collaborative relationships have a significant role to play in mitigating the graduation bottlenecks and on the entire supply chain networks. The managerial implications indicated that the supply chain efficiency and integration is the responsibility of each individual supply chain partner involved in a graduation ceremony.

Keywords: Bottleneck, Scheduling, Planning, Collaboration, Integration and Experience Economy.

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Abbreviations

UKZN	: University of KwaZulu-Natal
SPSS	: Statistical Package for Social Sciences
CPFR	: Collaboration Planning Forecasting and Replenishment
ANOVA	: Analysis of Variance
TOC	: Theory of Constraint
WHO	: World Health Organisation
JIT	: Just In Time

CHAPTER ONE

INTRODUCTION

1.1 Introduction

Graduation plays a vital role in the lives of individuals and families as it is a much-revered ritual in educational institutions everywhere. At the end of every College year, graduating learners, whether they are little kids in lower grade College or young adults in College, walk solemnly towards the stage elegantly garbed in their robes and tassels. One cannot underestimate the significance of such a moment as every learner's journey towards graduation is filled with all sorts of trials and challenges. Graduation is important as it gives the graduate family a signal that the individual has closed a chapter of his/her life and is opening a new chapter. University graduations signify that student life is over and the graduate is embracing adult life responsibilities. Thus, graduation makes it easier for the graduate to confirm his qualifications to employers independently. Additionally, graduation provides evidence of the graduate's field of study which for some might be used for migration purposes. The graduation ceremony gives the graduate an opportunity to celebrate with friends and family all the challenging work that has been put into the accomplished studies.

1.2 Background to the study

Many University graduation ceremonies in South Africa begin with a procession of academics wearing their Academic Gowns. This procession is accompanied by music and a ceremonial mace is often carried. After this, an official read out the names of the graduands one by one, organised by the class of degree and/or by subject. When their names are called, the graduands walk across the stage to shake hands with university officials, often the University's Chancellor or the Vice-Chancellor. The conferring of an honorary doctorate to a highly accomplished guest where a member of staff of the relevant Faculty/College/Department usually reads a citation may follow this. Graduands wear the designated academic gown of the degree they are receiving. At the end of every College year, a massive event in learners' careers takes place: Graduation Ceremony. This celebration marks the end of an era and the beginning of a new reality for many learners which is the professional environment. Graduation traditions are varied across Universities observing diverse cultures. Most Universities across Sweden are research-oriented and may present their students with Bachelor's, Masters and Doctoral degrees covering all the academic streams. Universities across the country are regulated by means of

the Higher Education Ordinance. Many candidates continue their education in secondary and upper secondary education institutions of learning.

The procedures and traditions regulating academic graduation ceremonies differ around the world. Whereas in most countries graduation usually occurs only at the University level, in the United States graduations often occur at high Colleges where no higher education qualifications are conferred upon the graduands. In a graduation ceremony, students dress up in special graduation caps and clothing that are made just for this purpose. Graduation does not mark an end but instead ushers a new beginning which is a new end in sight. For grade College learners, graduation is the beginning of their adolescent adventures as they let go of their parents' embrace and test their wings in high College. For high College learners, graduation is the beginning of their journey to self-discovery as they unravel what it is that they really want out of life in College. For University students, graduation is the beginning of their "real" lives as they fly out from the warmth and comfort of the University. Graduation is significant for parents as well as the children's achievements are theirs as well. Students spend sleepless nights and go through lots of sacrifices to ensure that they achieve what they have dreamed of.

However, it has come to one's attention that value and pride of being amongst the graduands for the day, has now turned out to be not as memorable and enjoyable as one would have desired it to be. The University of KwaZulu-Natal has transformed such memorabilia to a negative one due to bottlenecks such as students adopting negative behaviors and disrespectful culture resulting from the poor synchronisation of the processes. Students now graduate and after receiving their degree certificate, they create a huge bottleneck that has created a negative image to such a prestigious event. The importance of graduation cannot be stressed enough as the University spend months and resources not mentioning time to prepare for the event and ensures that the process becomes a success and a memorable one for all the graduands. It is notable, however, that contrary to expectations of a memorable event students just go there to collect their certificates and leave even before the event has finished.

Poor synchronisation of processes, times and activities might result in the boredom of the graduation attendant to which would be the perception that it (graduation) does not add value to many graduands and even the attenders. Those attending as visitors include, among others, honored and well-known people and academics who attend the event and find themselves having to witness the students' actions of going out before the event ends. Arguably, the kind of behavior displayed by the graduands when they leave the ceremony before its official closure

can be read by many as being disrespectful for the symbolic meaning of the ceremony. This study, therefore, focused on establishing the bottlenecks besetting the administering of the ceremony and how it can be synchronised better to accord it its symbolic significance.

Furthermore, the study investigated what could be done to retain the importance and dignity of the event that has been lost at UKZN graduation ceremonies. The driving force behind the quest to eliminate the bottlenecks is premised on the need to evaluate the planning and scheduling of the event. The processes and the experiences of the attenders, graduands and reconfiguration of the entire event was evaluated. The study sought to contribute meaningfully to ensuring that the graduation ceremony becomes the best experience for students from pre-graduation, during graduation and post-graduation. As informed by the theory of constraints (TOC), bottlenecks, supply chain reconfiguration, collaboration, better synchronisation and scheduling formed part of the study. This, study, therefore, tried to shed light on how to eliminate the bottlenecks faced at the graduation ceremonies to ensure that better synchronisation of the event is achieved in future.

1.3 Problem Statement

During graduation students portray a dearth of understanding of the importance and value of the graduation ceremony. This is mainly due to the bottlenecks experienced due to poor synchronisation of times and scheduling of its processes and activities. Inevitably, this impacts on how the process flows from pre-graduation, during graduation and post-graduation. Hence, as of now, graduation falls short of being the most memorable occasions which many graduands cherish during and after the ceremony.

1.4 Purpose of the Study

According to Locke, Spirduso, and Silverman (2013:46), the purpose statement indicates why one wants to conduct the study and what is intended to be accomplished. Similarly, Creswell (2013:246), asserts that the purpose of the proposed study sets out the objectives, the intent and the core issues constituting the study's object of inquiry. Hence, the purpose of this study was to establish how best the maximisation of positive experiences of the students can be achieved during the graduation ceremonies. Notably, this would of course require pragmatic adoption and implementation of transformative processes of the situation that currently prevails during the graduation ceremonies.

1.5 Contribution of the Study

Research alone is not sufficient unless it can add value to society and to the organisation (Cooper and Schindler, 2014:10-11). No research has been conducted governing the increase of the importance and value of the graduation ceremony. It is therefore vital to add to the existing body of knowledge and insights relating to how best the bottlenecks which have become a nemesis during the graduation ceremonies can be eliminated. Furthermore, it will contribute significantly to the upcoming graduands by reviving in them the desire to embrace graduation as an occasion worth remembering and to be cherished so dearly.

Arguably, this will most likely motivate the University management and the organising committee to continuously introduce innovate and strategic ways of ensuring that the event is forever better improved to add value to our understanding of concepts such as sound scheduling, better synchronisation and making sense of the five designs of experience etcetera. Additionally, it will contribute on how the elimination of the bottlenecks can bring about value to the graduations ceremony. Notably, the day of the graduation ceremony is the culmination of the long journey, which the graduands had been travelling, and graduation, organising also spans between 3 to 4 years of hard work before one attains his or her goal to which the ceremony bears witness. Concisely, therefore, the study is also meant to extend the literature available in the study area of the elimination of bottlenecks, which beset the taint the symbolic significance of the graduation ceremonies.

1.6 Research Questions

This study sought to answer the following research questions:

1. What are the bottlenecks experienced at graduation ceremonies due to poor synchronisation of processes?
2. What are the possibilities of collaborative relationships between different role players in ensuring better synchronisation of the ceremonies?
3. What is the extent of the experience to which graduating students get immersed with staging of graduation ceremony?
4. What is the extent to which reduced process bottlenecks and delays can be improved on the overall process efficiency of graduation ceremonies?

1.7 Research Objectives

The objectives of the study were as follows:

1. To determine bottlenecks experienced at graduation ceremonies due to poor synchronisation of processes.
2. To establish the possibilities of collaborative relationships between different role players in ensuring better synchronisation of the ceremonies.
3. To establish the extent of the experience to which graduating students get immersed with staging of graduation ceremony.
4. To determine the extent to which reduced process bottlenecks and delays can be improved on the overall process efficiency of graduation ceremonies.

1.8 Limitations

According to Cooper (2013), a constraint is defined as the limitation or a restriction in the carrying out of a study. In this study, the limitations included bottlenecks, poor synchronisation, poor scheduling and lack of staging experiences. Additionally, negative cues governed by the dearth of the synchronisation of the activities for the graduation event and the bottlenecks caused and perpetuated by the students who graduate form part of the constraints examined in the study.

1.9 Theoretical Framework

Swanson (2013:18) defines theoretical framework as a structure that supports a theory of a research study. For this study, a theoretical framework is used to demonstrate the understanding of theories that are related to the topic. The Theory of constraints (TOC) is the proposed theory to be used. The adoption of TOC had significant effects on process change, collaborative relationships among trading partners and event transformation (Wu and Chang, 2012). The inception of the TOC dates from the 1970s when Dr. Elijah Goldratt received a request from his neighbor, who operated a chicken coop plant to assist in scheduling a program that could increase the output produced by the plant. Dr. Goldratt later published a book in 1984 known as *The Goal* wherein the foundational heuristics and techniques of the TOC was formally introduced (Naor, Bernardes and Conan, 2013:546). The Theory of Constraints is a system approach based on the assumption that every organisation has at least one factor inhibiting the organisations' ability to meet the intended objectives. The limiting factor inhibiting the

organisation from reaching the desired objective is known as a bottleneck which is a stage in a process that causes the entire process to slow down or stop. The theory emphasises process optimisation through efficient management of the constraining factor (Kholopane, 2011:3). For purposes of this study, the TOC is relevant as the study sought as one of its objectives the elimination of the bottlenecks through better synchronisation of the processes for the graduation ceremonies.

The theory provides a theoretical arrangement that serves as a method of managing the constraint, otherwise known as the bottleneck. The method is known as the drum-buffer-rope synchronised manufacturing execution method. The drum is the physical constraint that determines the timing of the system and which prevents the entire system from producing more. The buffer ensures full utilisation of the system by ensuring that the bottleneck is never idle. The rope is a communication mechanism that ensures that the buffer is not overwhelmed by the work so that the bottleneck always operates at optimum speed (Kholopane, 2011:3).

Synchronisation is defined as “cause to occur or operate at the same time or rate”. With reference to the above-mentioned definition it is fitting to introduce the collaborative planning, forecasting and replenishment (CPFR) model (otherwise known as the collaborative model). Synchronisation and collaboration represent unity which is necessary for the creation of a harmonious process even in the presence of constraints. The collaborative model was established by practitioners in the mid-1990s as Collaborative Forecasting and Replenishment (CFAR). This model allowed for the exchange of complex decisions as well as strategies. Later, the concept was renamed Collaborative Planning Forecasting and Replenishment (CPFR) to emphasise the key role of planning. The change had as its aim the creation of synergy through the incorporation of a joint planning, sharing of information, risks, benefits, revenues and costs.

1.10 Structure of the Literature Review

When conducting the literature search for this study, it became evident that there is little research that has been undertaken on the elimination of bottlenecks with reference to graduation ceremonies. This fact notwithstanding, the variables emanating from the TOC of which supported the study have been discussed in relation to the drive towards eliminating the bottlenecks by better synchronisation of the graduation events.

1.10.1 Planning and Scheduling

Jojozi (2014:10) indicates that scheduling and planning play a crucial role and act as the backbone of the performance of the organisation. Scheduling and planning include taking decisions concerning the allocation of available resources and capacity to activities or tasks.

According to Jagadish (2013:1), scheduling serves as an important planning tool that deals with the allocation and utilisation of the available resources and the timing of the activities or tasks that should be done. In this study, scheduling was used to identify major interests and preferences of the graduands in terms of the activities governing the graduation such as time for performances, speaker of the day etcetera. This was deemed to have the potential of playing a paramount role in staging student experiences and engaging them in the event at the beginning until the very end of the activities planned and scheduled for the day in question.

1.10.2 Synchronisation

According to Pycraft, Singh, Phihlelea, Slack, Chambers and Johnston (2010:450) synchronisation is the pacing of output at each stage in the production process to ensure the same flow characteristics for each part or product as it progresses through each stage. Thus, to prevent local build-up of inventory, material flow must be harmonised so that parts move in a coordinated fashion (Harrison, and Van Hoek, 2011:330). The relevance and importance of the concept of synchronisation to the topic of this study is that synchronisation is translated as the process involved in the planning and scheduling of the activities with the graduands in mind. This serves to unlock the potential for both the graduand and the planning committee to render the graduation event an invaluable occasion for everyone involved in the ceremony. In this study, better scheduling of the events and synchronisation are construed as having the potential to prove paramount in ensuring that the procedures adopted and followed in the execution of the graduation event flow without fail within the parameters of the scheduled time frames.

1.10.3 Bottleneck

Bottlenecks are mostly known as some utilities or resources which heavily limit the performances of a production system and reduce overall efficiency of the system (Timilsina, 2012:5). Ferencíková (2012:162) avers that a bottleneck has a terrible effect on the efficiency of performance. As indicated earlier in this study, bottlenecks are the constraints that cause graduands to leave after collecting their certificate prior to the event having finished. This includes the chaos and noise levels as they leave the venue, the time it takes for the event to finish, the activities included, the speeches and the performances. The argument in this study is that bottlenecks can be eliminated through better synchronisation such as engaging the graduands with the notable fifth senses and mixing their lived experiences.

1.10.4 Collaboration

Collaboration considers the overall performance of the system and as such it is an effective means of fulfilling the maximum interests of the members by using advanced methods and technologies to coordinate the members' activities of sourcing, storage, production and

delivery in a dynamic and partial information sharing context (Long, 2015:67). Therefore, a collaborative supply chain means that two or more independent companies work jointly to plan and execute supply chain operations with greater success than when acting in isolation. In this study, collaboration is defined as the process of unifying views and opinions of both graduands and the University of KwaZulu Natal on supply chain perspectives or views to ensure that there is information sharing and smooth flow of processes and activities through active participation.

1.11 Research Methodology

Leedy and Ormrod (2010:12) are of the view that research methodology refers to the researcher's general approach in carrying out the research project. Thus, the research methodology refers to the detailed discussion of the actual application of the design. It describes the methods, techniques and procedure that are employed in the process of implementing the research design or research plan (Streubert and Carpenter, 2011:366). As such, research methodology relates to the rules and procedures that specify how the researcher must study or investigate the issues which are the object of inquiry (Botma, Greef, Mulaudsi and Wright, 2010:41). Thus, in this study, the research methodology describes the specific methods followed to collect and analyse the data so collected.

1.11.1 Research Design

The research design summarises the structural framework and strategy on how the researcher plans to carry out the study to resolve the research problem at hand (Mbhele, 2014:991). Thus, the research design can be viewed as the "logic or master plan" of a research that gives an understanding on how the study is to be conducted. It displays how all the major parts of the research study such as the sample selection, data collection or data analysis are integrated to address the research questions (Thomas, 2010: 308). According to Botma et al (2010:108), the research design provides the structure for the research methods and design decisions that must be taken to plan the study. Sukamolson (2010:4) argues that the research design is divided into three main classes: exploratory, descriptive and casual.

An exploratory study aims at gaining insight into a situation or phenomenon, discover innovative ideas and enhance knowledge of the phenomenon (De Vos et al 2011:95) and as such it begins with a phenomenon of interest. Instead of observing and describing, exploratory research scrutinises not only the full nature of the phenomenon and the way it is manifested but also the factors to which it is related (Polit and Beck, 2012:18). According to Sekaran and Bougie (2013:124), exploratory studies are necessary when some facts are known notwithstanding the fact that more information is needed for developing a viable theoretical

framework. For instance, according to this study, the exploratory framework study was selected because there was less known about the situation at hand. In this study, therefore, the phenomenon explored was the elimination of the bottlenecks through staging student experiences during the graduation ceremonies at the UKZN Westville campus.

1.11.2 Research Approach

Identifying a study's research design is vital because it conveys information about crucial features of the study which can be different for qualitative and quantitative studies respectively (Castellan, 2010:2). According to Harwell (2011:148), qualitative research methods are based on the understanding and discovery of the thoughts, experiences and perspectives of the respondents which basically means that qualitative research discovers reality, meaning or purpose. Qualitative research is used to gain an understanding of underlying opinions, motivations and reasons. It provides insights into the problem or helps to develop ideas or hypotheses for potential quantitative research (Wyse, 2011:1). Sukamolson (2010:2) asserts that quantitative research, on the one hand, is the numerical representation and manipulation of observations for describing and explaining the phenomena that those observations reflect. On the other hand, quantitative research is used to quantify the problem by way of generating numerical data or data that can be transformed into usable statistics. It is used to quantify attitudes, opinions, behaviors and other defined variables and generalise results from a larger sample population (Wyse, 2011:1). Typically, the quantitative method makes use of questionnaires (Naidoo, 2014:52).

According to Nyakala (2012:120-122), there are two types of quantitative research namely: survey and experimental research. Zikmund and Babin (2010:64) conceive of a survey as a research method where the responses are collected through a structured instrument from a sample of the respondents who are observed and described in some way. Experimental research is performed to test the relationship between the cause and effect. This study involved both qualitative and quantitative research approaches. This is motivated by a need to recognise the usefulness of mixed methods research which is a research design that employs philosophical assumptions in addition to methods of inquiry. As a methodology, it involves philosophical assumptions that guide the direction of the collection and analysis and the mixture of qualitative and quantitative approaches in many phases of the research process (Creswell and Plano Clark, 2011:4). Thus, as a method, it focuses on collecting, analysing and mixing both quantitative and qualitative data in a single study or series of studies. Its central premise is that the use of

qualitative and quantitative approaches, in combination, provides a better understanding of research problems than either approach alone (Creswell and Plano Clark, 2011:5). This study employ experimental methodology under mixed method of study. This study is then mandated by collecting information from both postgraduate graduands and Cooperate Relations Director to help unpack the bottleneck phenomenon to its root cause effect and impact on graduation ceremonies.

1.11.3 Population

The term ‘population’ refers to the group of individuals or elements who are the focus of the study. Thus, population is the complete set of individuals or elements who meet the sampling criteria (Burns and Grove, 2011:290). As such, population is constitutive of all the individuals or objects with commonly defined characteristics (Polit and Beck, 2012:59). The targeted population for this study (for both qualitative and quantitative components) were the role players who have been involved in graduation ceremonies at the University of KwaZulu-Natal College of Management, IT and Governance studies only at Westville campus. Although there are many role players from the different Colleges and Colleges from different campuses of the University, it is assumed that the bottlenecks experienced by the selected role players is significantly representative of all the others. The role players for this study are registered graduands at the postgraduate levels only under School of Management, IT and Governance with the Director of Corporate Relations at four UKZN campuses, excluding Pietermaritzburg campus. Similarly, the Director ranked as the senior respondent for the qualitative component of the study and the registered graduands being the respondents for the quantitative component of the study. They form part of the core variables of the study given their experience of the bottlenecks in recent graduation ceremonies which were beset by poor synchronisation of the processes governing graduation. Director of Corporate Relations was interviewed and according to the “Sekaran table” the total registered number is not less than 100 (the focus for the quantitative study) and is equivalent to 140 graduands who were given questionnaires (Sekaran, 2003).

1.12 Sampling Method

According to Sekaran and Bougie (2010:23), a sample is defined as a subset of the population. The sampling process can be broken down into certain parts namely, defining the population, the sample design, appropriate sample size, sample frame and execution process. In this study, the sampling was stratified in a form of purposive and as such it consisted of the respondents who in the opinion of the researcher, would best supply the necessary information (Page and

Meyer, 2011:99). Thus, for the qualitative component of the study the purposive sampling method was used to sample the respondent whom participated in the semi-structured interviews that were conducted with the cooperate relations Director. A copy of the quantitative questionnaire and qualitative interview questions was sent to the participant respectively before the interview session to allow the participant to adequately prepare for the interview well in advance. Interviewing a Director from the cooperate relations sought to secure the supply chain element and perspective towards determining how the efficiency and effectiveness of better synchronisation processes could be improved at graduation ceremonies. Due to the substantial number of graduates from postgraduate levels, questionnaires helped in the collection of the requisite information timeously.

1.12.1 Sample Design

The sample design encompasses all the aspects relating to how to group units on the frame, determine the sample size, allocate the sample to the various classifications of frame units and finally, select the sample. Collins (2011:30) posits that using correct sampling methods allows researchers to reduce research costs, conduct research more efficiently, have greater flexibility, and provides for greater accuracy. Saunders, Lewis and Thornhill (2012:261) classify sampling techniques into non-probability sampling and probability sampling.

Mugera (2013:1), on the one hand, defines non-probability sampling as a sampling technique where the probability of each sample being selected from the total population is not known as this process does not give all the individuals in the population equal chance of being selected. Cooper and Greenaway (2015:13), on the other hand, argue that probability sampling has the basic principle that a sample will be representative of a population if each unit in the target population has a non-zero probability of selection and allows for the estimation of sampling variability. In this study, non-probability in a form of stratified sampling was applied mainly because the study chose graduands and the cooperate Director sampling frames. This sampling method was chosen because the graduates were well equipped with the requisite information needed to achieve the objectives of the study. The cooperate relations Director know about the graduation bottlenecks due to vast experience as they are involved in the activities and the processes of the UKZN graduation ceremonies.

1.12.2 Sample Size

Singh and Masuku (2014:6) emphasise that the sample size should be carefully fixed so that it will be adequate to allow the drawing valid and generalised conclusions. The fixation of the adequate sample size requires specific information about the problem under investigation in

the population under study. The sample size is an important feature of any study or investigation in which the aim is to make inferences about the population from a sample. Macheke (2011:56) defines the sample size as the total amount of elements included in the research. The sample size should be large enough to make certain that reliable and valid conclusions can be made about the population. The precise sample size of this study was 140 graduands under the College of Management, IT and Governance Management studies either doing honours or masters under School of Management, IT and Governance respectively and only at Westville campus and the Director from the Corporate Relations division.

1.12.3 Sample Frame

Sekaran and Bougie (2010:20) define sample frame as a physical presentation of every element within the population where the sample is being taken. Thus, the sample was drawn only from the Westville campus and only from the College of Law and Management, under College of Management, IT and Governance postgraduate level, looking at only supply chain, management and marketing graduates. Only postgraduate graduands who attend during the semester were interviewed for the quantitative method and one Director for the qualitative method. The sample size was justified by the usage of the Sekaran table (2003:1) according to which more than 100 respondents are equivalent to 140 respondents.

1.12.4 Execution Process

The execution process is the implementation phase of the study or the plan of action where the sample is used. In this study, the focus was on the College of Law and Management, under College of Management, IT and Governance studies graduands for quantitative approach. For the qualitative study, the identity of the interviewee from the cooperate relations division was protected by removing all information that could identify her and keeping her responses anonymous. The content of the interview was digitally recorded. The qualitative interview was transcribed and analysed by means of thematic analysis. Various themes were identified and were clustered thematically for convenience. The main themes were bottlenecks, poor synchronisation, collaboration and scheduling. For the quantitative component of the study, self-administered questionnaires were given to the registered postgraduate students. The Likert style rating scale was used in the questionnaires. The respondents were asked to indicate whether they opted for *disagree* or *agree* in relation to a series of questions and/or statements on a five-point rating scale. On a five-point rating scale, a 5 stands for strongly agree, a 4 for agree, a 3 for neutral, a 2 for disagree and a 1 for strongly disagree.

1.13 Data Collection Method

Polit and Beck (2012:12) define research method as the technique that is used by researchers to structure a study and to collect and analyse information that is relevant to the research problem. Moreover, research methods refer to data collecting, data scrutiny and ensuring consistency (Botma et al, 2010:198). According to Bryman and Bell (2011:41), the research method is basically a technique that is used to gather data. It involves a precise instrument such as a self-completion questionnaire or a structured interview schedule or observation whereby the researcher listens or watches. Naidoo (2014:48) asserts that data can be obtained either from primary or secondary sources. Macheke (2011:61) construes primary data as the data collected by the researcher to address a specific problem at hand whereas secondary data is information that already exists. A questionnaire with closed questions was used for the collection of the quantitative data as it provides structured and often numerical data. Interview was used with open ended questions of the interviewed Director of Corporate Relations. Harris and Brown (2010:2) argue that a questionnaire is basically a 'tool' for collecting and recording information about an issue of interest. Although a questionnaire is mainly made up of a list of questions, it should also include clear instructions and space for answers or administrative details. According to Acharya (2010:2), questionnaires should always have a definite purpose that is related to the objectives of the research. Giesen, Meertens, Vis-Visschers, and Beukenhorst et al (2012:5) argue that structured questionnaires are usually associated with quantitative research. In this study, both questionnaires and interview was used.

1.14 Data Analysis Method

According to Botma et al (2010:220), the process of data analysis comprises making sense of image data and text and arranging it for analysis, piloting different analysis, and interpreting and representing the data. Vosloo (2014:167) defines data analysis as the process where collected data is reduced to a more convenient size and where the researcher identifies patterns and thus applies statistical techniques coupled with a summary of the data.

The quantitative data from the questionnaires needed to be reviewed. Where there were blank responses such anomalies were accordingly handled with the data being coded, categorised and entered in the table designated for analysis (Naidoo, 2014:52). In this study, data tables and other statistical analysis, that is, SPSS as it includes graphs and frequency table were used. It is also notable that the exploratory factor analysis was used to produce multiple dimensions since each dimension can reflect a separate factor. Thus, using the exploratory factor analysis

was an attempt to establish the nature of the constructs influencing a set of responses based on the drive to eliminate the bottlenecks.

1.15 Measures to ensure Trustworthiness

Trustworthiness of the study is stipulated as a process of showing the “truth value” of the study (Morake, 2013:30). It is very important to evaluate the quality of the research after the data has been collected and analysed. The researcher’s focus must not only be on the results of the study but also on the rigour of the research. By rigour is meant the extent to which the researcher worked to enhance the quality of the studies (Heale and Twycross, 2015:66).

1.15.1 Validity

Heale and Twycross (2015:66) define validity as the extent to which a concept is accurately measured in a quantitative study. Similarly, Leung (2015:7-8) is of the view that validity concludes whether the research truly measures what it was anticipated to measure or how truthful the research results are. In the context of this study, the factors that contributed to the bottlenecks were poor synchronisation of the graduation activities and the processes needed to be measured and if measured correctly, the study could be more valid. The time that the graduands spent answering the questionnaires was also a factor and thus contributed to the determination of the validity level. Therefore, the engagement levels with the graduands and the Director of Corporate Relations in terms of lobbying them to take their time while answering the questionnaire was optimised to foster reliability of the information provided and subsequently analysed.

1.15.2 Reliability

Reliability relates to the consistency of a measure (Heale and Twycross, 2015:66). It is defined as the extent to which results are consistent over time and an accurate representation of the total population under study (Leung, 2015:7-8). Similarly, Thatcher (2010:36) avers that reliability is the extent to which an experiment, test, or any measuring procedure yields the same result on repeated trials. As argued by Zikmund and Babin (2010:335), the most common method for testing the consistency of a scale for reliability is the Cronbach alpha coefficient. Although Tavakol and Dennick (2011:53) argue that the Cronbach alpha coefficient range from 0 to 1 with a minimum of 0.6, other studies suggest that anything above 0.7 indicates consistency between different measurements of a respondent’s response whose aim is to ensure that these responses remain consistent and similar over a duration of time. In this study, reliability was measured by using the Cronbach alpha coefficient together with the Likert scales to ensure that the responses from the graduands for the quantitative study were reliable.

According to Saunders et al (2012:101), the concern in relation to validity and dependability is whether the findings are really about what they appear to be about. One of the objectives of this study was to analyse and interpret data from qualitative data obtained through interviews (Amadi-Echendu, 2013:54). To ensure the trustworthiness of the study, a recording device was used as the primary tool during the local interviews and this provided an unbiased record of each conversation. The researcher was personally responsible for data collection. Different questions were asked to ensure consistency of the answers given. Constant monitoring and confirmation of the research process as a verification strategy helped to ensure its rigour. The interview was transcribed verbatim and the researcher maintained a neutral role in the entire research process. A consistent coding method was used to ensure the trustworthiness of the study.

1.16 Ethical Considerations

Researchers need to anticipate the ethical issues that might arise during the research process (Hesse-Biber and Leavy, 2011:55). Kahari (2010:10) defines ethics as “a set of moral principles suggested by an individual or group and are subsequently widely accepted as they offer rules and behavioural expectations about the most correct conduct towards experimental subjects and respondents, employers, sponsors, other researchers, assistants and students”.

The research proposal, questionnaires and interview questions were submitted to the University of KwaZulu-Natal Research Committee to seek ethical clearance. Notably, at the time when the research process was still underway the respondents were afforded protection and the researcher developed a good rapport with them. The integrity of research was promoted and fostered by guarding against misconduct during the study period (Creswell, 2013:53). The respondents were protected against all possible inconveniences associated with research practices. Thus, the researcher developed rapport and with them, which promoted the integrity of the research whilst guarding against misconduct (Creswell, 2013:248). Before questionnaires were distributed to the College of Law and Management graduands and the researcher gave the respondents cover letter that was meant to assure the graduands that this study was to all intents and purposes an academic work and that any information the graduand would give would not be used against them. The questionnaires maintained the anonymity of the respondents so that they would feel comfortable and thus freely answer the questions raised with them in the interview without fear of possible victimisation ensuing from their participation in the research process.

1.17 Limitations of the Study

Limitations are defined as influences that the researcher cannot control. They are the shortcomings, conditions or influences that cannot be controlled by the researcher that place restrictions on the methodology and conclusions (Wiersma, 2012:24). One of the major limitations of the study was time. For the survey, it was not possible to take the sample size of 100 percent this has the effect of limiting accuracy of the results. There were also other limitations such as:

- (a) Many graduates and staff members might be busy with their dissertations and business of the day. So, they might only provide limited amount of time to complete the questionnaires and answer interview questions.
- (b) This kind of study was carried out for the first time where the respondents are required to be innovative and think back to their experiences.
- (c) Graduands might fill questionnaires just for the sake of finishing without reading the questions and providing their insight to the research questions.
- (d) Cooperate relations members might withhold some essential information due to limitations and thus keep to the minimal trust level.
- (e) This evaluation was based on the primary data generated through questionnaires and interviews and collected from the concerned respondents and because of these the findings are entirely depended on the accuracy of such data.

1.18 Delimitations of the Study

Simon (2011:2) argues that delimitations are features or things that a researcher set as the boundaries in the study and such delimitations are controlled by the researcher so that the objectives of the study do not become impossibly large to achieve. Similarly, Pajares (2011:7) asserts that delimitation provides a summary of how the research study is going to be narrowed in terms of boundaries or scope. Arguably, the delimitation phase enables the researcher to focus on the critical aspects of the study and by so doing avoid redundancy.

In this study, the delimitations were as follows:

- (a) In terms of the population, the research study was delimited to all the other Colleges and campuses because the chosen sample proved to be paramount for the generation of information.

- (b) A copy of the quantitative questionnaire and qualitative interview questions was sent to each would-respondent before the interview to allow each person to adequately prepare for the interview and to remove all elements of surprises.
- (c) The focus was not only on the results obtained from the respondents of the study, but also on the rigour of the research.
- (d) For the qualitative study, the identities of the interviewees were protected by removing all information that could identify them and thus kept all the respondents anonymous.

1.19 Conclusion

The general research objectives of the study such as to determine the bottlenecks experienced in graduation ceremonies due to poor synchronisation of processes, to establish the possibilities of collaborative relationships between different role players to ensure better synchronisation of the ceremonies, to establish the extent of the experience to which graduating students get immersed with the staging of the graduation ceremony and to what extent to which reduced process bottlenecks and delays can be improved on the overall process efficiency of graduation ceremonies. The purpose of this study was to examine and establish how best the bottlenecks under investigation can possibly be eliminated as they impact negatively on proceedings of the graduation ceremonies. Arguably, graduation is a becoming a platform wherein students are given the benefit of memorable experiences. Such experiences render the graduation become a highly respectable and honourable event for UKZN graduands. Additionally, an overview of the literature, adhering to ethical research principles and discussing research methodology used in the study were also dealt with accordingly.

1.20 Outline of the Study

This dissertation is demarcated as follows:

Chapter 1: Introduction

This was the introductory chapter. The background of the study was first discussed after which the problem statement was identified and succinctly declared as well as the reasons for conducting the research. Objectives and benefits of the research were also discussed in this chapter. Moreover, significance of the study and limitations were also discussed.

Chapter 2: Literature Review

Review of the selected or related literature was discussed in this chapter. This chapter presented information and conclusions drawn by other researchers on bottlenecks elimination, scheduling, collaboration, information sharing, synchronisation of

activities etc. Thus, it also focused on the efficiency and effective measures. Furthermore, TOC also formed part of the chapter.

Chapter 3: Research Methodology

This chapter dealt with research methodology. Chapter 3 presented a discussion of the specific steps used in the literature review and collection of data for the study. It defined the population studied, explained the sampling procedure for the research, sample size, sample frame as well as execution of the processes. The study gave details on the data collection method, data analysis and construction of questionnaires. This chapter also discussed the issue of validity, reliability and dependability.

Chapter 4: Data Analysis

Chapter 4 provided results of data analysis and findings of the study. The results of the study were presented with the aid of tables, graphs and reports from the data collected from the respondents.

Chapter 5 and 6: Results, Conclusions and Recommendations

These chapters were the last chapters of the study. The summary section of Chapter 5 provided a brief recap of the entire study. Firstly, the research results were discussed and interpreted with reference to the literature surveyed. Then followed by Chapter 6 with recommendations based on the findings of the study. Conclusions were then drawn based on the research findings and literature reviewed.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The previous chapter introduced the key variables that constitute the literature framework for this study. This chapter discusses the challenges and dynamics of the phenomenon of the University of KwaZulu-Natal graduation being prone to susceptible possible bottlenecks and complex scheduling processes. Timilsina (2012:16) argues that a “bottleneck is a stumbling block in the manufacturing process which limits the production and reduces the entire capacity of the system. Mbhele (2017) is of the view that proper integrated planning and a better synchronised event strategy can deliver positive cues for sensual-based experience and thus eliminate bottlenecks. Undertaking proper scheduling and planning in the organisation functions to establish better ways of utilising specific resources within the organisation in specific time frames which prove to be paramount for the proper scheduling and planning of events. Scheduling and planning determines the timing and the amount of equipment, facilities, activities and all human activities to be used (Kruger, De Wit and Ramdass, 2015). Thus, proper consideration needs to be given to the scheduling and planning operations as they are part of the decision-making process. Sound scheduling, planning, synchronisation and collaboration amongst supply chain partners serve as important planning tools that deal with the allocation and utilisation of available resources as well as the timing of the activities or processes that must be followed.

2.2 Background of the Study

Universities are made up of people with purpose. Some are engaged in learning, some in teaching and research, whilst others are in support or leadership. Notably, the study was motivated by the desire on the part of the researcher to establish ways of eliminating the bottlenecks associated with the planning of the graduation ceremonies as well as the attendant processes and activities involved in the planning. The graduation ceremonies have created a dearth of memorable experience for excellence to graduating students from pre-graduation, during graduation and post-graduation. During graduation graduands by and large seem not to comprehend the importance and value of the graduation ceremonies. This, it is reasonably conjectured, stems from the bottlenecks experienced from poor scheduling of the processes, lack of integrated planning of the activities and lack of coordinated smooth flow of the graduation. The main concepts that governed this study emanated from the effects of the

bottleneck in relation to the entire graduation ceremonies which lacked not only integrated planning and scheduling of the activities but also collaboration among the stakeholders involved. There was as it were an apparent lack of experiences of the graduation ceremonies on the part of many of the respondents. The theatrical model was constituted of different elements that ensured that experiences lived become memorable to all the members. Notably, opera music is judged in relation to its concerts and performances that optimise the audience experiences by the music played, live performances and the setting of the entire event that add value and drives people to attend events. The analogy being made in this study is that if Opera music concerts can deliver optimised and lived experiences for its audience, the UKZN graduation ceremonies can also provide commendable and sound activities that generate experiences with the potential of transforming the graduands memories.

2.3 Theoretical Framework

Almansouri (2014:13) claims that The Theory of Constraints (TOC) is an approach developed by the famous and late Eliyahu Moshe Goldratt. He first introduced the theory in its full form in the 1980s in many well-known books. The Theory of Constraints (TOC) commends that the constraint of a system once identified, attention must be focused only on the constraint until it is no longer a constraint. His main motivation was to make a synchronous manufacturing because all the parts of the entire organisation are supposed to work together and achieve the organisation's goals (Mitic, Cervera Padrell, Skovby, Kiil, Gani, Dam-Johansen, and Gernaey, 2012:25). Mathu (2011:132) used TOC in the study to establish the processes of minimising or alleviating constraints found in the South African coal mining industry supply chain. The study in the TOC was used to resolve problems emanating from the constraints found in the South African coal mining industry supply chain to improve its operational effectiveness, efficiency and profitability (throughput).

Zivaljevic (2015:505) further used TOC in addressing traffic congestion as the main impediment to improving utility of the land transportation systems; specifically, a congested motorway segment with regulated access. The way graduation set up time is handled from pre-graduation (setting up of dates and capacities), during graduation (processes/performances) thus post-graduation (obtaining graduation pictures and certificates) might affect experience predictions. Other concepts have been developed which also recognise the importance of planning to deal with the bottlenecks and constraints impacting negatively on graduation rather than poor scheduling of the activities and lack of collaboration failing to optimise the graduands' experiences. Theory of Constraints placed more focus and attention on the

bottleneck parts of the operations. By identifying the locations of constraints, working to remove them and then looking for the next constraint, an operation always focuses on the part that critically determines the pace of output (Jojozi, 2014:19).

Theory of Constraints is the theoretical foundation governing the study because the effects of bottlenecks experienced ranging from poor processes and scheduling, synchronisation to lack of studios theme creation to subjugate the dignity and prestige of UKZN graduation ceremonies could be evident. The main aim was to establish the extent of the bottlenecks' impact and the influence it has on the betterment of students' experience of the graduation ceremonies. Zivaljevic (2015:527) argue that parking constraints, forming of long ques of lines for certain activities emanate from poor planning and scheduling of an organisation to optimise capacity management constraints. Mitic et al (2012:302) are of the view that the importance of stakeholders' involvement in optimising capacity mechanisms can be paramount to match sales with capacity in a retail industry. Packing availability might reduce idle time that can be used for other value adding activities and processes in any event and graduation ceremonies are exception in this regard (Beer, 2015:22).

2.4 Planning and Scheduling

Jojozi (2014:10) argues that scheduling plays a crucial role and serves as the pillar of the performance of the organisation. Also, as argued by Wu (2014:1), scheduling is defined as “the process of allotting the scarce resources over time and it is highly recognised in almost every organisation”. Mahadevan (2010:52) avers that scheduling serves as an important planning tool that deals with the allocation and utilisation of the available resources as well as the timing of the activities or tasks that should be done. Therefore, to prevent any bottleneck impacting negatively on the processes or operations, the utilisation of scarce resources such as time needs to occur in line with the schedule. In Pearlman' (2015:12) view, effective scheduling enables effective utilisation of the resources which result in better process management and the enhancement of the quality in the final products or services. Nejad, Sugimura and Iwamura (2011:1373) argue that the business environment has become more competitive and operates on a global level and among the issues that scheduling deals with is the timing of operations.

Scheduling examines both resources and time allocations to produce the required quantity (Jojozi, 2012:10). Thus, resources need to be used in a manner that allows for the creation of value to the graduands and the organisation and in so doing reduce delays of which maximises efficiency and quality of graduation ceremonies. Notably, Murugesan and Chellappan

(2011:20) argue that scheduling is the crucial concept in achieving high utilisation of the resources and better performance. If resources are available but then idled due to lack of active utilisation, inefficient plant layout, or any of the other numerous motives for unplanned or planned idleness, their productive potential turns to waste and the resultant product would not yield the satisfaction that should derive from it. This is evident in UKZN graduation ceremonies which stages world class state of the art proceedings, facilities and distinguished guests but fails to unlock the element of surprise and memorabilia to the graduands. This view is corroborated by Almansouri's (2014:14) definition that utilisation is a resource that is not idle due to the absence of components at which it would be not exploited. UKZN offers variety of degrees with several students registered for each one of them. Graduation ceremony can be used as the platform for students and graduands to obtain experience on their fields of study and bring that 'wow' experience and fresh approach to graduation proceedings. For example, students studying art and music could form part of the performances, students studying supply chain management can also bring that supply chain perspective and innovatively ensure capacity matches demand. This alone can bridge the gap seen in the university content and cooperate world environment for graduands, as they have textbook knowledge without practicality of the content studied.

As argued by Rezaei, Eivazy, Rezazadeh, and Nazari-Shirkouhi (2011:751), scheduling is closely related to planning as they work together to control and facilitate the production to achieve the highest performance in terms of measurements such as timely delivery and utilisation. Planning looks at what, how, where and in what order work should be performed whereas scheduling sets forth when and who. The interaction between planning and scheduling is inevitable not only because scheduling decisions are controlled by the planning decisions, but also because interruptions arising in the execution stage might affect the optimality of both the plan and the schedule. Therefore, before assigning the resources to activities that should be performed, planning should take place first on what resources are required, how they are going to be used and where they will be used to execute the activities. In the context of this study, the stakeholders and the role players to the graduation ceremonies could be chosen with the graduands in mind to optimise their experiences and ensure that the activities flow with ease and the processes are better synchronised through collaboration. The interaction thereof between graduands and planning committee can minimise the bottlenecks and optimise sensual experience for all the graduands and other relevant stakeholders.

Notably, the graduand schedules and plans his/her activities and closely align them to the specified times and departure times to eliminate any lost time and idle time as they prove to be valuable in the process and progress inefficiencies. As many graduands might be coming from places that are far and still need to travel back home, time-allowances to get to graduation celebrations on time and any other plans, require efficient scheduling and prove paramount for the graduands in terms of minimising waiting time. Additionally, to ensure effective and efficient scheduling and planning for the graduation ceremonies, graduands can be emailed or sent their seat tickets and seating proceedings using technological applications, or internet. This can speed up the process of getting to the ceremony on time and allow graduands to even have pictures before the graduation event starts.

Technological presence can also be utilised to optimum and other platforms that engages students to optimise on the non-value adding minutes that could have been injected to experiences obtained at the ceremonies. Having numerous service providers or students thereof can also hasten the process and thus reduce idle time spent by the graduands. This will also allow students to engage themselves to ceremonies and come up with relevant experiences such as being able to plan events and offering different services. This can also enhance their curriculum vitae and come up with fresh eyes as to how the ceremonies should be optimised and made effective for all stakeholders.

2.5 Bottlenecks

Constraints are anything that prevent the organisation from making progress towards its goal. In manufacturing processes, constraints are often referred to as bottlenecks. Interestingly, constraints can take many forms other than equipment. The term bottleneck is often used both in everyday language and in science. Beer (2015:37) defines bottleneck metaphorically as circumscription constraint or limitation for something which is accountable for a lower than possible outcome. As an extension of his definition, Beer asserts that a bottleneck is to be construed as “a machine that impedes system throughput”. Almeida, Penaforte and Yamashita (2013:4) aver that in the freight transportation, a bottleneck is any impediment that inhibits the transport from being more proficient. As such, a bottleneck causes the formation of long queues in front of the work center which blocks the flow of products in the supply chain and hampers the whole production process. In the context of this study, some of the graduands come from disadvantaged family backgrounds and cannot find their family transportation means to form part of the graduation. This can be caused by the fact that the ceremony occurs at night, or takes long to be completed which might require graduands to find accommodation for the family

members who attended the ceremony to stay overnight. Thus, such graduands tend to attend the graduation ceremonies alone and this results to the value of the added experience that they could have experience being lost had the family been present (Bottleneck). The smile and celebration of a parent as their child is called on stage create the feeling that is rare and that will never be forgotten by both the graduand and the parent. Having that element can create memorable experience for the graduands to do more and wish for the same in future.

It is argued by Zaffran, Vandelaer, Kristensen, Melgaard, Yadav, Antwi-Agyei and Lasher (2013:74) that the World Health Organisation (WHO) faces devastating bottlenecks as the new vaccines supply and logistics systems have bottlenecks relating to storage capacity which threatens the access to vaccine, its availability and quality. Access to all vaccines hinges on the ability of the supply and logistics systems to receive, store, and transport vaccines at proper temperatures and get them to the right places timeously. This, arguably, indicates that bottlenecks can have an enormous impact on the end user as the product is likely to arrive in poor condition and this has the potential of compromising its optimal functioning. As argued by Lopez and Roubellat (2013), the capacity of any operation to perform optimally drops instantly after the bottleneck has occurred. This has been evidenced in UKZN's graduation ceremonies where graduands resolve not to attend their second graduation ceremony because of the experience and perception they had had in the preceding ceremony.

2.6 Synchronisation

Synchronisation probes into the pace of output at each stage in the production process to ensure the same flow characteristics from each part or product as they progress through each stage (Erlach, 2013:52). Synchronisation can also be understood as the capacity of objects of different nature to form a common operation regime due to interaction or forcing (Amorim, 2013:54). Thus, the objective of synchronisation is to allow material flows without interruption in a highly-orchestrated process between the individual nodes of a supply chain. To achieve the uninterrupted orchestrated flow, synchronisation requires a common beat which coordinates the activities of all the partners in a supply chain. The common beat is derived using takt time. Takt time is defined by Shook and Marchwinski (2014:71) as the rate at which products must be made in a process to meet customer demand. Thus, takt time determines the demand frequency and how frequently a product must be produced to meet customer demand (Shook and Marchwinski, 2014:71). The takt time is used to synchronise production and ensures that all activities are performed equally (Klug, 2013:2).

It can thus be argued in consideration of the foregoing definition that there is no common beat at UKZN graduation ceremonies as there are interruptions before, during and after the ceremonies. For example, before graduation interruptions might include long lead times to find parking and get to the ceremony after it has started and queuing for the seat number collection and looking for the rightful seat number after the entrance. During graduation, there might be bad temperature in the venue itself and after graduation there might be uncontrolled traffic cause by both pedestrians and motorists when it is departure time.

The transparency of information upstream and downstream maintains the flow of materials in time to the rhythm of the production process. Information transparency is achieved in the context of this study through the availability of the graduation calendar planned by the upstream otherwise known as graduation planning committee. The downstream might be identified as the medium which provides a registered student (graduands) with access to the academic calendar and times applicable to each registered degree. The rhythm of the process in the context of this study might be broken because of lack of flow through the availability of the graduation calendar and all the relevant academic activities and the synchronisation of times and dates for the graduands.

Coordination of material flows by both volume and time is aimed at processing the quantity needed by one process from the one that preceded it (Klug, 2013:2). The parts need to be classified in relation to rhythm the frequency of which they are demanded (Jojosi, 2014:17). Therefore, graduation times need to be scheduled at a frequency at which the graduands demand it. Demand frequency is reinforced by a recognised synchronisation philosophy known as JIT (Just-In-Time), where all the elements of the delivery process are synchronised (Kung, 2013:2). To prevent local build-ups of inventory, material flow must be harmonised so that parts move in an organised fashion (Harrison and van Hoek, 2011). By the token, to prevent graduands from leaving before the ceremony ends, the elements of the delivery processes need to be optimised to engage them and exceed their demands and expectations. In this regard, harmony can be achieved by ensuring that the graduation scheduled times are congruent with the departure times or other graduands related planned activities. Having graduation on both semesters has somewhat ensured that the severity of the constraints get minimised and the bottlenecks are brought to a bare minimum. This, arguably, has the potential of ensuring that smooth flow of activities without inefficiencies is experienced.

2.7 Collaboration

Collaboration considers the overall performance of the system. As such, it is an effective means of fulfilling the maximum interests of the members by using advanced methods and technologies to coordinate the members' activities of sourcing, storage, production and delivery in a dynamic and partial information sharing context (Long, 2015:67). Therefore, a collaborative supply chain means that two or more independent companies work jointly to plan and execute supply chain operations with greater success than when acting in isolation. In the context of this study, collaboration amongst the planning team and the graduands can ensure that collaborative means are executed to eliminate the bottlenecks and thus optimise the graduands' experiences at the graduation ceremonies. As much as the graduation ceremony is a formal proceeding and an event that has adopted internationally recognised norms and standards, having the element of fun and the inclusion of the graduands to optimise their memories and experience might prove to be paramount. This might include offering students vouchers or packages which can be obtained from different sponsors and non-profit organisations as donations as they receive their graduation certificates.

Notably, the challenge facing organisations is that knowledge and experience are not coordinated among the employees in different disciplines. This necessitates that all relevant stakeholders be involved in many decision-making processes which by their very nature emphasises collaboration (Bedwell, Wildman, Grandoz, Salazar, Kramer, Salas, 2012:53). The challenges relating to the elimination of the bottlenecks faced by the graduation ceremonies are characteristically dynamic. So, those stakeholders responsible for the graduation ceremonies must, from pragmatic standpoint, be relevant and be able to adapt to challenging environments relating to the activities of the graduands to ensure that the objective of collaboration is achieved in the decision-making process relating to the graduation activities. Notably, collaboration has the potential of strengthening the individual function which in turn can strengthen the collaborating parties (Bedwell, Wildman, Grandoz, Salazar, Kramer, Salas, 2012:53).

2.8 Supply Chain Integration

The definition of integration has gone through various modifications owing to research in different perspectives. Flynn, Huo and Zhao (2010:65) defines a supply chain integration as the extent to which a manufacturer purposefully collaborates with its supply chain partners and collaboratively manages intra- and inter-organisational processes. Collaboration and integration are key parts of a continuous journey and key elements of successful digital

business. Adams, Richey Jr., Autry, Morgan and Gables (2010:302) are of the view that “the objective of integration is to achieve operational efficiencies and strategic effectiveness in the supply chain through collaboration. Achieving this objective requires purposeful commitment and coordination with another firm’s functional areas and processes (Richey, Roath, Whipple and Fawcett, 2010:237–38). Kwon and Suh (2015:26) conceive of supply chain integration as a strategic tool that aims to reduce costs and thus increases customer and shareholder value. Effective supply chain planning, built on shared information and trust among partners is a vital part of successful supply chain functioning. Thus, the inclusion of students to form part of graduation performances and service provision can in Kwon and Suh’s terms reduce costs and thus increase the graduands’ value.

Similarly, Monczka, Handfield, Giunipero, Patterson and Waters (2010:104) define integration as “the process of incorporating or bringing together many groups, functions, or organisations, either formally or informally, physically or by information technology to work jointly and often concurrently on a common business-related assignment or purpose”. Krishnapriya and Rupashree (2013:51) assert that integration offers speedy access to essential sources of information, more sensitivity toward the needs of graduands and allowing faster response time which creates a competitive edge among the competitors.

Naude and Badenhorst-Weiss (2011:76) argue that supply chain management turns around proficient integration of manufacturers, stores, warehouses and suppliers. Notably, therefore, the difficulty in the supply chain integration is to synchronise the activities through the supply chain so that the enterprise can advance or improve the performance by reducing costs, increasing service levels, reducing the bullwhip effect, better utilisation of resources and effectively respond to changes in the market place. Although some studies categorise supply chain integration into internal and external integration (for instance: Gimenez and Ventura, 2005; Sanders, 2007), numerous studies have also looked at external integration from the viewpoint of both supplier and customer (Flynn et al., 2010; Zhao, Huo, Selen and Yeung, 2011: 25). In this way, integration among the supply chain partners can be complex and might require unique capabilities that might be difficult or costly to secure. By managing these integrative relationships better than the firm’s competitors, it will transform itself into a valuable internal strategic resource.

Times are changing and graduands are no longer ill-informed about what is happening around the world. Even businesses are moving away from offering customer’s goods and services as they are now offering customers experiences and wow experiences as they interact with them.

The argument is that graduation ceremonies can also move away from the traditional way of executing the ceremonies and try to establish innovative ways of engaging graduands in the provision of memorable experiences for all. In this study, integration between the graduands and planning committee is associated with internal integration where graduands can be given the opportunity to optimise their graduations through the making of suggestions and being involved in the planning of the events. External integration is associated with service providers who could also be given opportunities to render their services to the graduation ceremonies. Some service providers can include students who are studying music, dance, acting, photography etcetera at Howard College, such students might bring a fresh approach and thus take the graduation ceremonies to another level. Hence, it is argued that graduands can be engaged in such performances through active or passive approaches.

2.9 Supply Chain Reconfiguration

According to Bowersox, Closs, Cooper, and Bowersox (2013:185), improving the efficiency of supply chain partners has become a major requirement of any supply chain due to the highly competitive nature of the current marketplace. This requirement might lead the decision makers to reconfigure their supply chains towards achieving a better performance of their incorporated tiers. The decision to reconfigure the supply chain includes the suppliers to select, how to distribute materials among them and how to better allocate their capacities (Almansouri, 2014:14). Hence, the supply chain reconfiguration problem presents itself as a major challenge at the graduation ceremonies. It is against this background, therefore, that the study focuses on the need that the University reconfigures its supply chain towards staging graduands ceremonies to eliminate bottlenecks that emanate from the kinds of constraints as discussed above. The following is the model that has been adopted in this study, which might, arguably, transform the graduation ceremonies for the graduands to become memorable from the beginning until the end.

2.10 The Experience Economy

Pine and Gilmore's (1999:19) experience economy model (Figure 2) below, has stood out among the various applications of the experiential view of consumer behavior. Their experience economy framework was utilised to evaluate tourism products such as heritage trails, extraordinary events (Pullman and Gross, 2003) and cruise vacations ((Hayes and MacLeod, 2010:27).

Table 2.1: 4 Realms of Experience Economy



Table 2.1: 4Es in the Experience Economy (Pine and Gilmore, 1998:102).

Notably, the study by Morgan, Elbe and Curiel (2010:11) examined the perspectives of managers on destination on aspects of the experience economy in their tourism dependent locations (Morgan, Elbe, and Curiel, 2010:11). Other scholars such as Stamboulis and Skayannis, (2013:24) conceptualise implementation of tourism technology to leverage the experience economy for tourists. Morgan et al (2010:8) operationalised the four realms of the experience economy framework by creating and testing a measurement scale within a bed and breakfast setting. Gilmore and Pine (2009:36) wrote guidelines on how-to for hoteliers and restaurateurs on staging experiences through operational design (2009:36). To establish the extent of the experience to which graduating students get immersed with the staging of the graduation ceremony the model was paramount for the optimisation and realisation of the research objectives. Moreover, this study offered a conceptual argument in support of the graduation ceremonies as the ideal experience economy. Using the guide developed by others, the study evaluated the concept of experience economy of staging along the pre-graduation, during graduation and after graduation ceremony at the University of KwaZulu-Natal. At the core of the experience economy, the consumer experience is described as consisting of four realms (4Es): educational, escapist, esthetic, and entertainment. These form quadrants that are positioned along two matrices of experience: the horizontally placed consumer (*graduands*) participation (passive or active) and the vertically positioned consumer connection, (absorption or immersion) (Pekrun, Goetz, Titz, and Perry, 2010:91). Active participation is “where graduands personally affect the performance or event that yields the experience” and passive

participation is “where graduands do not directly affect or influence the performance” (Hosany, and Witham, 2010:93).

When connecting graduands on a continuum of immersion or absorption, immersion can be described as becoming physically or virtually part of the event or performance itself while absorption is engaging the attention of the stakeholder’s mind (Schiffman, Kanuk, and Wisenblit, 2010:302). As argued by Schiffman et al (2010:307), consumption experiences incorporating all four dimensions lead to stronger memories and subsequent positive evaluations. Memorable graduands experiences have been identified to be composed of positivity, engagement with others and acquisition of new knowledge (Kim, 2010:54). Positive evaluations such as satisfaction have long been examined in tourism literature seemingly unabated. Furthermore, Schiffman et al (2010:333) assert that the importance of satisfaction can be identified at graduation ceremonies as positively affecting behavioral intentions.

2.10.1 The Educational Element

Pine and Gilmore (1999:15) conceive of the educational realm as the rewarding experiences from consumers’ active participation where their minds and/or bodies are actively engaged in the enhancement of individual knowledge or skills. Educating consumers within a retail environment allows consumers to experience more than what they thought they could. This is often referred to as “edutainment”. This concept brings together education and entertainment (Kim et al, 2010:227). As noted in this study, graduands have been part of the University from first year up until the completion of their degree certificates. So, because of this completion, they have accumulated world class knowledge from different lectures and from different educational platforms that the University offer. Entertainment can be mixed with education through playing previous graduation videos and showing some interesting captured moments, being part of the ceremony and receiving a certificate as being part of the project champion etcetera.

After graduation has occurred, it becomes evident that it is when the students are engaged through the University home page which does not add much value as anticipation of the graduation ceremony can effectively be unlocked in the first week at the University (Orientation week). Graduands can form part of the performances on stage by actively participating in dancing or singing performance. Theming graduation ceremonies can be an effective tool to unlock the entertainment element and by so doing optimise memories for the graduands. Themes can include wearing traditional, classic, vintage, recycled dress codes

etcetera. Theming graduation ceremonies can also inject edutainment on different race groups cultures and thus ensure that diversity is evident at the University of KwaZulu-Natal.

2.10.2 The Entertainment Element

Notably, Schiffman et al (2010:35) conceive of the entertainment element as the rewarding of the experiences that occur when customers passively observe a performance or activity. Thus, entertainment falls more on the passive participation/absorption dimension of the model. While agricultural and viticulturally activities taking place within a winery, farm, and vineyard might be viewed and absorbed, cultural attractions and events conducted within wine destinations are collectively a considerable draw (Almeida et al, 2013:5) that might augment the tourist's entertainment experience.

In this study, the connection of art, music and heritage as entertainment within stage destinations can be documented to optimise graduands' involvement and participation. A special moment can be given to graduands who receive their degrees with cum laude or summa cum laude certificates, followed by a moment of appreciating and recognition by all the guests standing up and applauding these individuals as opposed to being called out like normal graduands who receive their degree certificates with standard levels. Since the ceremony could be thematised performances by local artists, hired artists and traditional idols can also form part of the ceremony to support the theme of tradition if it is a traditional graduation.

Also, even distinguished guests can support the graduands by wearing thematised clothes. This is likely to bring memorable experiences for the graduands when they see their Chancellors, Vice Chancellors and Lecturers wearing traditional clothes. Even the moments captured by cameras and images can intensify and drive positive energy in the graduation ceremonies. This kind of practice can set not only a standard but also a trend for other Universities and enlighten them on UKZN being the truly African University manifested by its norms, standards and practices.

2.10.3 The Esthetic Element

Graduands can passively participate in the esthetic experience in the same way as they do as with the entertainment experience and are immersed in the experience given the escapism involved in this experience. This study, therefore, argues that the evaluative experience of graduating, as it takes place in a graduating venue, has as much in common as that of consuming music and art. Although graduation ceremony experience as an aesthetic experience is arguably, tasty, enjoyable, and is a moment that affords individuals to purchase expensive clothes, it contributes to the motivation of the graduation to also form part of the graduation.

Notably, memorable experiences are inclusive despite forming part of the activities and processes indirectly. This can include innovative ways of coming up with interesting themes, ideas and amazing processes that can enhance the ceremony deliverables to all the stakeholders anticipating the event. For example, this could entail the issuing out of flyers and advertising through bill boards around the University showing welcome signs and offering directions filled with street performances and different dance throughout the main entrances and designated areas of the ceremony. Hence, having car traffic controllers could eliminate or minimise congestions and enhance smooth flow of both inbound and outbound movements.

2.10.4 The Escapist Element

This escapist construct can be attested to at the graduation ceremonies with the findings that confirm that graduands desire more than just to be called on stage for few seconds and walk down the stage. According to Mitchell, only 23.0% of New Zealand winery visitors identified tasting and buying wine as their main purpose for visiting the destination (as cited in Mitchell and Hall, 2006). This assertion above is arguably supportive of the analogy, that a small percentage of graduands come to graduation ceremonies to collect their degree certificates and leave. It is notable, however, that the assertion also reinforces the view that graduands come to the ceremonies to get that feel, taste, touch and see people being rewarded and recognised. Thus, it is all about experiencing and enduring the crowd clapping hands for one as he/she walks down the stage. Therefore, the greater the number of activities offered during the graduation ceremony, the greater the potential for graduands to fully realise the escapist dimension on the active participation and immersive quadrant of the experience economy model. Having a different packaging for the degree certificate and special thank you message from the institution could also play a paramount role to injecting positivity to experience obtained.

In the experience economy, the graduand might not only gaze in delight at the graduation escape but also be improved, amused and thoroughly absorbed in the one day of memorable experience. Notably, studies exploring the 4Es in tourism settings found that each is represented and demonstrated differing strengths in effecting the tourist's experience (Arnould and Price, 1993:36). Based on the literature on wine industry, this study assumes that all the 4Es namely, entertainment, educational, escapist, and esthetic experiences are present in the graduation experience predict higher values on the dependent variables of intent to recommend or intent to return. In addition, to support the experience economy model and ensure memorable experience for all the graduands, the collaborative planning forecasting and replenishment

model was adopted in this study. It is worth noting, therefore, that this model is a tool and a mechanism that connects all the realms of experience to all the graduands and ensures that all the stakeholders are engaged in epitomising the memorable experience for excellence to the graduating graduands from the triple staging or pre-graduation, during graduation and post-graduation.

2.11 Collaboration Planning, Forecasting and Replenishment (CPFR) Model

Stevenson (2013:349) asserts that there is a latest strategy in the evolution of supply chain collaboration known as the Collaboration Planning, Forecasting and Replenishment (CPFR). Similarly, Fahrenwaid, Wise and Glynn (2001:14) also regard CPFR as “an alternative strategy to sharing information”. This fact notwithstanding, earlier collaboration strategies like Vendor Management Inventory (VMI) and Collaboration Replenishment Planning (CRP) focused on inventory replenishment activities and did not consider the importance of demand forecasting and production planning activities (Panahifar, Heavey, Byrne and Fazlollahtabar, 2015:22). Notably, CPFR is an inclusive alliance strategy that covers all the functional areas of firms and provides an outstanding opportunity for both the supplier and the customer to be involved in demand forecasting and inventory replenishment planning activities (Kamalapur, Lyth and Houshyar, 2013:61). Thus, Panahifar et al (2015:36) aver that this model adds value to the total execution of any event or activity by ensuring that there is collaboration among all the stakeholders involved in the planning and execution of the event. Chase and Jacobs, (2011:277) argue that organisations need to be aware of challenges during the information sharing.

2.12 Conclusion

This chapter discussed not only the background of the study but also the TOC and its importance to the study. It proceeded to discuss the constructs emanating from the theory regarding different authors. Scheduling was one of the constructs and variable discussed as it involves the timing of the operations towards achieving efficient movement of units through the system. In this chapter, several aspects and approaches to address and achieve the research objectives were discussed. The approaches in question ranged from the experience economy model to the CPFR model. The next chapter introduces the research methodology used in the study and this entails the tools and mechanisms adopted in the execution of the study. The discussions also include the research approach and design, data collection, data analysis and ethical consideration for the study.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

In the previous chapter, a review of the literature on the effects of bottlenecks, planning and scheduling, synchronisation, experience economy, Collaboration Planning Forecasting and Replenishment (CPFR) and the theory of constraint (TOC) governing the study was presented. Leedy and Ormrod (2010:12) are of the view that research methodology refers to the researcher's general approach in carrying out the research project. The research methodology refers to the detailed discussion of the actual application of the design. It describes the methods, techniques and procedures that are employed in the process of implementing the research design or research plan (Streubert and Carpenter, 2011:366). Similarly, Botma, Greeff, Mulaudzi and Wright (2010: 41) defines it as "the rules and procedures that specify how the researcher must study or investigate what he or she believes must be known". As argued by Kumar (2014:23), "research involves systematic, controlled, rigorous exploration and description of what is not known and establishment of associations and causations that permit the accurate prediction of outcomes under a given set of conditions". This chapter, therefore, outlines the research methods that were used in conducting this study. This chapter thus focuses on the research objectives, research design, research approach, research population, sampling, data collection, reliability and validity and the ethical considerations incidental to the entire research process.

3.2 Research Objectives

The objectives of the study were:

- (a) To determine the bottlenecks experienced at graduation ceremonies due to poor synchronisation of the activities and the processes.
- (b) To find the possibilities of collaborative relationships between different role players to ensure better synchronisation of the ceremonies.
- (c) To establish the extent of experience to which graduating students get immersed with staging of graduation ceremony.
- (d) To what extent to which reduced process bottlenecks and delays can be improved on the overall process efficiency of graduation ceremonies.

3.3 Research Design

The research design summarises the structural framework and strategy on how the researcher plans to carry out the study to resolve the problem in question (Mbhele, 2014:184). Research design can be viewed as the master plan or logic of a study that gives an understanding on how the study is to be conducted. It displays how the major parts of the study such as the sample selection, data collection or data analysis are integrated to address the research questions (Thomas, 2010: 308). According to Botma et al (2010:108), the research design provides the structure for the research methods and design decisions that must be observed in planning the study. Sukamolson (2010:4) argues that the research design is divided into three main classes: exploratory, descriptive and explanatory (casual).

According to Wyse (2011:91), descriptive research is defined as the research whose aim is to describe a type of subject or a behavior without focusing on any specific relationship or to correlate two or more variables. Salaria (2012:169) contends that this approach is used to describe variables as opposed to testing a predicted relationship between the variables. Baskerville and Prieese-Heje (2010:280) argue that an explanatory research focuses on the why questions. Thus, explanatory research attempts to explain how and why there is a relationship between the variables. Answering the ‘why’ questions involves developing causal explanations. Causal explanations are predicated on the argument that phenomenon Y is affected by factor X. The research design adopted for this study is exploratory in nature. As argued by Cooper and Schindler (2010:143), exploratory studies are “loose structures with the objective of discovering future research tasks”. This study is driven by the TOC from information sharing, synchronisation, planning and scheduling and collaborative planning forecasting and replenishment model, to be inducted into the language of the phenomenon of bottleneck effect. This study is using a mixed method approach to analyse data, and the survey instrument is used for data collection.

3.4 Research approach and design

Identifying a study’s research design is vital because it makes available crucial information on the features of the study which can be different for qualitative and quantitative (Castellan, 2010:22). According to Harwell (2011:148), qualitative research methods are approaches respectively based on the understanding and discovery of the thoughts, experiences and perspectives of participants. This study uses qualitative research to gain an understanding of underlying opinions, motivations and reasons. As such, it provides insights into the problem or helps to develop ideas or hypotheses for potential quantitative research (Wyse, 2011:122).

Additionally, it “allows for more diversity in responses as well as the capacity to adapt to new developments or issues during the research process itself” (Pycraft_2010:220).

Sukamolson (2010:2) is of the view that quantitative research is the numerical representation and manipulation of observations for describing and explaining the phenomena that those observations reflect. Thus, quantitative research is used to quantify the problem by generating numerical data or data that can be transformed into usable statistics (Cooper and Schindler, 2010:146). As argued by Cooper and Schindler (2010:46), the quantitative aspect serves to answer questions on the relationships among the variables studied, and thus derives meaning from the data analysed using statistics, diagrams and tables. Similarly, Wyse (2011:109) asserts the quantitative method is used “to quantify attitudes, opinions, behaviors, and other defined variables and generalise results from a larger sample population”.

Typically, the quantitative method makes use of questionnaires (Naidoo, 2014:52). According to Nyakala (2012:120-122), there are two types of quantitative research namely: survey and experimental research. Zikmund and Babin (2010:64) conceive of a survey as a research method where the responses are collected through a structured instrument from a sample in some form or behavior of the respondents and is observed and described in some way. Thus, experimental research is performed to test the relationship between the cause and effect.

This study employed both the qualitative method under thematic analysis and the quantitative method under experimental research, this is known as the mixed method research. Mixed methods research is a research design that employs philosophical assumptions in addition to methods of inquiry. As a methodology, it involves philosophical assumptions that guide the direction of the collection and analysis and the mixture of qualitative and quantitative approaches in many phases of the research process (Creswell and Plano Clark, 2013:44). Mixed method measures are required for more rigorous tests of hypotheses (Pekrun, Goetz, Titz and Perry, 2010:91). As a method, it focuses on collecting, analysing and mixing both quantitative and qualitative data in a single study or series of studies. For Creswell and Plano Clark (2013:55), the mixed method is “a central premise in that in combination, it provides a better understanding of research problems than either approach alone does. Given the dearth of theory and empirical studies in this field, the exploratory design in this study has been deemed the most appropriate research method through employing a mixed method approach.

3.5 Data Collection

3.5.1 Survey Instruments

A survey instrument constitutes a list of cases from bottleneck effect, information sharing, collaboration, synchronisation and planning and scheduling of activities and processes that has been constructed based on the literature reviewed. The supply chain management research project acknowledges the survey instrument to probe graduands who are under supply chain, marketing and management Disciplines and experts to the graduation ceremonies, because supply chains recognise the multi-functional composition within the organisation and inter-organisational configuration (Mbhele, 2014:185). Sekaran and Bougie (2011:197) describe the questionnaire as an efficient data collection mechanism with a pre-formulated, written set of questions to which respondents record their answers, usually within rather closely defined alternatives.

This study questionnaire comprised of three sections. The questionnaire was divided into three structures sections. Section A dealt with questions relating to the respondents' personal details and graduations attended at the Westville Campus. Section B contained dichotomous questions with options of 'Yes' or 'No' answers on general perceptions of graduation, bottleneck effects, scheduling and planning, collaboration and experience attitudes. In a nutshell, Section B focused on obtaining data on the perceptions regarding the effects of the bottlenecks and the impact it has had and will continue to have if the status quo remains unchanged. Finally, Section C encompassed questions based on the Likert scale ranging from 1 = strongly disagree, to 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree; as well as a scale requesting that the respondents rank the perceived benefits of CPFRR using the same Likert scale tool. The Likert scale type questions in Section C applied to the key variables of the study namely, scheduling and planning, bottlenecks, collaboration, synchronisation, CPFRR and experience economy.

Cassell and Symon (2014:14) define qualitative interviews with an intended purpose of gathering descriptions or experiences of the interviewee regarding the subject under investigation. The goal of interview was to ensure that the research topic is viewed from perspective of the interviewee and to derive an understanding as to why they subscribe to a certain perspective. Qualitative interviews generally have a diverse range of characteristics, such as a low degree of structure imposed by the interviewer, open ended questions and a focus on specific situations or concepts rather than abstractions and general opinions (Cassell and Symon, 2014:16). The use of qualitative interviews in this study was carefully designed and organised so that it ensured that the correct data was collected, the qualitative interview was

therefore achieved through conducting in-depth and semi structured interview that involved the use of an interview guide.

To meet the research objectives, the research used thematic analysis as a tool. Thematic analysis technique has mainly been used in research studies involving qualitative data and has recently been identified as a foundational method of qualitative analysis by several researchers (Stirling, 2011:386). It involves searching and identifying common threads that are recoded across an interview and the analysis provides an accurate account for multifaceted and sensitive phenomena (Smoth et al, 2012:73). Thematic analysis can also be described as a method for analysing, identifying and reporting patterns (themes) within data, explaining the various aspects of research topic (Braun and Clarke, 2016:79). Delanty and Strydom (2013:33) describe the approach as involving the identification of both implicit and explicit ideas within the data pool and grouping them into themes.

3.6 Measurement Scales

This study used categorical data that were mutually exclusive and collectively exhaustive. Nominal data allow the research to classify responses into different groupings that include the biographical like gender or situational variables like postgraduate level of study, number of graduations attended. These data allowed individuals to indicate their attitudes and experiences towards graduation statements, and ask respondents to rank a set of attributes from the most preferred to the least preferred.

3.7 Sampling Techniques

The selected graduands from College of Law and Management (under College of Management, IT and Governance only Westville campus) which comprises of only graduands from Supply Chain, Marketing and Management Studies, who attend lectures during the semester and are full time graduands, with graduation ceremony attendance being a prerequisite. The higher-ranking informants generally provide more reliable information than lower-ranking counterparts (Hiller and Roth, 2014). Although the Corporate Relations division may constitute of different positions, known as managerial and non-managerial positions, they have not been considered but only the Director of the division, due to comprehensive understanding of individual process and activity of the graduation ceremony as well as the university governing principles when it comes to the ceremony deliverables. This made the Director the ideal participant for this study under qualitative approach. Graduands under School of Management only at Westville campus constitute the respondents within the College of management

graduands and selected marketing and management graduates being the categories considered for this empirical research study. This means that only graduands who are majoring in supply chain management, marketing and management were considered only at Westville campus.

3.7.1 Sampling types and size

The sampling strategy is defined as the process of selecting the number of units for a study in a way that represents the larger population from which they are selected (Sekaran and Bougie, 2010:266). Collins (2011:30) posits that using correct sampling methods allows researchers the ability to reduce research costs and this enables them to conduct research more efficiently, with greater flexibility resulting in greater accuracy. Saunders, Lewis and Thornhill (2012:261) classify sampling techniques into non-probability sampling and probability sampling. For Mugura (2013:112), defines non-probability sampling is a sampling technique where the probability of each sample being selected from the total population is not known as this process does not give all the individuals in the population equal chance of being selected. According to Sekaran and Bougie (2010:276), the non-probability sampling design attaches no probability to the elements being chosen in the population. Thus, the inference drawn from this is that the sample cannot be used to generalise for the population.

Cooper and Greenaway (2014:13) argue that probability sampling has the basic principle that a sample will be representative of a population if each unit in the target population has a non-zero probability of selection and thus allow for the estimation of sampling variability. This study used the non-probability sampling design. Schiffman, Kanuk and Wisenblit (2010:122) observe that the selection of respondents from a specific group in a non-probability sample take place in a form of non-random fashion based on the researcher's decision. The sample under examination is determined in advanced. This implies that the findings of the study cannot easily be generalised to the entire population under investigation. The non-probability approach is utilised since "the elements in the population do not have any probabilities attached to their being chosen as sample subjects" (Sekaran, 2010:276). Although this method of sampling has its limitations it is the preferred method.

The rationale behind a Non-probability sampling technique was that the respondents in managerial positions under qualitative method are difficult to identify and contact. This sample should be composed of elements that contain the most characteristic, representative or typical attributes of the population. Under non-probability sampling this research has adopted the stratified method in terms of the structures of postgraduate not under-graduands. And only

graduands that are either doing Bcom supply chain, marketing and management only, and are attending classes during the course of the semester.

The sample size of 141 (140 graduands and 1 Corporate Relations Director) is considered where Sahu (2010:285) alludes to the fact that sample sizes of larger than 30 and less than 500 are appropriate for most research on population-to-size table. The representative population size of 165 (Graduands) and 5 cooperate relations staff) in determining minimum returned sample size is 140 graduands and one cooperate relations Director. This study has produced a sample size of 120 graduands with return rate of 86% $[(120/140)100]$ from the total population. However, the percentage of graduands chosen was derived from selecting only graduands that attend classes during the semester and are either doing supply chain management, marketing or management only, and have been to graduation before that was based at Westville campus. This resulted to the researcher selecting 80% per each disciple as a stratified method for the study population and simple size. This amounted to 66 for supply chain management, 36 for marketing and 30 for management respectively. This motivates the 140 chosen sample for this study to give a significant level of significance, since the chosen percentages is governed by only the attending graduands at Westville campus doing the above mentioned post-graduate degrees.

The projected number of population (165 graduands) assisted in determining the appropriate proportion of representative sample size for supply chain, marketing and management at postgraduate levels within Westville campus. It process derived the cautiously justifiable representative population to determine the appropriate sample frame in this study. The College of governance and IT graduands were excluded since they do not attend classes and majority of them do their postgraduate levels of study part time. This therefore, proved efficient and feasible in meeting the research objectives.

3.8 Methods

3.8.1 Univariate Analysis

Univariate analysis is used to code and enter data to undertake data analysis. It involves the analysis of one variable at a time (Lang and Altman, 2013:55). Descriptive statistics and frequency distribution form part of the process. The purposes of descriptive analysis in this univariate method are outlined as to: 1) provide preliminary insights into the nature of the responses obtained as reflected in the distribution of the values for each variable; 2) provide a means of presenting the data in a transparent manner with tables and graphs; and 3) provide an early opportunity for evaluating whether the distributional assumptions of subsequent statistical tests under bivariate and multivariate analysis are likely to be appropriate and satisfactory (Mbhele, 2014:205).

3.8.2 Bivariate Analysis

Bivariate analysis ensures that more than one variable is measured using scales of interval and ratio (Cooper and Schindler, 2010:509). In this study, bivariate analysis examined Pearson correlation, testing of the hypothesis, analysis of variance, Chi-square and cross tabulation.

3.8.2.1 Cross-tabulation and Chi-square

Cross tabulation establishes the relationship between variables of different scales. The scaling technique ensures that the chi-square is significant and the linear by linear regression should be positive for the relationship to be considered significant. Cross tabulation is used to tabularise the data from Section A of the researcher's questionnaire which relates to biographical information with the other elements featured in the questionnaire (Mohan, 2012:112). This method of bivariate analysis allows for two variables to be computed at the same time. The combination of the variables in rows and columns forms cells which illustrate the grouping of data to identify the relationship amongst variables and whether it is independent or not (Mohan, 2012:71). Chi-square is a measure between two nominal variables as part of bivariate analysis and shows whether the pattern that is created is the result of chance or not. Chi-square is linked with the degree of freedom which generalises the relationship of significance between the variables of the study (Pallant, 2010:250).

3.8.2.2 Correlations Analysis

The study explored the relationships of the variables being used in this research, and a Person correlation matrix is seen as good indicator of direction and strength in bivariate relationships. Pearson product-movement correlation coefficients depict the relationship of two variables based on the linear association and the strength involved (Laerd statistics, 2012:2). This

measure of strength is denoted by p . The Pearson correlation coefficient stretches over a range of -1 to +1, where 0 is the middle and it is used to measure if one variable relates to another (Sekaran and Bougie, 2010:321). The focus is on the direction of the relationship rather than the correlation size. This measure of bivariate analysis tests the direction, significance and nature of relationships. Direction is determined by whether variables of larger capacity are related to other variables of larger capacity. Hence, if the variables co-relate, the relationship is positive (Cooper and Schindler, 2010:110). Scatterplots is used as an illustrative technique to depict the relationship between two variables. A visual depiction of the correlation amongst variables normally works better than listing data (Jackson, 2012:159). Several statistics are employed when using a scatterplot to determine the affiliation between variables (Skymark, 2012:59).

3.8.3 Multivariate Analysis

The multivariate analysis as statistical technique is organised around a scheme that divides into interdependence (factor analysis) and dependence (regression analysis) procedures. The objective is to develop models and dimensions that best describe the population as a whole. The role of multivariate analysis in this study as statistical techniques will assist a focus on, and bring out in bold relief, the structure of simultaneous relationships among more phenomena.

3.8.3.1 Multiple Regression Analysis

According to Nusair and Hua (2010:314-324) multiple regression “evolved to a sophisticated and versatile tool for various kinds of data analysis, particularly powerful when samples exhibit distinctive characteristics, and research questions are tailored to address probability related issues”. The model prediction accuracy is usually measured by adjusted R^2 , and the closer the adjusted R^2 is to 1 the better the accuracy of model prediction. The parameters of factor analysis are models estimated using multivariate regression analysis. Multiple regression analysis is analytical tool designed to explore all types of dependence relationships. Cooper and Schindler (2008:546) describe this dependency technique as a tool to develop a self-weighting estimating equation by which to predict values for a criterion variable (dependent variable) from the values for several predictor variables (independent variables). Sekaran (2010) defines multiple regression as an analysis where more than one predictor is jointly regressed against the criterion variables.

3.9 Methods of assessment

3.9.1 Reliability

Reliability relates to the consistency of a measure (Heale and Twycross, 2015:66) and is defined as the extent to which results are consistent over time and are an accurate representation of the total population under study (Leung, 2015:7-8). Similarly, Thatcher (2010:36), conceives of reliability as the extent to which an experiment, test, or any measuring procedure yields the same result on repeated trials. As argued by Zikmund and Babin (2010:335) the most common method for testing the consistency of a scale for reliability is the Cronbach alpha coefficient which, according to Tavakol and Dennick (2011:53), ranges from 0 to 1 with a minimum of 0.6. This is contrary to what other studies suggest about the range which, in their view is anything above 0.7 which indicates a prominent level of consistency between different measurements of a respondent's response with the aim of making certain that these responses remain consistent and similar over a period. Furthermore, if the same test is conducted under the same circumstances, then the researcher must establish similar and this is called the test-retest method. Vaz, Falkmer, Passmore, Parsons and Andreou (2013:5) aver that the test–retest reliability or reproducibility is a method of estimating a tool's reliability by administering it to the same person or a group of people, in the same way, on two or more various occasions, hours or days apart. This study measured the reliability by using the Cronbach alpha coefficient together with the Likert scales to ensure that the responses from the graduands were the same when the respondents were asked again.

3.9.2 Validity

Heale and Twycross (2015:66) define validity as the extent to which a concept is accurately measured in a quantitative study. Similarly, Leung (2015:7-8), argues that validity concludes whether the research truly measures what it was anticipated to measure or how truthful the research results are or not. In the context of this study, the factors that contribute to the negative experience to which graduating students get immersed with the staging of the graduation ceremony have been measured. The time that the graduands spent answering the questionnaires affected and determined the validity level. Therefore, for this study engagement levels with the graduands in lobbying them to take their time while answering was optimised to foster reliability of information being provided and analysed. According to Newton (2013:15), there are three types of validity that are used in research and these types are: content validity, construct validity and criterion validity. According to Drost (2011:118), content validity is highly used in qualitative research where the primary areas of the content under inquiry are understood and the analyst draws conclusions on whether the measures used completely

represent those critical areas or not. Delgado-Rico, Carretero-Dios and Ruch (2012:450) argue that content validity is the extent to which the fundamentals of the evaluation tool are descriptive of the concept of interest. This simply means that content validity should consist of the evidence that determines the way data has been obtained and used to describe the construct of interest.

According to Maximino, de Brito and Gouveia Jr. (2010:117), construct validity is a statement of existence based on some tests that are considered valid in measuring an existing attribute and variation. Martin, Cohen and Champion (2013:6) assert that construct validity is the extent to which conclusions drawn are deemed valid and are based on theoretical concepts. Basically, this type of validity determines whether the researcher can interfere with about the test scores which relate to the concept covered in the study or not. Heale and Twycross (2015:66) define criterion validity as an instrument that is used to measure the variable. The correlation can be used to identify the degree to which the variety of instruments used are either measuring the same variable or not. Drost (2011:118) defines criterion validity as the extent to which the correspondence between more than one criteria and a measure are used to measure their correlation. This study used statistical techniques such as factor analysis, ANOVA, correlation coefficients and cross tabulation to measure construct validity.

3.10 Data analysis

According to Botma et al (2010:220), the process of data analysis comprises making sense of the image data and text and arranging it for analysis, piloting different analysis and interpreting and representing the data. Vosloo (2014:167) defines data analysis as “the process where collected data is reduced to a more convenient size and where the researcher identifies patterns, applies statistical techniques and summarises the data”. This enables the researcher to interpret the findings in a way that responds to the research problem question. Notably, quantitative data from questionnaires need to be reviewed. If any blank responses are found, they need to be handled and this implies that the data needs to be coded, categorised and entered in (Naidoo, 2014:52). This study, used the mixed method and the data collected was presented in a very usual way using data tables and other statistical analysis, that is, SPSS as it includes graphs and frequency table.

Data analysis techniques should be carefully thought through before data can be collected. Familiarity and relevance to previous research as well as well-focused research questions facilitate data collection and are crucial for good data analysis. The researcher’s choice among the several types of methods of analysis depends on the objectives of the study. A researcher’s

specification of a hypothesis or research question affects the nature of data analysis. In the quantitative context, data analysis involves the process whereby statistical procedures are used as tools to summarise data so that patterns might be efficiently illuminated (Riffe, Lacy and Fico, 2014:135). When data has been collected and prepared for analysis, there are several statistical procedures available that can help the researcher better understand the responses from the respondents. Subsequently, all data needs summary statistics to describe the information succinctly and this can be achieved with basic statistics and descriptive purpose.

The aim of data analysis might be relatively simple such as describing the characteristics of a sample or population. On the other hand, the goal might be beyond description, such as emphasising a relationship in some samples or population. To describe relationships, researchers focus on highlighting patterns of association between characteristics of one thing and characteristics of another (Riffe et al, 2014:135). In this study, the questionnaires were checked to ensure that the respondents had attempted to answer all the questions. Thereafter, each question was coded using numerical values. Numerical values were assigned to the responses provided by the target population.

The well-established statistical package SPSS (Statistical Package for the Social Sciences) software has been used in capturing and is capable of generating a wide range of statistical analysis. The collected data was entered through the SPSS data entry station by the researcher. Diagrams such as bar charts and histograms are available methods commonly used to display quantitative data. The advantage of using diagrams was the ease with which one can interpret and understand the collated information. Displaying data in such a way, however, might not be sufficient since numbers do not provide a reference point for discerning the meaning of those numbers. Therefore, summarising tools such as proportions and means were used (Riffe et al, 2014:136). The conclusions are limited to one period of time and are subject to further tests based on data collected at other times.

3.10.1 Measures of Dispersion

If the researcher wants to know whether or the respondents had similar opinions, this can be observed using measures of central dispersion. Measures of dispersion well-known as measures of spread or variability describe how scores cluster or scatter in a distribution and they represent the difference between values in a set of values Mostert (2012:316). Put simply, measures of dispersion provide information on how much variation there is in the data, including the range, variance and the standard deviation. According to Manikandan (2011:315), the range is the difference between the largest and the smallest observation in the data. The prime advantage

of this measure of dispersion is that it is easy to calculate. Mostert (2012:317) argues that standard deviation indicates how far away the average is from the data values. Standard deviation is the square root of the sum of squared deviation from the mean divided by the number of observations. Parellada (2015:2) asserts that the variance represents the average squared distance between the values of individual observations on some variable and the mean of that variable. This utilised some of the measures of dispersion to understand the relatedness and the differences that exists between the respondents.

Statistical analysis deals with summarising collected data or information by making it more usable in generalising on a population based on a sample drawn from that population (Olaewe and Kareem, 2010:173). There are two major types of statistics, parametric and non-parametric and the difference that distinguishes the two statistics lies in the overall assumption of the data. According to Hoskin (2014:2), parametric statistical procedures rely on assumptions about the shape of the distribution, that is, assume a normal distribution) in the underlying population and about the form or parameters (that is, means and standard deviations) of the assumed distribution. Furthermore, Hoskin (2014:2) asserts that nonparametric statistical procedures rely on no or few assumptions about the shape or parameters of the population distribution from which the sample was drawn.

The parametric statistics is composed of: the analysis of variance (ANOVA) and t-test. According to Olaewe and Kareem (2010:175), ANOVA is used to determine whether there is a significant difference between means of three or more groups concurrently at a selected probability level or not. Thus, inferential statistics is used to generalise or draw an inference on a population based on the findings from a sample. Dolgun (2012:4) postulates that in a univariate analysis, the effect of a single independent variable is investigated on the dependent variable and in the multivariate analysis the relative contributions of different causes to a single event or outcome are investigated simultaneously. The Multivariate analysis explores how many variables relate to each other. Proust (2010:25) argue that the word multivariate simply means involving many variables instead of one (univariate) or two (bivariate). Bivariate analysis two variables at a time (Hair et al, 2013:279). This study used, among other things, the parametric statistics methods such as the T-test and ANOVA.

3.11 Conclusion

The research methodology chapter served to outline and explain the research design that was employed in this research study. The data was collected via a self-administered questionnaire and interviews and Sekaran and College of Law and Management, under College of Management, IT and Governance administrators provided an indication of the acceptable sample size corresponding to various population sizes of the attending graduands. The study used mixed methods and used nominal and interval scale data to explore the research objectives. The study also required a detailed analysis and interpretation of the relationship between variables as well as the strength of the relationship between the variables. The following chapter analysis and interprets the data collected from the respondents.

CHAPTER FOUR

DATA ANALYSIS AND INTERPRETATION

4.1 Introduction

The previous chapter presented the research methodology that was used in the study. This chapter, therefore, presents the results of both the qualitative and the quantitative research approaches. One hundred and forty (140) respondents participated in the study for the quantitative process and one (1) participant from the qualitative approach was used as the survey instrument to collect data. Both the Statistical Package for Social Sciences (SPSS) and thematic mechanisms were utilised to analyse the data such as the correlation coefficients, mean values and standard deviations. Additionally, in measuring the central tendency, multiple regression analysis was employed to understand the relationship between the effects of the bottleneck which acts as the dependent variable and the independent variables in the study. In this study, the research objectives were:

1. To determine bottlenecks experienced at graduation ceremonies due to the poor synchronisation of the activities and the processes.
2. To establish the possibilities of collaborative relationships between different role players in ensuring better synchronisation of the ceremonies.
3. To establish the extent of the experience to which graduating students get immersed with the staging of the graduation ceremony.
4. To examine the extent to which reduction of bottlenecks and delays can be improved on the overall process to enhance the efficiency of the graduation ceremonies.

The study generated stimulating evidence in relation to each research objective. The questionnaires were administered to the target population of 150 graduands (refer to Appendices D). The sample included the graduands from all the College of Management, IT and Governance studies and the Director of Corporate Relations Division in the University of KwaZulu-Natal for four campuses excluding Pietermaritzburg Campus. The data was gathered using the stratified clustering random sampling of the graduands under the College of Management which comprised of using the postgraduate graduands who attend lectures under supply chain, marketing and management disciplines.

4.2 Data Preparation and Coding

To make all the collected data suitable for analysis, all the questionnaires were checked to ensure that they were completed and were thus free of errors. Returned incomplete questionnaires were given back to the respondents to complete as the data was collected from using door to door approach and usage of available study facilities on campus i.e. library, lecture classes and LANs. In this way, all the questionnaires were returned error free and missing values were represented by 0. In terms of coding, each question and possible answer in the questionnaire had a code because coding of the data was necessary both for its transfer and editing in the SPSS.

4.3 Qualitative Research

The methodology involved examination of the perceptions of the Corporate Relations Director. The qualitative approach was deemed appropriate for this study because, as Rossman and Rallis (2010:29) argue that “there are few truths that constitute universal knowledge, rather, there are multiple perspectives about the world”. By exploring the perceptions of individuals who has vast experience with graduation ceremonies across all four campuses, it is possible to obtain “multiple perspectives” that further our understandings of graduation ceremonies. By examining the perception of the Corporate Relations Director, the relative importance that is attached to the event – graduation ceremony was explored.

The interview with the Corporate Relations Director was taped-recorded, with permission of the respondent and the information was later transcribed verbatim. Some notes were taken by the researcher to ensure the accuracy of the gathered information and the transcription thereof was maximised. It is noted though that the note taking was limited to allow the researcher to focus on the respondent’s answers to the prompts. The study used thematic analysis to analyse the respondent’s responses to achieve the research objectives. Notably, the respondent has attended UKZN graduation ceremonies for more than 13 years to date.

Theme 1 to 4: Responsive initiative incorporated into graduands behaviors

When activities and processes are designed for continued improvement, it is essential to have a responsive initiative for growth and success. This can be identified as one of the important themes prominently appearing within the data sets. It is related to the efforts made by UKZN graduation planning committee in ensuring that it can conduct operations that are responsive to graduands needs and expectations.

4.3.1 Category 1: Importance

Graduation is a prestigious event incorporating of different people in different managerial and institutional positions. When carrying out its mandate UKZN concentrates on delivering operations of a world class caliber. Graduation importance influences how the institution is being viewed even by the outside stakeholders or guests honored. However, at UKZN graduands “could” have been doing otherwise. This is illustrated in the following quotation from the Director of Corporate Relations:

“There has been changes to their behavior at the graduation. They are now impatient, once they have graduated they just want to leave”. “They have no respect for other people who have not graduated yet, together with their parents”. “Late arrival, they just do not have respect for the ceremony in general”. “I mean I do not understand how you can arrive late for your special day”.

The discussion outlines the extent to which importance of the event is negatively influenced by graduands decisions made in the event of graduation ceremonies occurrences. Importance of the ceremony plays a significant role in determining the best practices implemented by the institution of UKZN, particularly in the presence of guests attended. Despite the challenge posed by other bottlenecks, careful consideration could be given to ensuring that there is an emphasis on properly managing the importance and addressing graduands behaviors in graduation ceremonies. Hence, there could be an attraction mechanism to ensure that graduands come earlier for the graduations, for example allocated timeframes for the graduands to take pictures with their former lectures and guests that are part of the event. This alone could limit graduands leaving late for joining long ques to the picture system tents. Late arrival could also be associated with pre-events that occur before graduation ceremony commences. The events may include the time taken to find parking and collecting seat tickets as students form long ques of lines to confirm their seating places and collect tickets for their guests.

4.3.2 Category 2: Processes and activities

Processes and activities are vital when responding to intended attenders of a certain event or function. These factors are influenced in determining the way the UKZN planning committee designs its supply chain management variables. These factors are jointly identified as the critical factors that determine the success of response operations carried out by the organisation. The interviewee acknowledges that processes and activities of the ceremonies are important in ensuring that the graduation ceremony conducts effective response operations:

“Graduands are always kept in mind when activities and processes are planned for the ceremonies”. “However, it must be noted that this is not a student event, but it is hosted for them”. “So, it is not like a ‘bash’, where we will need input from them”. “From experience, the department knows what works and what does not work”. “We also consider that we must not keep them in the venue for too long”. “Because they become agitated and restless and they will want to leave”. “Hence, that is why as the University that is having them in mind, we hosted our first ever spring graduation”. “To also show that we have them in mind, we group the graduands into numbers so that the ceremony is not too long”. “Then we allocate numbers according to the capacity of the venue”. “Before people use to get four tickets, but now due to the numbers, we give three”.

Collaborative efforts are therefore essential and paramount in ensuring that the processes and activities of the ceremony are successfully carried out. The UKZN planning committee had never considered partnerships with the graduands to optimising their supply chains as the only solution for ensuring that these operations are coordinated, immediate and timely. Several statements by the department of Corporate Relations indicate clearly that an attempt has been made, but not optimised with graduands as an investment in collaborative efforts. From the statement above, it is also clear that the supply chain element and the way businesses or organisations are operating in the 21st century has not been evident. Meaning that businesses are no longer offering services but they are offering experiences and compete in their supply chain. Interviewee, *In addition:*

“We are always looking at ways to improve our systems and processes”. “As you have seen through introduction of the spring graduation”. “And there are so many people who just miss graduation around April graduation, because maybe they were busy with corrections, and they get their degree complete during the week of graduation and it is too late to include them to the program”. “Hence they spend the entire year without their degree certificate”. “Continuous reviewing of the processes and activities from service providers to the students’ best needs”.

Collaborative efforts involve ensuring that the agreement have been reached with the different stakeholders so that the suppliers that need to be incorporated during the operations are able to engage with the executed processes and activities in the most effective and memorable way as possible. The UKZN planning committee could ensure that, with continuous improvement and other graduation ceremonies, themes are enhanced and polished to exploit all the avenues as possible. This will enhance access to all the information that can be of assistance when

structuring their response operations to the next graduation ceremonies. In addition, concentrating on collaboration with other stakeholders that are actively involved in the graduation ceremonies execution, to utilise some of the competencies offered by these partners can be paramount.

4.3.3 Category 3: Proceedings and Execution

Sound proceedings and execution phenomenon are desired variables which UKZN planning committee always seeks to attain to enhance its ability to carry out graduation ceremonies operations successfully. This implies that all its efforts are aimed at ensuring that all supply chain management related variables are properly planned, configured and arranged to be able to withstand the challenges posed by graduation bottlenecks of any nature, volume or magnitude. The UKZN planning committee attaches much importance to its preparedness initiatives for graduation ceremonies to become a tremendous success, this can be observed from the extracts below directly quoted from the Director of Corporate Relations:

“It is important to have stability and consistency because you deal with people”. “A standard way is paramount, keep it the same and do not make drastic changes”. “Dealing with people needs consistency, not the forever changing proceedings and execution”.

“The graduands are included to the ceremonies, they are also engagement platforms such as graduation exhibitions, student chapter meeting for professional degrees”. “We engage with them before they graduate so that they will be aware of the opportunities”. “We also have student support activities such as equipping them with skills before they undergo interviews”. “Communication skills are also provided through student support services”. Sometimes students do not take advantage of the services provided to them”. “However, what one has noticed is that those students who attend such workshops and training programs, they excel much more than the ones who ignore such services”. “Some events are well attended some are not, people who attend benefits out of them”.

It is clear from the statements made from the Director, that preparedness and stability are considered as the foundation of supply chain excellence at UKZN graduation planning committee. Hence the organisation has consistently implemented supply chain management related practices that emphasise inclusion and involvement of graduands and operational readiness in areas such as communication skills, workshops and training programs. However, an effective communication mechanism or tool to foster graduands involvement is still a challenge. As through such this platforms provision, graduands are still not optimising on the

opportunities to execution not being accommodative to their standards or preferences. Graduands inclusion could drive different results and execution of for optimised success. Likewise, lecture attendance is still very poor at UKZN modules, students only attend the first three and the last three lectures before exams or tests. This can show that maybe there is somewhere the institution is going wrong. Hence, introducing student perceptions and inputs could prove otherwise.

4.3.4 Category 4: The adoption of supply chain management practices

The level of complexity of some of the seasonal dates and times of the graduation ceremonies in which the UKZN planning committee operates has been influential in driving it to being prone to bottlenecks. This has resulted to a need for the committee to adopt flexible supply chain practices to ensure that it effectively responds to growing number of diverse graduands at the ceremonies. The UKZN planning committee has taken a strategic approach in ensuring that it incorporate supply chain management practices to influence improved flexibility positively during graduation operations periodically carried out. This has been observed from the first spring graduation introduced last year (2017) and supported by the interviewee statement:

“Second semester (spring) graduation is a good step towards considering graduands needs”. “It has helped with a bottleneck of capacity and time frame of the ceremonies”. “This year alone through second semester graduation, there was many PHD graduands and this is beneficiary for the institution”. “The University generates subsidy and revenue from the government through its output levels”. “It also helps to improve the University research productivity, because as the University we are a research led institution”.

The University planning committee has been to optimise graduands needs and keeping in mind the culture and world class expectations of a graduation ceremony. It has also been evident that there could be a gap in fostering and optimising on graduands involvement to activities and initiatives established for them. It can therefore be paramount that collaborative relationships and involvement of all affected stakeholders in the ceremony is optimised to inject sound operational excellence to the ceremonies. This could also create a culture of continuous improvement emanating from collaborative relationships and information sharing. The fact that graduands inject and generate different resources for the institution, making this event memorable for them could be the least to ask for considering the numbers of graduands per day.

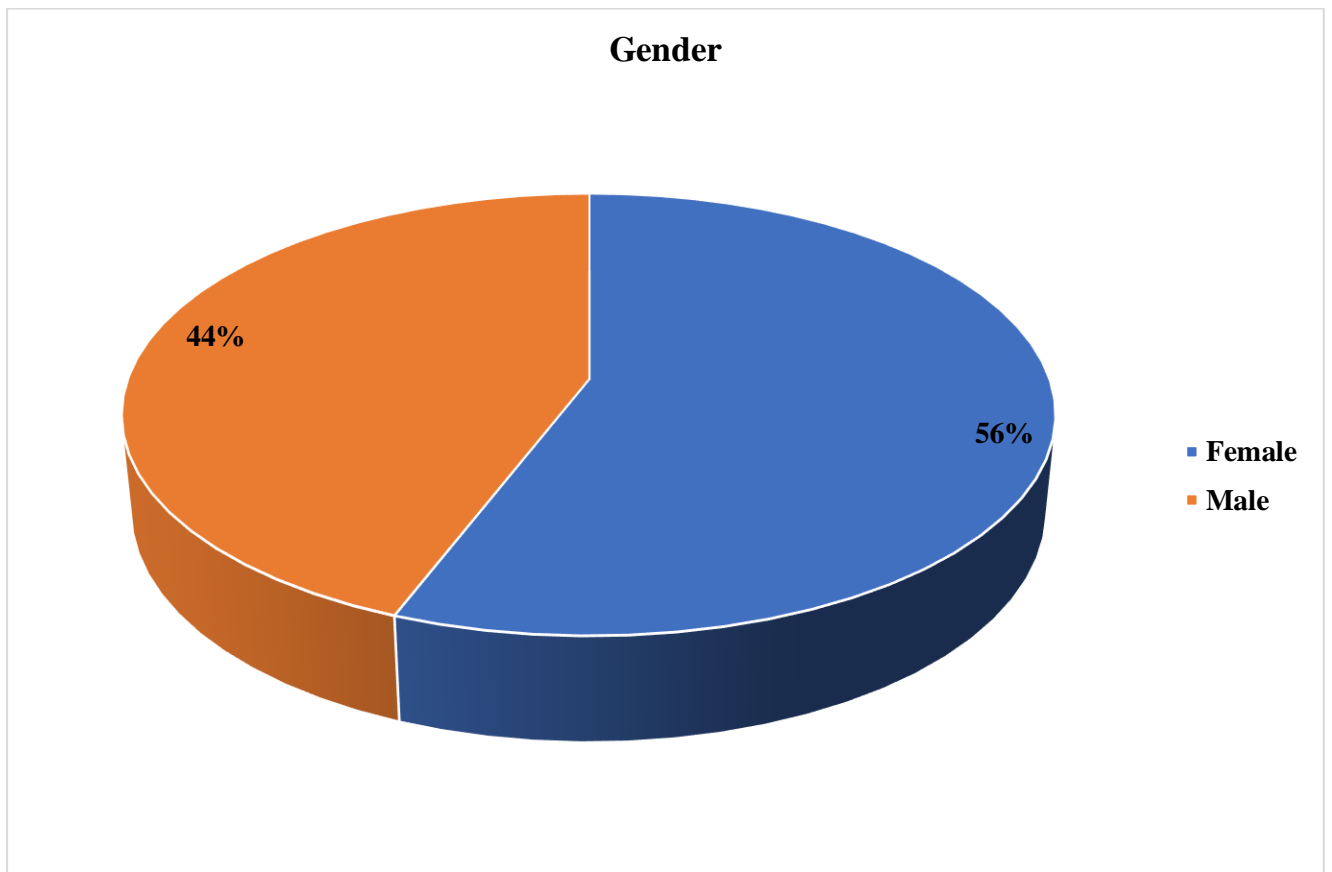
4.4 Quantitative Research

The quantitative aspect serves to answer questions about the relationships among the variables that are measured and thus derive meaning from the data that is analysed by using statistics, diagrams and tables (Sekaran and Bougie, 2010:144). Hence, the other source data in this study was the questionnaires distributed to the graduands that had attended the graduation ceremony before. Graduands that have never attended the ceremony and undergraduates were excluded.

4.4.1 Demographic Data

As indicated earlier, one hundred and twenty respondents participated in this study. The demography of the hundred and twenty respondents in terms of gender, College of study and graduation ceremonies attended is represented in the following subsections.

Figure 4.1: Gender



A statistical representation of gender between the female and the male respondents (figure 4.1) indicates that there were 56% (females) and 44% (males) respectively. The figures reflected the inequitable reality at the University of KwaZulu-Natal, Westville campus, of the graduands at the College of Law and Management, under College of Management, IT and Governance.

Figure 4.2: Graduations Attended

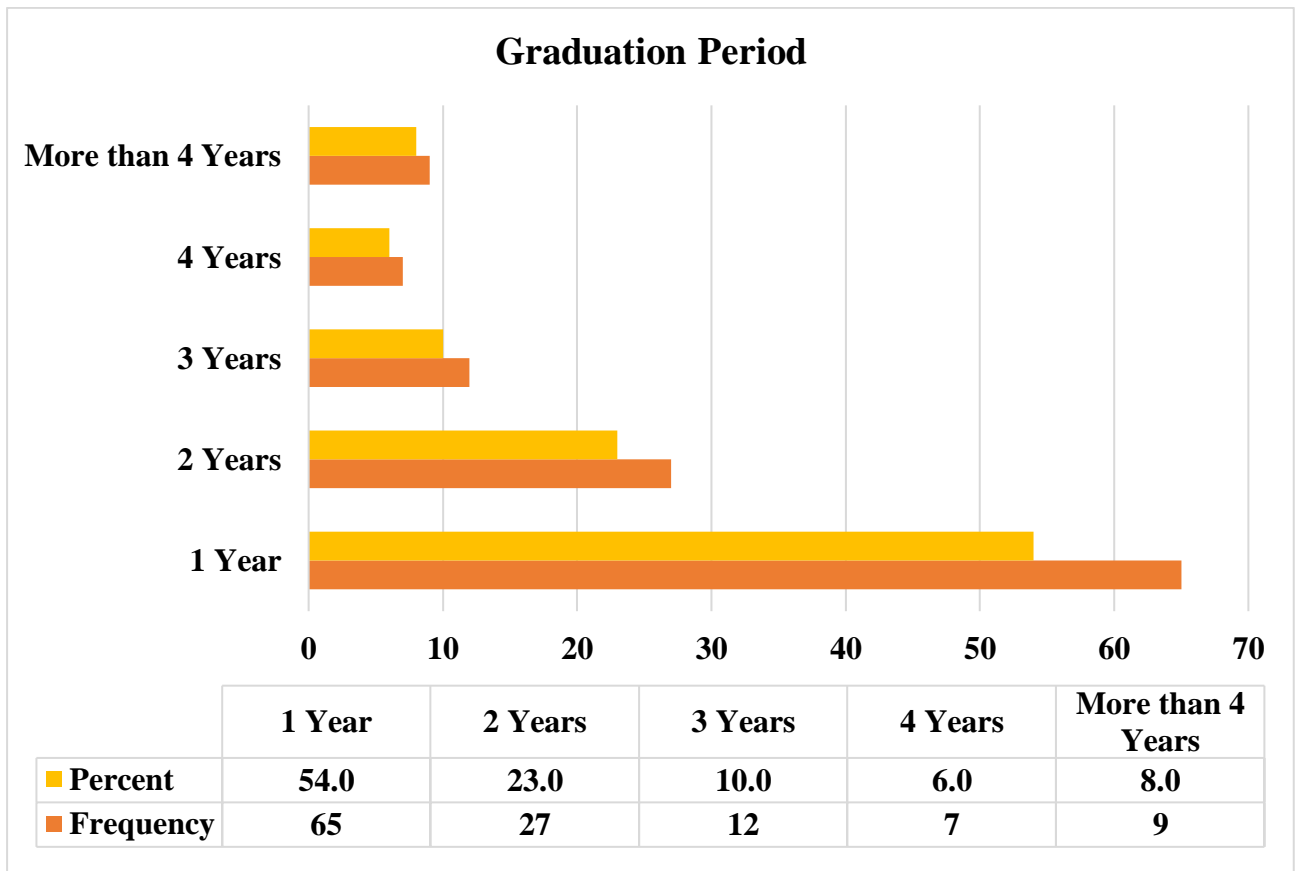


Figure 4.3 depicts the responses to question 5 of the questionnaire instrument which sought to ascertain how often information is shared among the departments. The respondents were given five options to choose from and these were as follows:

- (a) 1 year.
- (b) 2 years.
- (c) 3 years.
- (d) 4 years.
- (e) More than 4 years.

Figure 4.2 shows that 54% of the respondents attended the graduation for 1 year, 23% of the respondents have attended for 2 years, 10% of the respondents attended the graduation for 3 years, 6% of the respondents attended the graduation for 4 years and 8% attended graduation for more than 4 years respectively. More research can be conducted to establish why a sizable percentage lies under the scope of people who have only attended the ceremony once. So, until such time that further research is conducted in this regard, this remains a matter for conjecture.

Figure 4.3: Graduation Bottlenecks

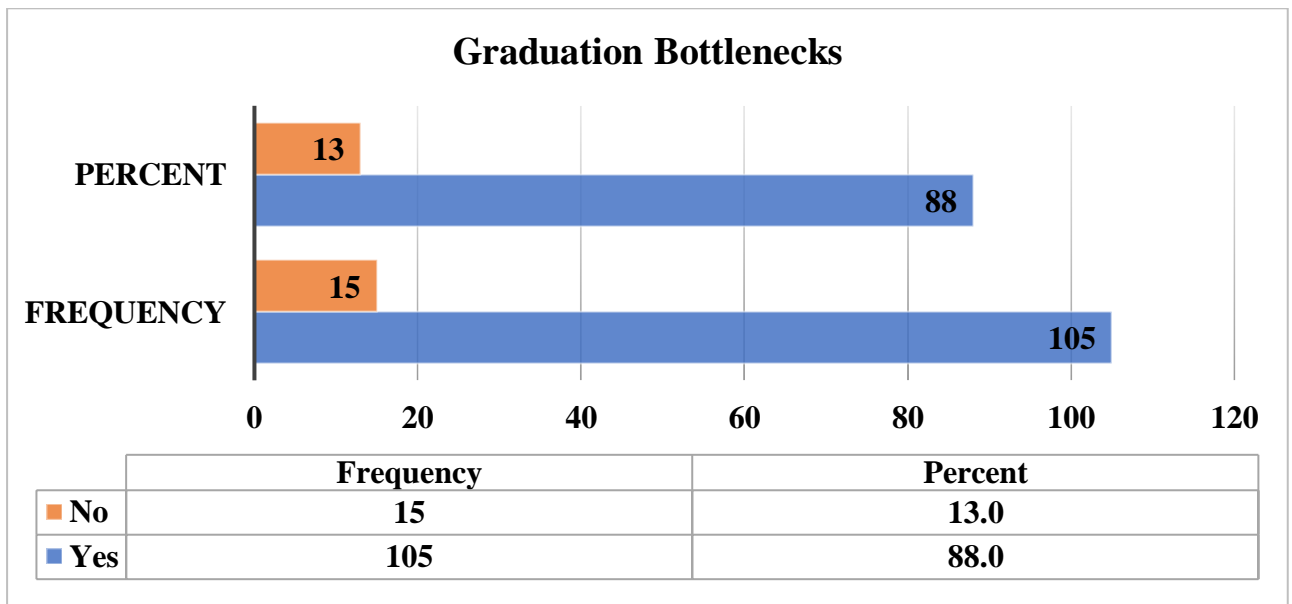
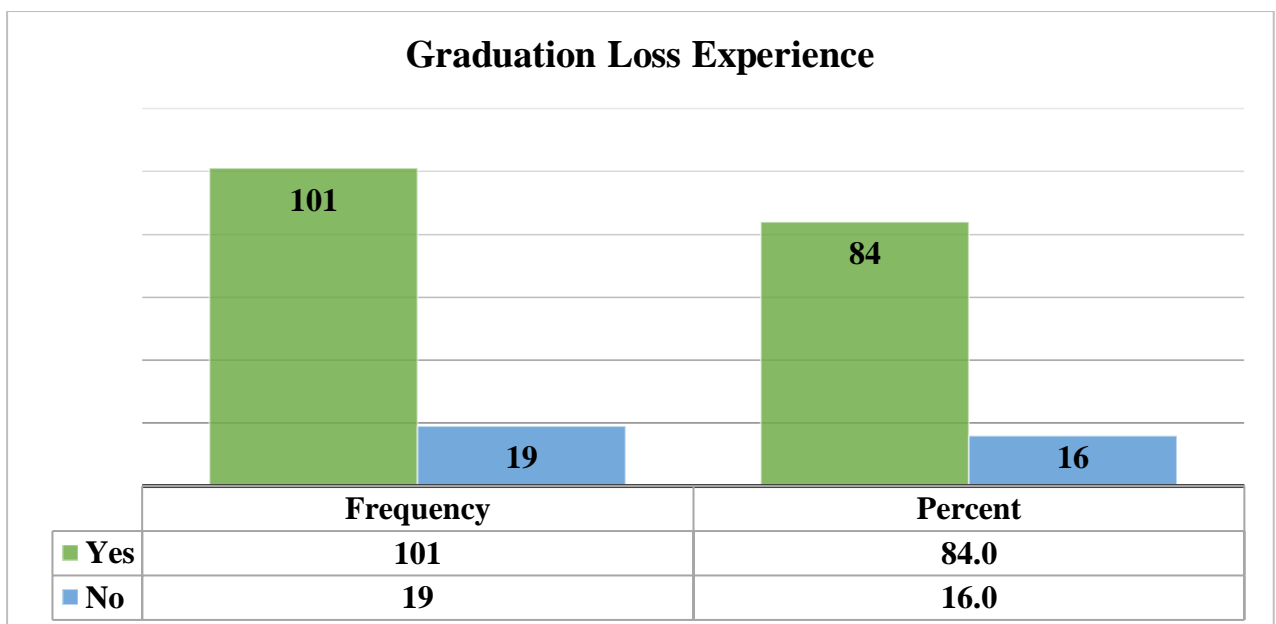


Figure 4.3 depicts the responses to the dichotomous question about graduation bottlenecks posed to the respondents. Figure 4.3 shows that 87% of the respondents asserted that UKZN graduation ceremonies have bottlenecks and 13% of the respondents refuted the correctness of this assertion by averring that there were no bottlenecks besetting the graduation ceremonies.

Figure 4.4: Loss of Memorable Experiences at Graduation



Eighty-four percent (84%) of the respondents are of the conviction that UKZN graduation ceremonies are missing out on memorable experiences. Figure 4.4 only shows 16% of the respondents who disagree that there is an element of missed memorable experience on UKZN graduation ceremonies.

Figure 4.5: Graduation Timeframes

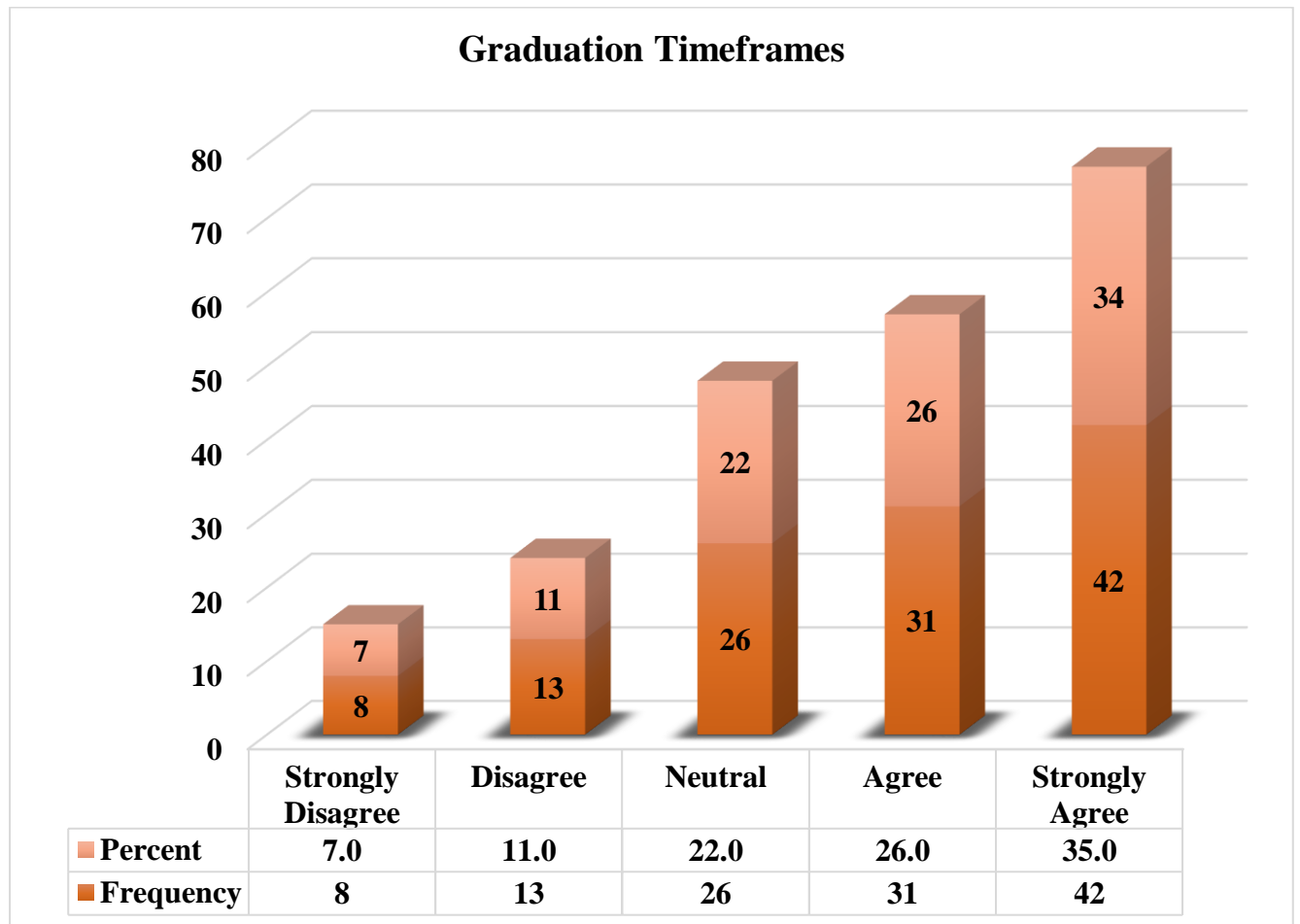


Figure 4.5 illustrates the responses to the first sub-section in section C of the questionnaire instrument where questions were based on the Likert scale. Figure 4.5 indicates that 34% of the respondents strongly agreed that the UKZN graduation timeframes do not accommodate every graduand's needs while 26% of the respondents agreed with the statement. However, 11% of the respondents disagreed that timeframes are not accommodative of the graduands needs, and a significant 22% of the respondents remained neutral. Additionally, an additional 7% of the respondents strongly disagreed with the question. Approximately 61% of the respondents agreed that the graduation ceremonies do not accommodate their timeframes. This result alone showed that during graduation ceremonies, graduands might have class tests and submissions of their academic assignments. This could have been in the same week or even a day before or after the graduation. This could also pose a threat to the experiences accruing from the proceedings of the graduation ceremonies.

Figure 4.6: Bottleneck Effects

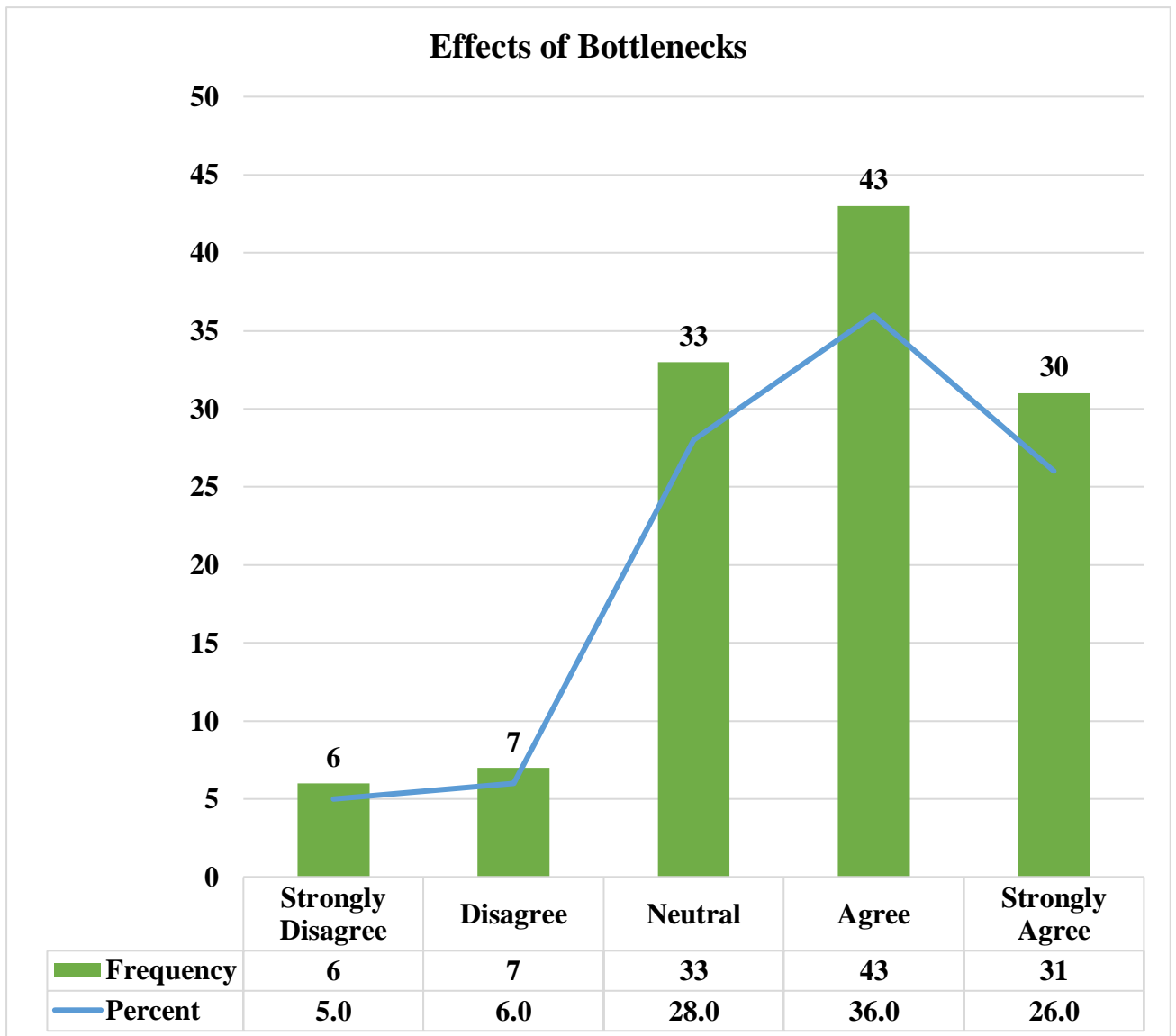


Figure 4.6 illustrates the respondents' perceptions of the effects of bottlenecks on UKZN graduation ceremonies. Sixty-two (62%) percent of the respondents' state that UKZN graduation ceremonies have bottlenecks with 26% of the respondents strongly agreed and 36% of the respondents agreed. A significant percentage of 28% of the respondents remained neutral on the question of bottlenecks. Only a small percentage of 11% of the respondents disagreed on the question and the 11% was constituted as 6% disagreeing and 5% strongly disagreed. This showed that a significant percentage of the respondents is of the conviction that graduation ceremonies have bottlenecks which affect either their scheduled activities or plans that negatively impact intensely on their lived experiences of the graduation ceremony.

Figure 4.7: Scheduling for Graduands needs

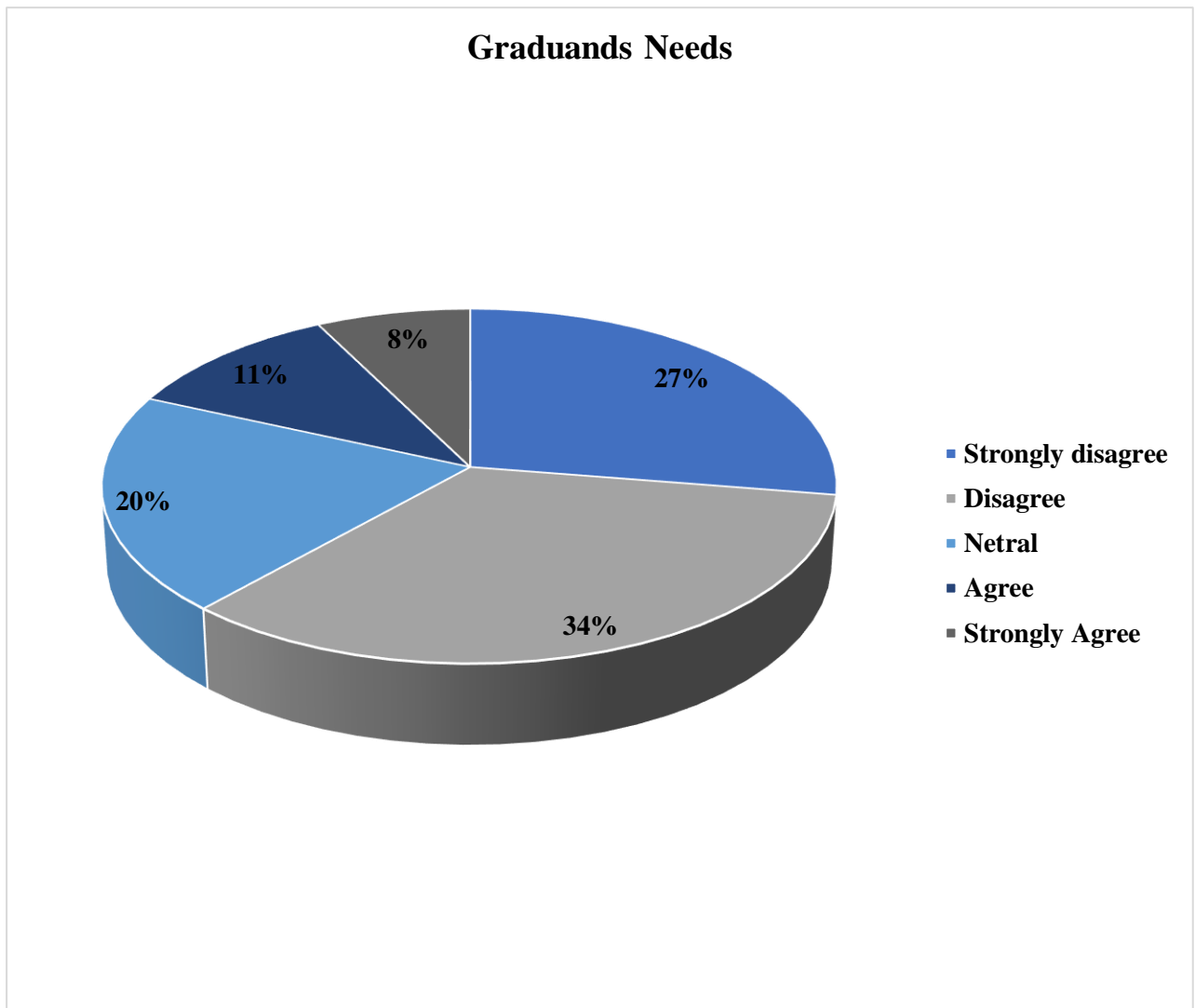


Figure 4.7 provides insight into UKZN graduands' relationship with the management and all the stakeholders involved in the planning and execution of UKZN graduation ceremonies. The figure shows that 28% of the respondents strongly disagreed that the scheduling of the graduation ceremonies and the activities are always driven by the graduands' needs. Thirty-four percent (34%) of the respondents disagreed to the question and 20% of them remained neutral. Only 19% of the respondents constituted of (11% agreed and 8% strongly agreed) refuted the claim so made in respect of if the scheduling and planning are always driven the graduands' needs. The graduands needs may include setting the graduation ceremonies at the right times for the graduands to optimise their memorable experience by accommodating their planned activities effectively and efficiently.

Figure 4.8: Graduation Role

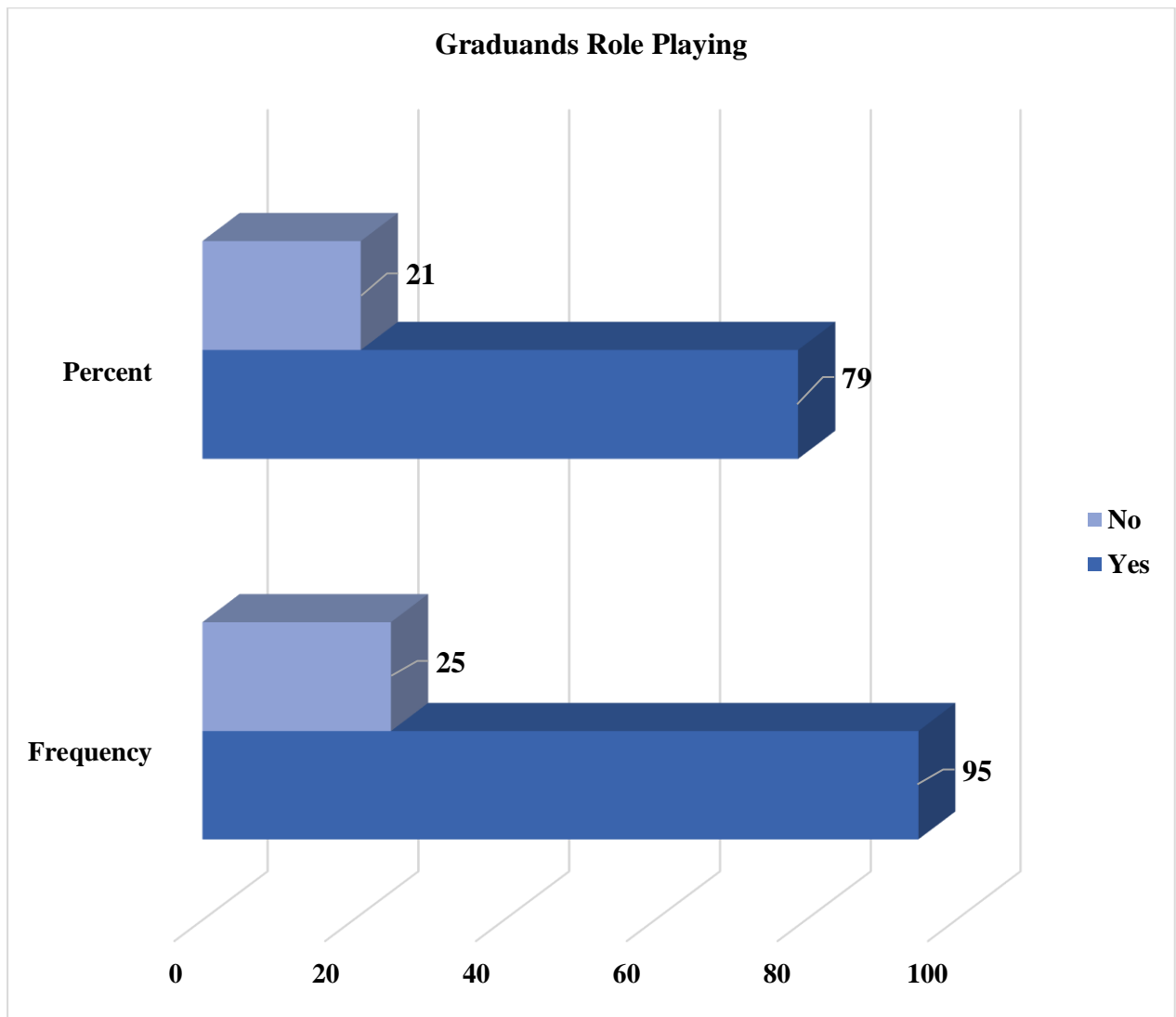


Figure 4.8 shows the respondents' responses to the question of, if given the opportunity they will play a role in ensuring that graduation ceremony becomes memorable for all the graduands. According to the above figure, 79% of the respondents responded affirmatively that they can be role players to ensure memorable experiences are obtained by all graduands at graduation ceremonies. Only 21% of the respondents indicated that they would not avail themselves of the opportunity to optimise their memorable experience of the graduation ceremony. The inference drawn from this is that large number of the respondents want to form part of the ceremony rather than be attendees and merely be offered service. The sentiments expressed in this regard echo the principles embedded in the CPFR model where all supply chain partners are engaged in the operational activities of the organisation to optimise the entire supply chain process. The inclusion of graduands in the planning process assume either an active or passive role. So, in

the event of the inclusion of the graduands assuming an active participatory engagement this could most likely inject positivism and fresh approach to the entire ceremony proceeding without dropping the true value and objective of the ceremony.

Figure 4.9: Second Semester Graduation

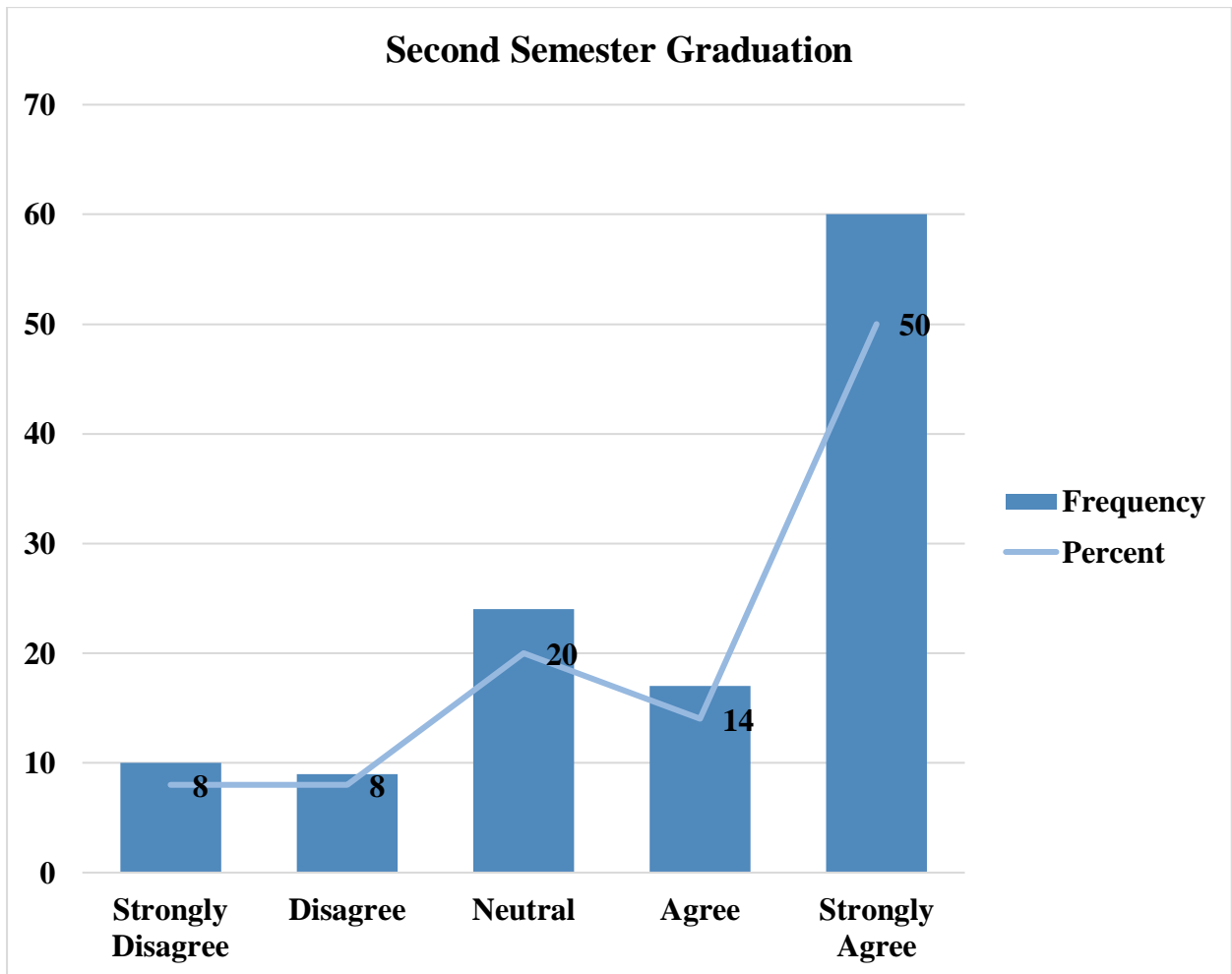


Figure 4.9 illustrates the respondents' views on UKZN second semester's strategy which used to be the norm soon after the institution was established. After its suspension for years, it was reintroduced in 2017. So, the respondents' views are elicited in relation to the idea of having two graduations ceremonies per year. Fifty percent (50%) of the respondents strongly agreed that UKZN's second semester graduation has the potential of adding value to the lives of many students who could not complete their studies in time to be eligible for the first semester graduation ceremony. Twenty percent (20%) of the respondents were neutral and 14% of them agreed with the question. Only 16% of the respondents did not agree with the idea and the

percentage was spread equally among strongly disagree and disagree respectively. More than half of the respondents agree with the idea of having second semester graduation. The inference can be drawn, therefore, that a certain percentage of the graduands who agreed had to wait for the following year graduation after completion of their remaining modules to graduate and receive their certificates have had no choice on the matter since for quite a long time there was provision for only the first semester graduation ceremony. Second analogy was that they were going through their interviews and class tests and submissions and they could not compromise that for the ceremony that can be attended in future with the same deliverables and experiences.

Figure 4.10: Ticket and Picture System

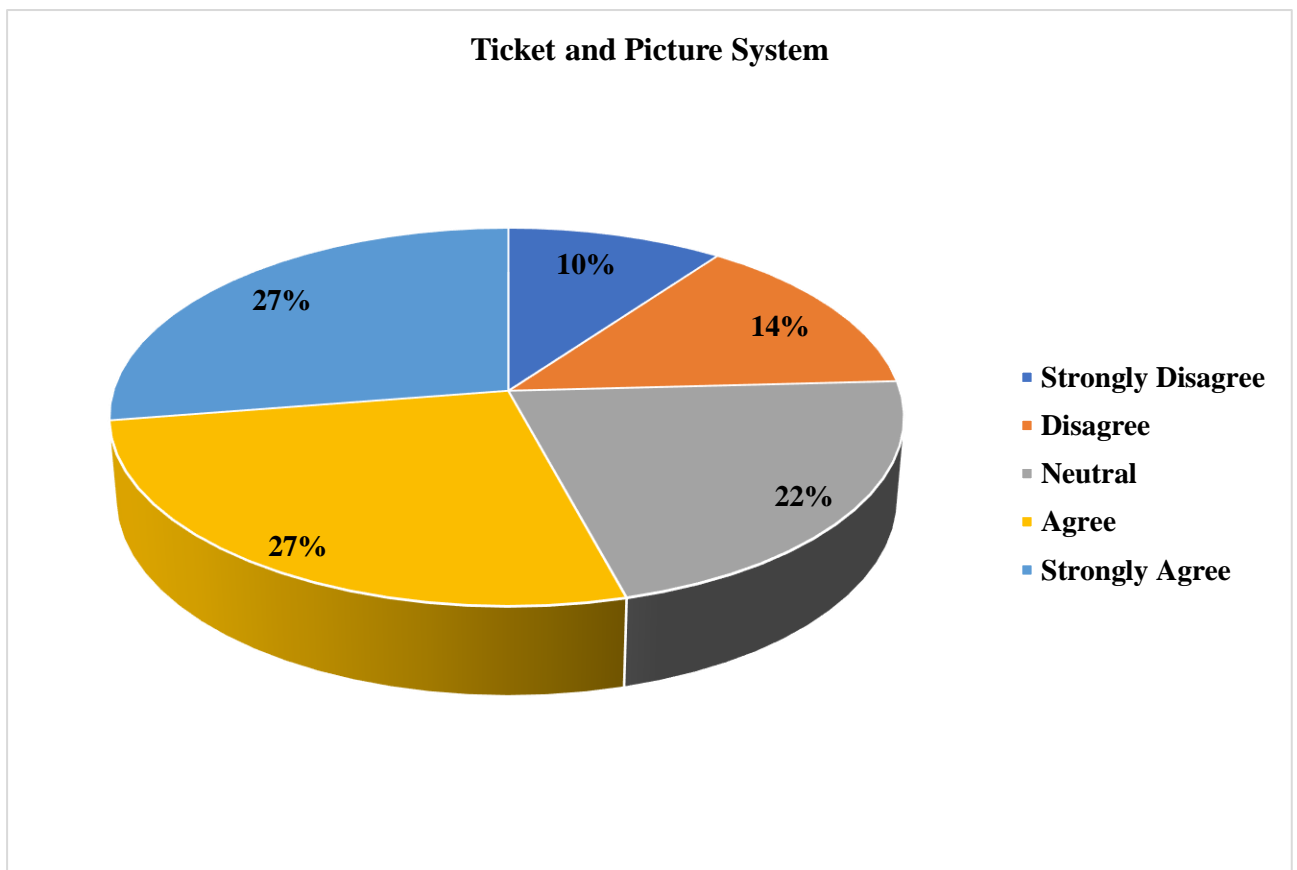


Figure 4.10 illustrates that only 10% of the respondents strongly disagree with the ticket system being a bottleneck to the graduation proceedings. While 27% of the respondents strongly agreed that the system of having to collect the ticket before graduation affect the smooth flow of the activities. Notably, 22% of the respondents with 22% were neutral and the other 27% of the respondents agreed with the proposition that the ticket system is a bottleneck.

4.5 Measures of Central Tendency

According to Longnecker (2010:78-81), “the two most common numerical descriptive measures are measures of central tendency and measures of variability. Among the measures of central tendency are mode (the measurement that occurs most frequently); median (the middle value when the data is arranged from the lowest to the highest) and the mean (average value within the dataset)”.

4.5.1 Descriptive Statistics

Descriptive statistics is used to illustrate the essential features of the data in the study. Table 4.2 indicates the descriptive statistics for the independent variables of the research instrument. All the variables have a corresponding minimum of “1” and a maximum of “5”.

Table 4.1. Descriptive Statistics

	Graduation Bottlenecks	Effects of Bottleneck	Graduation Scheduling	Graduation Processes	Graduation Activities	Graduation Flow	Graduation timeframes
N	120	120	120	120	120	120	120
Mean	1.1250	3.7167	2.9250	3.0417	2.7167	2.8250	3.0583
Median	1.0000	4.0000	4.0000	3.0000	4.0000	4.0000	3.0000
Mode	1.00	4.00	4.00	3.00	2.00	3.00	4.00
Std. Deviation	0.33211	1.07049	1.18224	1.07996	1.21740	1.08203	1.09465
Sum	135.00	446.00	351.00	365.00	326.00	339.00	367.00

Table 4.1 illustrates the graduation bottlenecks, scheduling, processes, activities, flow and graduation timeframe as the seven highest ranking means within its scale. This indicates that these variables are the most critical factors relating to bottlenecks and in answering research questions. The identified variables possess values that lie within 1.96 standard deviations of the mean. Hence, the sample mean is the reflection of the true population mean. The median and mode figure further confirms the crucial point in the sample which indicated “agree” as the most frequently occurring value between these seven variables. These variables possess a mean that lies between 2.95 and 3.05. In all the instances, the standard deviation is less than the mean, indicating insignificant variation in the data. Similarly, there is a common central value of 4 (Median) which is the most frequently occurring value in this sample.

4.6 Inferential Statistics

To achieve the objectives of this study, it was critical to establish the correlation between and among the variables. According to Urdan (2015:20-29), the correlation coefficients possess two fundamental characteristics. Firstly, the direction of the relationship between two variables might be positive or negative. Secondly, the strength or magnitude of the variables might range from -1.00 to +1.00. The closer the correlation coefficient is to either -1.00 or +1.00, the stronger the relationship is.

Table 4.2. Person Correlation Coefficient Analysis

Correlations					
		Effects of Bottleneck	Graduation Processes	Graduation Scheduling	Graduation Activities
Effects of Bottleneck	Pearson Correlation	1	0.119	-0.110	-0.172
	Sig. (2-tailed)		0.194	0.232	0.061
	N	120	120	120	120
Graduation Processes	Pearson Correlation	0.619	1	-0.172**	.297**
	Sig. (2-tailed)	0.194		0.000	0.001
	N	120	120	120	120
Graduation Scheduling	Pearson Correlation	-0.110	.533**	0.445	.429**
	Sig. (2-tailed)	0.232	0.000		0.000
	N	120	120	120	120
Graduation Activities	Pearson Correlation	.572	.297**	.629**	1
	Sig. (2-tailed)	0.061	0.001	0.000	
	N	120	120	120	120
**. Correlation is significant at the 0.01 level (2-tailed).					

Table 4.2 shows the relationship between dependent variables and those variables categorised within the effects of the bottlenecks of the variables of the questionnaire. Integration and collaboration show strength in the relationship as the correlation coefficient is greater than 0.83

and the relationship is positive. Table 4.2 further indicates that the scheduling the graduation and the activities of the graduation depict a strong positive correlation of 0.63. It can thus be deduced that for an organisation to have sound activities which facilitate collaboration and integration of the supply chain partners, proper scheduling should be in place. This result corroborates the findings in the literature reviewed. Scheduling of graduation and the processes of graduation show a study positive correlation of 0.53. This is corroborated by Jojozi's (2014:10) averment that scheduling plays a crucial role and serves as the pillar of the performance of the organisation". What transpires from the foregoing explication is that collaboration and integration of both the activities and processes of the ceremony through sound scheduling are prerequisites for a success of any event or proceeding.

The correlation coefficient of 0.62 depicts a positive and strong relationship between the factors constitutive of the bottlenecks and the graduation processes which indicate that the processes must solve the bottlenecks experienced at the ceremonies for the ceremonies to yield maximum satisfaction to the supply chain partners. There is a positive relationship between effects of bottlenecks and the graduation activities which is depicted by the coefficient value of 0.57. This indicates that activities could be aligned and integrated with the graduands in mind through active or passive participation mechanisms. This finding is also corroborated by the literature reviewed and this is with specific reference to Schiffman et al' (2010:307) assertion that consumption experiences incorporating all four dimensions lead to stronger memories and subsequent positive evaluations".

Notably, therefore, experience economy plays a vital role in integrating all the role players towards minimising the bottlenecks and constraints of -0.18 between the scheduling of the graduation and the processes of the ceremony. Clearly, the two variables are dependent on each other. This study, therefore, has given an account of how the scheduling of the graduation and the strategic processing of the activities relate to the supply chain collaboration and optimisation of the experience of the event to remain memorable.

4.6.1 Cross Tabulation

When tables are constructed for the statistical testing, they are referred to as contingency tables. The purpose of cross tabulation is to establish a relationship between two variables and once this has been accomplished the information can be represented in a two-dimensional frequency distribution by cross tabulating the variables. Hence, cross tabulation is used to test the association between the selected variables. Table 4.3 to 4.8 cross tabulate the variables to establish whether an association exists between the two variables or not. Table 4.3 examines

whether there is association that exists between the effects of the bottlenecks and the processes of the graduation ceremony.

Table 4.3: Graduation Bottlenecks Cross-tabulation

Gender *		Graduation Bottlenecks		Total
		Yes	No	
Gender	Female	61	6	67
	Male	44	9	53
Total		105	15	120

Table 4.4: Chi-Square Test

	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	1.743 ^a	1	0.187
Likelihood Ratio	1.732	1	0.188
N of Valid Cases	120		

Table 4.3 indicates that 91% (61) of the female respondents indicated that graduation does have bottlenecks and 83% (44) of the male respondents the view expressed regarding the existence of bottlenecks which impact negatively on graduation. The above variables are independent (that is not significantly related), and the frequencies are relatively evenly distributed across gender and graduation bottlenecks. The value can determine whether this value indicates a meaningful relationship. If the probability is greater than 0.05, then the variables are not significantly related. Similarly, if the probability is less than or equal to 0.05, then the variables are significantly related. According to the chi square table 4.4 above, the Chi square value is 1.743. This means that the variables are not significantly related.

4.7 Multiple Regression

Notably, it is argued that “to determine the extent to which the independent variable/s affects the dependent variable, multiple regression analysis is used” (Downing and Clark, 2003:67). The study analysed the influence of the independent variables (Graduation Processes, Graduation Scheduling, Effects of Bottlenecks and Graduation Activities), on the dependent variable, optimised information sharing.

Table 4.5: Model Summary

Variables Entered/Removed ^a			
Model	Variables Entered	Variables Removed	Method
1	Graduation Scheduling	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
a. Dependent Variable: Effects of Bottlenecks			

Model Summary 1				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.760 ^a	.577	.559	5.69097
a. Predictors: (Constant), Graduation Scheduling				

Model Summary 2				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
2	.676 ^a	.457	.442	.15036
a. Predictors: (Constant), Graduation Processes				

Model Summary 3				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
3	.694 ^a	.482	.463	.14743
a. Predictors: (Constant), Graduation Activities				

The “R” column represents the value of R, which is the multiple correlation coefficient. R is the measure of quality for dependent variable, in Table 4.5, R=0.760. This value as a result indicate a proficient level of prediction. The R square column represents its value (also known as the coefficient of determination), which is the proportion of variance in the dependent

variable that can be explained by the independent variables. This is stipulated by the value of 0.577 of our dependent variable, which explains 57.7 % of the variability if our dependent variable. The “R square” column represents the R-square value (frequently known as the coefficient of determination) which is the proportion of the variance in the dependent variable that can be explained by the independent variables.

Model 1- Adjusted $R^2 = 0.559$

Model 2- Adjusted $R^2 = 0.442$

Model 3- Adjusted $R^2 = 0.463$

Model one has the highest value of adjusted R^2 therefore, it has a better degree of explanatory power (after controlling for the number of variables). Hence, model one can explain more of the graduation scheduling of activities, processes and activities than model 2 and 3.

Table 4.6: ANOVA

ANOVA ^a						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	3.149	7	0.45	23.369	.000 ^b
	Residual	2.599	103	0.019		
	Total	5.748	110			
a. Dependent Variable: Effects of Bottlenecks						
b. Predictors: (Constant), Graduation Scheduling						
ANOVA ^a						
Model		Sum of Squares	Df	Mean Square	F	Sig.
2	Regression	2.419	3	0.806	33.663	.000 ^b
	Residual	3.329	107	0.024		
	Total	5.748	110			
a. Dependent Variable: Effects of Bottlenecks						
b. Predictors: (Constant), Graduation Processes						

ANOVA ^a						
Model		Sum of Squares	Df	Mean Square	F	Sig.
3	Regression	2.933	4	0.489	23.622	.000 ^b
	Residual	2.815	106	0.021		
	Total	5.748	110			
a. Dependent Variable: Effects of Bottlenecks						
b. Predictors: (Constant), Graduation Activities						

Based on the results depicted in table, all three have a significance value of 0 at the 95% confidence level, the deduction is that models one to three reach statistical significance. Thus, the researcher may accept the alternate hypothesis and conclude there is a relationship between the variables of model 1, model 2 and model 3.

Table 4.7: Chi-Square Tests

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	10.141 ^a	4	.038
Likelihood Ratio	10.246	4	.036
Linear-by-Linear Association	.633	1	.426
N of Valid Cases	110		
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 13.59.			

The Chi-Square value is impacted by the number of respondents it will increase as the number of respondents grow. Since Chi-Square is less than 0.05 from figure 4.7, it shows that Chi-Square is significant and there is a story to tell.

Table 4.8: Cronbach's Alpha

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardised Items	N of Items
.657	.711	25

To determine whether the research instrument measures the elements as per the intention of the study, construct validity was applied. The multivariate analysis and interpretation of results indicate that the measures used in this study are valid. Reliability analysis of the users' questionnaire and continuous research statements revealed the Cronbach alpha for standardised items (questions from Likert scale) to be the value of = 0.711. It can be concluded from this that this research instruments (questionnaire) and continuous research variables have indicated a high or good internal consistency and reliability.

4.8 Conclusion

In conclusion, the research study's objectives were:

1. To determine bottlenecks experienced in graduation ceremonies due to poor synchronisation of activities and processes.
2. To find the possibilities of collaborative relationships between different role players in ensuring better synchronisation of the ceremonies.
3. To establish the extent of experience to which graduating students get immersed with staging of graduation ceremony.
4. To what extent to which reduced process bottlenecks and delays can be improved on the overall process efficiency of graduation ceremonies.

The chapter makes inferences based on the analysis of the data. It also examines whether the analysis have answered the research questions, in detail. The data analysis transported many issues to the forefront. The following chapter will discuss the results found in this previous chapter display. The results include both qualitative and quantitative finding of the study. This also includes thematic analysis and content analysis as methods for results analysis and exposure.

CHAPTER FIVE

DISCUSSION OF RESULTS

5.1 Introduction

The problem statement for this study focused on the creation of the experience of the graduation ceremonies at UKZN. Special attention was given to the possibility of being susceptible to incidents of bottlenecks and the complex scheduling processes giving rise to negative cues. The study aimed to optimise proper integrated planning and better synchronised event strategy which can deliver positive cues for sensual-based experience through information sharing platform. The preceding chapter presented an analysis of the data collected from the sampled respondents who participated in the qualitative and quantitative approaches. The following sections synthesised the data analysis with the literature reviewed on the key variables relating to bottleneck effects at UKZN graduation ceremonies.

5.2 Themes from the Literature Review

The literature reviewed identified various common themes. It confirmed that due to poor planning and synchronisation of the processes and the activities in any business or organisation, bottlenecks become an inevitable experience. The topic under investigation was UKZN's graduation ceremonies. The literature confirmed that CPFAR and experience economy are crucial drivers of the graduands integration which allows for alignment and collaboration across trading partners for the success of the graduation ceremonies. The success factors of CPFAR were identified as collaboration and integration among graduands and the different stakeholders involved in the planning and execution of the proceedings of the graduation ceremonies. The data analysis led to the conclusion that UKZN's respondents are of the conviction that information sharing, collaboration and integration essentially link UKZN with the outside community when it (UKZN) deals with its trading partners. As a result, collaboration and integration are to be accorded the status of an institutional manual to manage and exploit thus optimise graduation ceremonies to bring memorable experiences to graduands. Planning, scheduling and collaborative measures require supply chain partners to understand each other's goals, objectives and key drivers. A well-defined and properly executed supply chain strategy and design are imperative to achieve the best supply chain performance. It is against this backdrop, therefore, that UKZN should take cognisance of the importance of a shared vision with its trading partners.

5.3 Research Objective One

To determine bottlenecks experienced in graduation ceremonies due to poor synchronisation of activities and processes

The first objective of this study was to determine the bottlenecks experienced at UKZN graduation ceremonies due to poor synchronisation of the activities and the processes. It was noted in the literature reviewed that effective scheduling enables effective utilisation of the resources which result in the betterment of the management process and enhancement of better quality of the final products or services (Pearlman 2015:12). Several questions were incorporated to establish whether poor synchronisation of the graduation processes and the activities is the cause of the bottlenecks faced at the ceremonies. Similarly, specific questions were discussed to address the above objective. Operationally, the above objective was assessed and presented using graphs. The graphs were utilised because they were regarded as the basic methodology of analysing categorical data.

Figure 4.3 in chapter four showed that 88% of the respondents agreed that indeed UKZN graduation ceremonies face bottlenecks due to poor synchronisation of the processes and its activities. However, a small percentage had a different view in this regard and this constituted (12%) of the respondents who agreed with the objective proved otherwise. The effect of bottlenecks to the ceremony was also surveyed to substantiate the first objective of the study. Figure 4.6 indicated that 26% of the respondents strongly agreed, 36% agreed, and 28% remained neutral regarding the effects of graduation bottlenecks. Only 6% of the respondents disagreed with the objective question and 5% of the respondents strongly disagreed from the entire population surveyed. What transpired from the interviewee is that the bottlenecks do impact negatively on the behavior of the graduands and such misconduct is manifested by the lack of respect for the ceremony. Most of the graduands arrive late and leave early before the event ends which creates a huge bottleneck for the smooth flow of the processes and the planned activities.

5.4 Objective Two

To find the possibilities of collaborative relationships between different role players in ensuring better synchronisation of the ceremonies

Research objective two sought to establish whether there is collaboration that can impact on ensuring better synchronised ceremonies which add value. The first research objective established that UKZN graduation ceremonies are susceptible to bottlenecks due to poor

synchronisation of its processes and activities. There was overwhelming agreement among the respondents that the graduation timeframes do not accommodate them in terms of their own preferences of activities and this is one of the key question which had to be answered for the second objective according to figure 4.5. However, only 35% of the respondents strongly agreed that the graduation timeframes do not accommodate their planned activities, while 26% of them agreed and 22% of the respondents remained neutral, 11% of them disagreed and 7% of them strongly disagreed with the view that graduation does not accommodate their planned activities. The results alone showed that during graduation ceremonies, graduands might have class tests and submissions to make. This can be on the same week or even a day before or after the graduation. This could also pose a threat to the lived experiences of the proceedings of the ceremony.

Figure 4.7 indicated that 28% of the respondents strongly disagreed that the scheduling of the graduation activities is always driven by the needs of the graduands and 34% of the respondents disagreed with this statement. Notably, 20% of the respondents were neutral and 11% and 8% of the respondents respectively agreed with the statement. The graduands' needs might include setting the graduation ceremonies at the right times for graduands to optimise on the memorabilia and accommodate their planned activities effectively and efficiently. This suggests that due to lack of collaborative relationship between the different role players in relation to the graduation ceremonies, graduations are unable to reap the optimisation of graduands experiences of the ceremonies by optimising information sharing which greatly enhances integrated supply chain activities across the ceremonies. The literature confirmed that CPFR, supply chain integration and inventory management require collaboration of various process activities involving customers (graduands). According to the interviewee, the graduands are kept in mind and are considered because they become agitated and restless during the ceremony which results in them wanting to leave early.

It can be ascertained from the literature as it suggested that collaboration considers the overall performance of the system, it is an effective means to fulfil the maximum interests of members by using advanced methods and technologies to coordinate the members' activities of sourcing, storage, production and delivery in a dynamic and partial information sharing context (Long, 2015:67). Krishnapriya and Rupashree (2014:51) asserted that integration offers speedy access to essential source of information, more sensitivity toward the needs of graduands and allowing faster response time which creates a competitive edge among the competitors. Therefore, it is clinched that optimised information sharing enhances integrated supply chain activities across

all the role players through a synchronous approach. Therefore, a collaborative supply chain means that two or more independent companies work jointly to plan and execute the supply chain operations with greater success than when acting in isolation. Interviewees indicated that they always looking for ways of improving their systems and processes. One of the initiatives towards accommodating graduands' needs has been the introduction of the spring graduation. This responds to the need and importance of collaborative relationships in continuously reviewing the processes and activities of the ceremonies to best meet and exceed graduation needs. Additionally, they also enhance students' skills by having growth and development programs. This includes training for skills to write effective curriculum vitae for job seeking and presentation skills. However, the attendance has not been optimised and this shows that the integration approach is still not sound enough and appealing to the students and graduands.

5.5 Objective Three

To establish the extent of experience to which graduating students get immersed with staging of graduation ceremony

The consequence of lack of information sharing systems is that this retailer is not sufficiently effective and efficient in remaining abreast of its competition. Figure 4.9 showed that 79% of the respondents could play a role to the graduation ceremony to ensure that it becomes a memorable event for everyone. However, 21% of the respondents disagreed with the statement. The fact that a sizable percentage comprises of respondents who will enjoy being role players in the ceremonies, proves that graduands are not given opportunities to shape and form part of their special day into an active participation approach. The implications are that while the graduation ceremony organising committee took the critical decision to invest in centralised distribution centres, for example, by making provision for the picture system and graduation gown service providers, there are challenges in putting the system in place. This is confirmed by Figure 4.10 in the previous chapter which illustrated that only 10% of the respondents strongly disagreed that the graduation picture system increase time spent in a graduation ceremony. Fourteen percent of the respondents disagreed, with 22% remaining neutral. However, 27% of the respondents agreed that the picture system does increase their time spent at the graduation ceremonies and finally, 28% of the respondents strongly agreed with the statement. This is also supported by the literature whereby (Erlach, 2013) assert that synchronisation looks at the pace of output at each stage in the production process to ensure the same flow characteristics from each part or product as they progress through each stage.

The literature also noted that active participation is “where graduands personally affect the performance or event that yields the experience” and passive participation is “where graduands do not directly affect or influence the performance” (Hosany, and Witham, 2010:93). Furthermore, connecting graduands on a continuum of immersion or absorption, immersion can be described as becoming physically or virtually part of the event or performance itself while absorption is engaging the attention of the stakeholder’s mind (Schiffman, Kanuk, and Wisenblit, 2010:302). Morgan et al (2012:8) operationalised the four realms of the experience economy framework by creating and testing a measurement scale within a bed and breakfast setting. Gilmore and Pine (2009:36) themselves wrote a how-to for hoteliers and restaurateurs on staging experiences through operational design.

5.6 Objective Four

To what extent to which reduced process bottlenecks and delays can be improved on the overall process efficiency of graduation ceremonies

More than half of the respondents indicated that UKZN graduation in the second semester has been a value adding factor towards a reduced lead time to get graduated. This is illustrated by Figure 4.9 which indicated that 50% of the respondents strongly agreed that the second semester graduations improve the process and reduce bottlenecks and delays that occur if the graduation happens once annually. Fourteen percent of the respondents agreed with the statement with 20% of the respondents remaining neutral. However, a small number of the respondents did not support the statement, 8% of the respondents disagreed and another 8% of them strongly disagreed. Half of the respondents agreed with the idea of having second semester graduation. This proves that a certain percentage of the graduands who agreed had to wait for the following year graduation after completion of their remaining modules to graduate and receive their certificates. The literature supports the argument made by the disillusioned percentage of the respondents to the question where Beer (2015:37) asserted that the bottleneck metaphor is alleged as circumscription constraint or limitation for something which is accountable for a lower than possible outcome. This has been established by the CPFR model from the literature which stipulated that CPFR is an inclusive alliance strategy that covers all the functional areas of firms and provides an outstanding opportunity for both the supplier and the customer to be involved in demand forecasting and inventory replenishment planning activities (Kamalapur, Lyth and Houshyar, 2013:61). Forming an alliance with the graduands to reduce process bottlenecks and delays to the ceremonies through sound process efficiencies

of the ceremonies, adoption of CPFR model adoption and execution before during and after the ceremonies could prove to be paramount for the success of the ceremony itself.

5.7 Conclusion

The chapter commenced by restating the study objectives of the study. The empirical findings were then discussed to establish any similarities and dissimilarities in line with the study objectives. The discussion indicated that, indeed, graduands are faced with bottlenecks during their graduation ceremonies due to poor scheduling of the planned activities and the processes. Similarly, this was supported by the research findings which indicate an overwhelming percentage of the graduands who agreed that graduation ceremonies are not accommodative. Thus, their inclusion when decisions are made or to form part of the ceremony as participants to optimise their lived experiences has been minimal. The following chapter provides conclusions and recommendations for further research arising out of this study. The limitations and ethical issues also form part of the discussions in the following chapter.

CHAPTER SIX

CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

The previous chapter discussed the empirical findings of the study. These findings are summarised in relation to the literature reviewed on the effects of bottlenecks facing UKZN graduation ceremonies. Additionally, the implications of the study, limitations and delimitations are discussed after which recommendations for further research on the effects of bottlenecks on graduation ceremonies are made.

6.2 The Main Purpose of the Study

The purpose of this study was to establish how student experiences of the graduation ceremonies at UKZN can be maximised by focusing on the elimination of bottlenecks for which effective processes, strategies and staging of the graduation experiences would have to be adopted for the benefit of everyone involved.

6.2.1 Overview of the research study

This section presents an overview of the different chapters of the study. The study mainly comprises of an extensive discussion of the effects of bottlenecks to processes and activities experienced in operations of an event or planned activity, using a case of UKZN graduation ceremonies. The UKZN graduation ceremonies was chosen for this study because of the role it has played in forming graduands perspective about the ceremony.

Chapter 1 provided a brief background of the research study and expended on the different parameters of the study that was presented in the form of objectives and research questions. It also provided a broader discussion of the research problem and of the specific challenges that have motivated the direction of the study. Some of the areas that were also covered in the chapter was ethical considerations, limitations and delimitations for the study thus paved a way for the other chapters that followed.

Chapter 2 covered an extensive range of issues relating to supply chain constraints such as collaboration, bottlenecks, scheduling and planning. It provided a description of the various components and themes associated with experience economy in ensuring optimised lived experiences to the graduation ceremonies. It was also essential for the definitions and challenges to be supported by the relevant theory or conceptual framework to give the study meat to the bones identified. The study outlined the experience economy model and its application to the graduation ceremonies at UKZN.

Chapter 3 presented the research design, techniques and tools used in collecting the relevant data used in this study. The research techniques used were mainly guided by the objectives of the study and have been extensively described in chapter one. This study has been defined as mixed method study, employing qualitative approach with the use of Corporate Relations Director for graduation affairs division. And the quantitative approach being the post-graduates at all the College of Law and Management Studies. This involved primary data sources used included in-depth interview using semi structure interview guide. The chapter also gave thematic data analysis which was used. The chapter concluded with provision of a mechanism and tools to be employed to meet the research objectives.

Chapter 4 the primary focus was to present both qualitative and quantitative data and analyse the data through various collection methods used to accurately meet the objectives of the study. The presentation followed the scope of thematic analysis approach and use of statistical methods to present the data. The study was interested in presenting the graduation bottlenecks faced by graduands when they attend their ceremonies and get a management perspective of the changes in their behaviors. The presentation and the analysis was done in accordance to the research objectives and direction was optimised through visitation of the research questions that needed to be answered.

Chapter 5 focused on the discussion of the findings and results of the study. This included the analysis of each objective of the study being analysed through available data to support the findings. The chapter visited each research objective and provided an extensive evidence to support the objective met. The literature from chapter two also formed a backbone for the objectives to be revisited and unpacked with findings being visual supporting mechanism.

Chapter 6, the recommendations are presented and proposed with conclusions drawn from the main research objectives and for further studies to be executed.

6.2.2 The Limitations

According to Cooper (2013:36), a constraint is defined as the limitation or a restriction preventing something from happening such as conducting a research study. In this study, the limitations included scheduling and planning, collaboration, synchronisation, CPFR, experience economy model and information sharing regarding the staging of the graduation ceremonies at the University of KwaZulu-Natal.

6.2.3 Ethical Issues

Ethical issues were also addressed in this study and this was in relation to the lengthy process of ethical clearance that was carried out. The issuing of the gate keepers' letter was unduly delayed. This, in the researcher's view, necessitates that there be changes made on the actual submitted ethical clearance form for it to be approved with ease. Thus, engaging in the process of approval was time consuming as it took three to four weeks and this time was closer to the due date for the collection of the data and its subsequent analysis. The prescribed target population for both the qualitative and the quantitative methods as reflected in the research methodology chapter was not achieved due to time constraints.

6.3 Conclusion Based on the Reviewed Literature

It has been gleaned from the literature reviewed on the topic of the elimination of bottlenecks that almost all organisations and other sectors affected by bottlenecks focus on the entire supply chain as a critical factor in either containing or eliminating bottlenecks. So, for organisations to succeed in meeting their goals and objectives, they must identify the bottlenecks and address them accordingly as dictated to by the specific prevailing circumstance to make possible the smooth flow of the processes and the activities towards achieving the set goals and objectives. The need for such a standpoint is corroborated by Bhardwaj and Kanda's (2011:46) argument that by focusing on constraints, the TOC methodology yields positive effects on the flow time of the product or service through the system. Thus, it can be inferred from the explication above that the more stakeholders are involved in the elimination of manifest bottlenecks in the graduation ceremonies, the more synchronised the graduation ceremony could become and the better the scheduling and planning of the processes and the activities could be executed.

It is paramount for the graduation ceremonies to ensure that there is proper and sound scheduling and planning for it to become a success. Collaboration and integration among stakeholders should be encouraged. To this end, inclusion of CPFR model to the ceremony as part of the tool and a mechanism to release bottlenecks and open the tap plays a vital significant role for the ceremony. This, arguably, can enable the ceremony to start measuring its operations against the same graduand metrics as that of optimised operations. All the stakeholders concerned from downstream to upstream must play a role in the scheduling and planning of the graduation ceremonies. The role may be actioned as active participation or passive participation. To drive best behavior for the graduation ceremonies processes and activities, upstream customer response (graduands) metrics could also be developed on the inbound side.

This can enable both the inbound planners and outbound service providers to have the same goal of optimising the graduands' experiences during the ceremonies.

6.4 Conclusions Based on the Empirical Study

The study provided insight regarding the effects of bottlenecks to graduation ceremonies at the University of KwaZulu-Natal and its factors. The main factors that caused graduation bottlenecks were graduation lead times, poor scheduling and planning, lack of collaboration and integration, lack of staged graduands experiences and poor synchronisation of the attendant critical factors necessary for the delivery of optimised results. It bears repeating that the objective of the study was to establish an understanding of the dynamics of the effects of bottlenecks at UKZN graduation ceremonies. To ensure that capacity is utilised efficiently, planning of what is expected regarding capacity requirements and supply is necessary. Over and above that capacity supply could be put in place to synchronise it with what is required. Depending on how complex the graduation processes are, capacity can at times be supported by outsourcing. The level of capacity supply to the ceremony is largely flexible since graduands are engaged and that there are minimal external logistics service providers. Most times, processes relating to the hiring of the graduation gown and the taking of pictures are generally outsourced.

However, there could be a need for the graduands from the integrated supply chain network to increase their expertise and thus manage capacity requirements more adaptively. Following what has been required by capacity at graduation ceremonies, from the parking slots, hiring of gowns and picture systems, adjusting accordingly through integration could prove to be paramount. Scheduling and reducing processes and optimising on activities can most likely result in the optimisation of the experiences of the graduands. Arguably, the handling of the graduation proceedings is a major restrictive factor given the formalities of the proceedings as opposed to it being an entertainment or an event driven by the graduands.

6.5 Recommendations

6.5.1 Recommendations on the Study Conducted

In this study, it is recommended that to address and resolve the problem at hand as it relates to the graduation ceremony at the University of KwaZulu-Natal, there must be:

- (a) Collaboration and Integration of all stakeholders involved.
- (b) Synchronisation of processes to ensure better scheduling and planning.
- (c) Improved communication mechanism to optimised on graduation experiences.

(d) Continuous improvement adoption principle to be injected on graduation ceremonies.

6.6 Contribution of the Study to Knowledge

Research alone is not sufficient unless it adds value to society and to the organisation (Cooper and Schindler, 2014:10-11). Most of the literature found on the effects of bottlenecks is based on different industries and companies. It is, therefore, vital to add more into existing literature on the effects of bottlenecks with reference to the University of KwaZulu-Natal graduation ceremonies. This, arguably, would contribute significantly to the planning committee of the ceremonies and non-users such as societies as they are more likely to be aware of the effects of bottlenecks on UKZN graduation ceremonies. The management and students' attention can be grasped especially students who have been working hard to attend and form part of the graduation ceremony.

6.7 Recommendations for Further Research

In this section suggestions for further researcher are outlined. This pertain to both the gaps in the literature and in the findings of this study. The empirical findings of the study are specifically confined to the University of KwaZulu-Natal - Westville campus, College of Management, IT and Governance surveyed. It is recommended that this study be replicated to a larger sample. Additionally, the research topic of this study can also be investigated using more qualitative approaches such as interviews and focus groups where respondents can fully express their perceptions on the effects of graduation bottlenecks faced at graduation ceremonies. This could yield more substantial information for the institution of higher learning. Thus, this study established that there is a positive correlation between the scheduling and the planning for better synchronised processes and activities. These findings are in accordance insights emanating from the literature reviewed. However, the extent to which graduation scheduling and the processes contribute to bottlenecks at graduation could be further investigated. Other external factors that influence graduands' perceptions and enjoyment levels to the ceremonies could be also further instigated. It is also recommended that the geographical scope of sample be expanded as this could benefit other institutions of higher learning by way of comparing graduation bottlenecks faced in various locations and institutions. Thus, other Colleges and Colleges around UKZN five campuses could be included in the study.

6.8 Limitations of the Study

Limitations are defined as influences that the researcher cannot control. They are the shortcomings, conditions or influences that cannot be controlled by the researcher which restrict the methodology and conclusions in some way (Wiersma, 2012:24). One of the major limitations of the study was the time available to execute the research process. For the survey, it was not possible to take the sample size of 100 percent and this compromised the accuracy of the results. There are also other limitations such as the fact that:

1. Many graduates and staff members might be busy with their dissertations and business of the day. So, in such circumstances they can only provide limited amount of time to complete the questionnaires and answer interview questions.
2. This kind of study will be carried out for the first time where respondents are required to innovate and think back to their experiences.
3. Graduands may fill questionnaires just for the sake of finishing without reading the questions and providing their insight to the research questions.
4. Staff members might withhold some valuable information due to limitations and thus maintain professionalism to its desirable level.
5. This evaluation is based on primary data generated through questionnaires and interviews and as such the findings are depend entirely on for their accuracy on the data so collected.

6.9 Delimitations of the Study

Simon (2011:2) assert, on the one hand, that delimitations are features or things that a researcher set as the boundaries in the study and such delimitations are controlled by the researcher so that the objectives of the study do not become impossibly large to achieve. On the other hand, Pajares (2011:7) is of the view that delimitation provides a summary of how the research study will be narrowed in terms of boundaries or scope. The delimitation phase enables the researcher to clarify some things that will not be done in the study and give the reasons as to why this would be the case.

In this study, the delimitations were as follows:

1. In terms of the population, the research carried out for this study was delimited to all other Colleges and Colleges because the chosen sample prove to be paramount for the generation of the requisite information so required.

2. A copy of the quantitative questionnaire and qualitative interview questions was sent to each participant respectively before the interview to allow each person to adequately prepare for the interview to circumvent undesirable surprises.
3. The focus was not only on the results obtained from the respondents of study but also on the rigor of the research process.
4. For the qualitative study, the identity of the interviewees was protected by not disclosing specific information that could potentially expose the identity of the respondents and this helped secure the anonymity of the respondents in line with the principle of confidentiality.

6.10 Conclusion

This concluding chapter outlined the main purpose of the study, its contribution and chapter summaries. Thereafter, the limitations and delimitation of the study and recommendations for further research were discussed. This study set out to investigate whether UKZN graduation ceremonies have bottlenecks due to poor scheduling and planning of its activities and processes. Today's organisations must move away from the silo operation of previous years and collaboration and integration to proper planning and scheduling must be embraced as a critical driver. Without collaboration and inclusion of all the stakeholders to the ceremonies, UKZN ceremonies face challenges arising from decisions that have been based on assumptions. The graduation team will continue to implement decisions based on limited or disjointed planning and scheduling of processes and activities involved in the ceremonies which further exacerbates the negativity of the current effects of the bottlenecks. This study has shown that the inclusion of graduands in the decision-making process and the fostering of sound planning and better scheduling of graduation processes and activities are long overdue. The UKZN graduation is currently using the same old method in the execution of the proceedings of the ceremony and the scheduling of the activities coupled with the delayed response to the needs of the graduands and as such reflect the fact that the processes regulating the graduation ceremony are in the main disjointed due to lack of collaborative and integrated relationships.

6.11 References

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Appendices A: Questionnaires



College of Management, Information technology and Governance

Voluntary Questionnaire

Dear Respondent

Masters Research Project

Researcher: Lindokuhle Alex Ngubane

Supervisor: Dr T.P Mbhele (0312607524)

Research Office: Ms Snyman (0312608350)

Title: Effects of Bottleneck on graduation ceremony: Case of University of KwaZulu-Natal

The purpose of this questionnaire is to solicit information from the College of Law and Management graduands, under College of Management, IT and Governance. The truthful manner in which this questionnaire is completed will aid in identifying the bottlenecks faced by the graduands attending graduation ceremonies at University of KwaZulu-Natal Westville campus. The data collected can be used as evidence to prove that due to poor scheduling and synchronisation of activities, processes and times of the event are the drivers of bottleneck occurrences. Once bottlenecks have been scientifically proven, they can as a result be eliminated and as a result be mitigated. The questionnaire should only take 10-15 minutes to complete. In this questionnaire, you are requested to indicate what is true for you, therefore no answer can be classified as “right” or “wrong”. Participants are humbly requested to ensure that no questions are skipped, all respondents are urged to answer all questions as honestly as possible. Feedback of findings will be provided to the participants if requested.

Thank you for participating!

Section One

The questions below ask about your personal environment and your personal profile.

Tick (✓) on the appropriate box.

1. Your Gender:

Female	<input type="checkbox"/>	Male	<input type="checkbox"/>
---------------	--------------------------	-------------	--------------------------

2. Indicate your age group

20-25	25-30	30+
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. Indicate the applicable College registered at?

Accounting, Economics and Finance	Management, IT and Governance	Graduate College of Business and Leadership
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. How long have you been attending UKZN graduation ceremonies?

1 year	2 years	3 years	4 years	More than 4 years
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. Indicate your degree:

Bachelor of Business Administration Honours	<input type="checkbox"/>
Bachelor of Administration Honours	<input type="checkbox"/>
Bachelor of Commerce (General) Honours	<input type="checkbox"/>
Bachelor of Commerce in Accounting [BCOA] Honours	<input type="checkbox"/>
Bachelor of commerce (Extended Curriculum) Honours	<input type="checkbox"/>
Bachelor of Business Science Honours	<input type="checkbox"/>
Bachelor of Law Honours	<input type="checkbox"/>
Post Graduate Diploma	<input type="checkbox"/>
Masters and PHD	<input type="checkbox"/>

Section Two:

This section aims to obtain information on dichotomous questions (*Yes or No*) about general perceptions of graduands.

Please encircle (○) or tick (✓) on the appropriate box(es) below.

General perceptions			
6	Graduation ceremonies are faced with bottlenecks	Yes	No
7	More can be done to mitigate and eliminate graduation bottlenecks	Yes	No
8	Graduands are missing out on memorable experiences that could be lived on graduation ceremonies?	Yes	No
9	If given the opportunity I would play a role in ensuring graduation ceremony becomes a memorable one for graduands	Yes	No
10	Graduands have changed their perspective towards the ceremony due to poor scheduling of activities and processes	Yes	No
11	Bottlenecks elimination on graduations can improve planning and foster smooth flow of the event	Yes	No

Section Three:

The following questions are related to the personal attitudes of the graduands at Westville Campus. Based on your experience and perception, please encircle (○) or tick (✓) on the appropriate number. 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree.

Does the bottlenecks experienced at graduation ceremonies affect your ceremony perceptions?						
Bottlenecks						
12	Graduation ceremonies are susceptible to possible bottlenecks	5	4	3	2	1
13	I feel that timeframe of the ceremony does not accommodate every graduands needs	5	4	3	2	1
14	I feel that my perceptions of the ceremony are affected by its activities and processes	5	4	3	2	1
15	I feel that my enjoyment levels drop as a result of poor flow of activities	5	4	3	2	1
16	I feel that the graduation always starts and end on time	5	4	3	2	1
Does your graduation activities revolve around graduands in mind?						
Scheduling						

17	The graduation activities and processes accommodate graduands activities on ceremonies	5	4	3	2	1
18	The graduation scheduling allows me to experience smooth flow of activities	5	4	3	2	1
19	The graduation times accommodate my planned activities	5	4	3	2	1
20	The graduation times accommodate students from different geographical areas	5	4	3	2	1
21	The graduation scheduling of activities are always driven by graduands needs	5	4	3	2	1

Planning						
22	The ticket and picture system affect the time spent at the ceremony	5	4	3	2	1
23	I feel the exit time from the packing increases early departure time from the event	5	4	3	2	1
24	I get access to experience graduation vibes and make memories on the stated times	5	4	3	2	1
Synchronisation of material flows						
25	There is flow on my planned activities and stated graduation dates and times	5	4	3	2	1
26	I feel that graduation timetable corresponds with my expectations	5	4	3	2	1
27	I find graduation flexible with its activities and flow of activities	5	4	3	2	1
28	I find activities and processes are carried out correctly at the ceremony	5	4	3	2	1
29	I feel there is sufficient activities and processes at graduation ceremonies	5	4	3	2	1
Collaboration						
30	I feel graduation ceremonies are planned to optimise graduands experiences and memories	5	4	3	2	1
31	I feel that graduation ceremonies timetables and dates accommodate every graduand from pre-graduation, during graduation and post-graduation	5	4	3	2	1
32	Second graduation ceremonies (semester 2) will reduce many graduands lead times and waiting time for another ceremony	5	4	3	2	1

End of the Questionnaire

Thank you for taking the time to complete the questionnaire.

Consent:

I, _____ (*Name: Optional*) hereby confirm that I understand the content of this document and the nature of the research project, and I consent to participating in the research dissertation.

I understand that participation is voluntary and I am at liberty to withdraw from the process at any time, should I so desire.

Participant's Signature: _____ **Date:** _____



College of Management, Information technology and Governance

Voluntary Interview

Dear Respondent

Masters Research Project

Researcher: Lindokuhle Alex Ngubane

Supervisor: Dr T.P Mbhele (0312607524)

Research Office: Ms Snyman (0312608350)

Title: Effects of Bottleneck on graduation ceremony: Case of University of KwaZulu-Natal

Date of interview:

Time of interview:

Name of Participant:

Pseudonym assigned to participant:

The purpose of the interview is to solicit information from the College of Law and Management staff. The truthful manner in which the interview questions are asked will aid in identifying the bottlenecks faced by the graduands attending graduation ceremonies at University of KwaZulu-Natal Westville campus. The data collected can be used as evidence to prove that due to poor scheduling and synchronisation of activities, processes and times of the event are the drivers of bottleneck occurrences. Once bottlenecks have been scientifically proven, they can as a result be eliminated and as a result be mitigated. The interview can take around 10-15 minutes to complete per each interviewee. In this interview, you are requested to indicate what is true for you, therefore no answer can be classified as “right” or “wrong”. Participants are humbly requested to ensure that whenever they need clarity they must say so, in order to provide the

needed insight and are urged to answer all questions as honestly as possible. Feedback of findings will be provided to the participants if requested.

Thank you for participating!

Interview Questions

1. For how long have you been attending graduation ceremonies?
2. Have you witness any changes at graduands behavior's from the moment you started attending the ceremony to now?
3. Do you think the processes and activities of the ceremonies are planned with students in mind?
4. Have you witnessed bottlenecks at graduation ceremonies?
5. Do you think more can be done to make graduation more memorable and value adding for all stakeholders involved?
6. Do you think graduation processes and activities should be changed more often for different graduation ceremonies?
7. Do you think students should be involved from pre-graduation, during graduation and post-graduation processes and activities?
8. Do you think the second graduation for the second semester is a good step towards considering all the Graduands needs?

End of the Questionnaire

Thank you for taking the time to complete the interview session.

Consent:

I, _____ (*Name: Optional*) hereby I hereby consent / do not consent to have this interview recorded. And understand the content of this recording and the nature of the research project, and I consent to participating in the research dissertation.

I understand that participation is voluntary and I am at liberty to withdraw from the process at any time, should I so desire.

Participant's Signature: _____ **Date:** _____

Appendices B: Turn-it-in Original Report

Effects of Bottleneck on Graduation Ceremony: Case of University of KwaZulu-Natal

ORIGINALITY REPORT

%11	%2	%3	%6
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	Submitted to University of KwaZulu-Natal Student Paper	%4
2	Submitted to Assisi Catholic College Student Paper	%1
3	Submitted to Sikkim Manipal University, Ghana Student Paper	%1

EXCLUDE QUOTES OK
EXCLUDE BIBLIOGRAPHY ON

EXCLUDE MATCHES < 10 WORDS

Appendices C: Editors Receipt

Dr Elijah Mkhathswa

B Th, BA (Hons) English, MA English (University of Natal), MA Linguistics, D Phil English & D Phil Linguistics (University of Zululand)



31 January 2018

TO WHOM IT MAY CONCERN

CONFIRMATION OF EDITING: MASTERS' DISSERTATION

Name of Candidate: Mr Lindokuhle Alex Ngubane
Student Number: 213501966

Title of Dissertation: Effects of Bottlenecks on Graduation Ceremony: Case of University of KwaZulu-Natal

This serves to confirm that I have edited Mr Ngubane's dissertation whose title appears above. The editing of the document focussed solely on academic writing of dissertations /theses with specific attention leaning towards the use of English language structures that typify academic prose. In the process of doing so, the editor did not interfere with the content and form of argumentation advanced by the study. In essential terms, therefore, the focus was on the following: the use of English grammar in academic prose; sentence construction and the coordination of these sentences so constructed to convey meaningful propositions.

If need be, further information will be furnished upon request.

Yours faithfully,

A handwritten signature in black ink, appearing to read 'E. Mkhathswa'.

Dr Elijah Mkhathswa
English Studies, Howard College Campus

Tel. 031-2601536
Cell: 0721225001

E-Mail: Mkhathswae@ukzn.ac.za

School of Literary Studies, Media, and Creative Arts

Howard College University of KwaZulu-Natal Durban 4041 South Africa

Telephone: +27 (0)31 260 1508 Facsimile: +27 (0)31 260 2392 e-mail: bobbett@ukzn.ac.za

Founding Campuses: ■ Edgewood ■ Howard College ■ Medical School ■ Pietermaritzburg ■ Westville

Appendices D: Ethical Clearance



17 August 2017

Mr Lindokuhle Alex Ngubane (213501966)
School of Management, IT & Governance
Westville Campus

Dear Mr Ngubane,

Protocol reference number: HSS/1238/017M

Project title: Effects of Bottleneck on Graduation Ceremony: Case of University of KwaZulu-Natal (UKZN)

Approval Notification – Expedited Application

In response to your application received on 31 July 2017, the Humanities & Social Sciences Research Ethics Committee has considered the abovementioned application and the protocol has been granted **FULL APPROVAL**.

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment/modification prior to its implementation. In case you have further queries, please quote the above reference number.

PLEASE NOTE: Research data should be securely stored in the discipline/department for a period of 5 years.

The ethical clearance certificate is only valid for a period of 3 years from the date of issue. Thereafter Recertification must be applied for on an annual basis.

I take this opportunity of wishing you everything of the best with your study.

Yours faithfully

Dr Shamila Naidoo (Deputy Chair)

/ms

Cc Supervisor: Dr TP Mibhele
Cc Academic Leader Research: Professor Brian McArthur
Cc School Administrator: Ms Angela Pearce

Humanities & Social Sciences Research Ethics Committee

Dr Shenuka Singh (Chair)

Westville Campus, Govan Mbeki Building

Postal Address: Private Bag 334001, Durban 4004

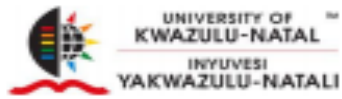
Telephone: +27 (0) 31 260 0507/0550/4557 Facsimile: +27 (0) 31 260 4999 Email: ethics@ukzn.ac.za / academic@ukzn.ac.za / info@ukzn.ac.za

Website: www.ukzn.ac.za



Fouriine Campus  Edwood  Howard College  Medical School  Pietermaritzburg  Westville 

Appendices E: Confirmation Letter for registered postgraduates



14 June 2017

TO WHOM IT MAY CONCERN

I hereby confirm that under the School of Management, IT and Governance; we have these numbers of Postgraduate students that are registered in the year of 2017/2018 on the following degrees:

Postgraduate Degree	Registered Graduands
Supply Chain Management	82
Marketing	45
Management	38
Total	165

Please do not hesitate contacting me for any query on the above.

Yours sincerely,

Ms. DP Magudulela

Teaching & Learning: School of Management, IT & Governance
University of KwaZulu-Natal - Westville Campus

School of Management, IT & Governance- Teaching & Learning
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