

SUPPLY CHAIN MAPPING AS A RISK MANAGEMENT STRATEGY

(The case of World Vision)

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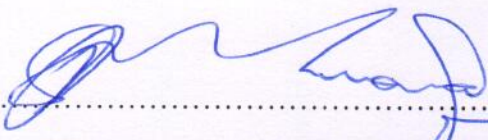
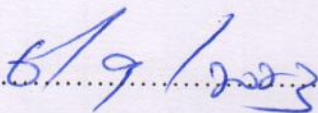
I Asubu Ruth Gift- **Reg No.S20B12/269**; do hereby declare that this research report has never been published by any other person but purely myself original piece of work, done with the guidance of my designated supervisor-Mr.Muloosi Pascal Siibi.

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APPROVAL

This report has been submitted for examination with my approval as the designated University supervisor.

Signature:  Date: 

MR.MULOOSI PASCAL SIBI

DEDICATIONS

I dedicate this research report to my family, for their tireless material and social support-devoid of which this piece of work would have been null and void; M/s Philippa Ruth, for all the financial support throughout my study period; Mr. Muwanguzi Mwandha Isaac, for his mature guidance and encouraged; and finally my Supervisor-Mr.Muloosi Pascal Siibi, for walking me through the entire research process to finality.

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ABSTRACT

This section provides a brief summary on the entire research which was conducted from March 2023 to August 2023 with a case of World Vision-Uganda Plot 15B-Kampala with examining the relationship between supply chain mapping and risk management attaching objectives to further explore the topic which included; examining how supply chain mapping reduces risk in a supply chain,examining the related issues associated with supply chain mapping and also the key success factors for supply chain mapping. Literature was reviewed on the objectives stated as shown in chapter two. To attain the information for this research, the qualitative method was used to attain information from the field and the Quantitative approach was used to present,analyse and interpret the information provided. The target population was 20 respondents from the Supply Chain and Logistics Department. Data was collected with the aid of questionnaires which was later analyzed data interpretation was provided and displayed.

The study exhibited a positive strong relationship between how supply chain mapping reduces risk in a supply chain,possible related issues for supply chain mapping, key success factors for supply chain mapping and the actual risk management in that most of the respondents agreed or strongly agreed that supply chain mapping reduces risk through enhancing the visibility and transparency throughout the supply chain network, it aids in risk assessment and mitigation within the supply chain, and brings about the collaboration and coordination within the stakeholders of a supply chain. Under the possible issues related to supply chain mapping, most of the respondents agreed and strongly agreed that lack of data availability about the entire supply chain, supplier reluctance and confidentiality hence missing out on relevant information,supply chain complexity,the dynamic nature of the supply chain and incomplete or inaccurate data collected could negatively affect the supply chain mapping exercise. Additionally, most of the respondents agreed and strongly agreed that Stating clear objectives and definition of supply chain mapping exercise,stakeholder engagement,availability of data and its quality,use of appropriate technology and tool could aid in the successful implementation of supply chain mapping.

To sum up, from the study,the findings provided evidence that supply chain mapping to a greater extent is a risk management tool and its implementation ensures efficiency, risk management,productivity and effectiveness. In the same regard my recommendation to the organization were to invest more into creating awareness of supply chain mapping within the

stakeholders of a supply chains such that risk mitigation is achieved and also to update their supply chain mapping tools and techniques to ensures accuracy and to reduce the hectic load of work or the exercise.

CHAPTER ONE

1.0 INTRODUCTION

This chapter put forth the background of the study, the problem statement, the purpose, objectives, Research questions, scope and justification of the study

1.1 Background of the study

Researchers have argued that managing risks in the current modern era or environment has become challenging due to greater uncertainties in supply and demand, globalization of markets and shorter product/technology life cycle. Additionally, the increase in the use of outsourced manufacturing distribution and logistics resulting into complexity in international supply network relationships; which have led to ever increasing exposure to risks. Some of the cited authors, Christopher Towill (2002) and Tang (2006) in the article argued that with the kind of business disruptions that have happened in recent times such as terrorist attacks, hurricanes, earthquakes, business continuity and supply chain risk will become as important a criterion as cost reduction in Supply chain management (Rao S. a., 2009).

The issues that sprout out with discussing about risks were that it came with different forms. They tended to appear at any point of the supply chain from initial suppliers on to the final customers, interrupted the supply of raw material or the demand of products, caused sudden peaks in demand or collapses, it could range in scope from minor delays through natural disasters like floods, earthquakes, hurricanes and so on (Waters, 2007). Their effects could range from short term to long-term causing permanent damages and might be localized in one part of the supply chain or passed on to threaten the whole supply chain (Waters, 2007). In the same regard, different risks could be linked in the way that an outbreak of diseases could cause a spike in demand.

The Covid-19 experience demonstrated how little some businesses understood their supply chain as

companies were scrambling to determine how shutdowns would impact their inputs suppliers, they surely perceived a need to prepare better for the future hence the article described supply chain mapping as an activity used to better understand the upstream and downstream components of company's supply chain (F Bailey Norwood, 2021). The rising prices and reports of empty shelves in major economies drew attention to functioning of supply chains that normally operated smoothly in the background. Additionally, among the issues were long delays that congestion might have caused in delivering goods to consumers and firms which gathered increasing attention. In the same regard, not all congestion appeared related to increased demand. Many ports especially since mid-2021 exhibited longer wait times despite handling less cargo than pre-determined (Lui, 2022). It is out of all this that companies realized the need to adopt supply chain mapping.

During Covid-19 supply chain mapping appeared as one of the critical supply chain capabilities that could make a striking difference in organizations' performance. Supply chain mapping was defined differently by different people for instance: Supply chain mapping was referred to the process of capturing information from suppliers or individuals involved in a company's supply chain so that the origin and flow of goods and services can be visualized from beginning to end. (Supplyshift, 2021).

Another defined it as the process of observing, tracking and recording across every producer, supplier, manufacturer, distributor and seller of every shipment and every packaging that is involved in delivering the final product into the market for the consumer's purchase. Additionally, it further simplified the definition into the process of documenting information across companies, suppliers and individuals who are involved in a company's supply chain to create a global map of supply chain network (Zoe Talent Solutions, 2023). Supply chain mapping was defined as the gathering of information about one's suppliers, their suppliers and the people who work in one's supply chain to create a global map of one's supply chain network (Sedex, 2022). The general perspective of supply chain mapping was documenting the entire supply chain. In other words, have record of all the activities involved in supply chain. In the past, supply chains were disrupted and were vulnerable to disruption; end up spending a lot trying to compensate those outcomes as a result of enormous losses making it vital for them to adopt supply chain mapping as a strategy as a way to manage risks.

Overall the background of supply chain mapping as a risk management strategy was seemingly not valued before the Covid-19 pandemic but afterwards it was picked as a strategy after delays and

complications of the Covid-19 pandemic breakout.

1.2.Statement of the Problem

Supply chain mapping was of no interest before the Covid-19 pandemic but after its breakout there were a lot of issues that arose like delays, price fluctuations, shelf availability of the products on the market and this affected a lot of businesses because a lot of risks came along with it. Therefore, there was need to come up with a strategy to curb or reduce the risks hence mapping of the entire chain was seen as vital. Despite its exists, according to the literature reviewed, a lot was talked about it in the period of Covid -19 pandemic and this brought to like the level of ignorance on the particular idea. The beauty of supply chain mapping as a risk management strategy was that it south to portray transparency, traceability, visualization of the entire supply chain and its activities and also ease accountability hence making management of supply chains easier and less costly.

1.3 Purpose of the study.

This study was to establish the relationship between supply chain mapping and risk management, exhibiting the kind of risks in a supply chain, examining the best ways in which supply chain mapping reduces risk in supply chain airing the issues associated to supply chain mapping as a risk management strategy.

1.4 Objectives of the study

The study was to enable me;

- i. To examine how supply chain mapping reduces risk in a supply chain.
- ii. To identify the possible issues related to supply chain mapping.
- iii. To examine the key success factors for supply chain mapping implementation.

1.5 Research questions

The study sought to find answers to the following key questions;

- i. How can supply chain mapping reduce risks in a supply chain?
- ii. What are the possible issues related to supply chain mapping?
- iii. What are the key success factors for supply chain mapping implementation?

1.6 Scope of the study

1.6.1 Geographical scope

The Physical/organizational scope was done at the Head office of World Vision Uganda-Plot 15B, Nakasero Road.

1.6.2 Subject/content scope

The study was to enable the examination of supply chain mapping and how it is to reduce risk in a supply chain.

1.6.3 Time scope

My study was conducted from March 2023 to 30th August, 2023.

1.7 Justification of the study

It enabled the company to understand the importance of supply chain mapping and acquire knowledge on the benefits it brings when implemented within the organization.

It enabled the organization to identify where a problem is in their supply chain and work towards solving it.

1.8 Anticipated challenges

Limited access to information; This was because some people would not be willing to give information concerning this as they feared that it might be confidential information and also that their jobs might be taken in the time to come because of linking information that could be examined during interviews.

Scarcity of finances to carry out the research; given that I was financed by parents and elder siblings and other responsibilities, the finances were limited for this research to be carried out effectively.

CHAPTER TWO

LITERATURE REVIEW

2.0 INTRODUCTION

In this chapter, the focus was on the exploration of different literature perspectives concerning the two variables; supply chain mapping and risk management which elaborated more on how supply chain mapping could have reduced risks in a supply chain, identified possible issues related to supply chain mapping and finally the key success factors for supply chain mapping implementation.

2.1. Definition of key variables; Supply chain mapping and risk management.

2.1.1. Supply chain mapping.

As companies were in the dilemma to achieve visualization, ease tracking and manage their supply chain, supply chain mapping was a strategy developed to achieve that. In view of this, the question was what is supply chain mapping? Supply chain mapping referred to the process of capturing information from all suppliers or individuals involved in a company's supply chain so that the origin and flow of goods and services can be visualized from beginning to end. (supplyshift, 2021)

Another defined it as the process of observing, tracking, and recording across every producer, supplier, manufacturer, distributor and seller of every shipment and every packaging that is involved in delivering the final product into the market for the consumer's purchase.

Additionally, it further simplified the definition into the process of documenting information across companies, suppliers and individuals who are involved in a company's supply chain to create a global map of the supply chain network (Zoe Talent Solutions, 2023). The other definition; defined supply chain mapping as gathering information about one's suppliers, their own suppliers and the people who work in one's supply chain to create a global map of one's supply network (Sedex). The general perspective of supply chain mapping was documenting the entire supply chain, in other words have record of all the activities involved in the supply chain. Supply chain mapping as an activity used to better understand the upstream and downstream components of a company's supply chain (Peel, 2020). Much as various authors had different

ways they defined supply chain mapping but the concept that cut across was documentation of the entire supply chain and each stage.

2.1.2 Risk Management.

Every supply chain was exposed to disturbances as different activities that enable its effectiveness or smooth running could be disrupted by certain uncertainties and therefore in order to protect the assets of any organization, risk management is very vital. To create an understanding of a risk, it can be an uncertain even or condition that, if occurs, it may have a positive or negative effect on a project's objectives or according to Rajarshi Shahu College Latur's article entitled risk can be defines as the chance of loss or unfavorable outcome associated with action. A risk has been defined as something bad happening (Cambridge Dictionary) and the Oxford Languages defined it as a situation involving exposure to danger. The exposure to a risk therefore needs management. The Oxford Languages dictionary defined management as the process of dealing with or controlling things or people. "Management is the coordination and administration of tasks to achieve a goal" (Herrity, 2023).

A combination of the two "risk management" has been defined by various scholars in different ways.

Risk management was defined as the continuing process to identify, analyze, evaluate and treat loss exposures and monitor risk control and financial resources to mitigate the adverse effect of loss (Marquette University, 2023). Risk management is the process of identifying, assessing and controlling threats to an organization's capital and earnings (Tucci, 2023). Risk management was defined as a planned and a structured process aimed at helping the project team make the right decision at the right time to identify, classify, quantify, the risk and then to manage and control them (K.Srinivas, 2018).

Risk management's general perspective or an overall view in order to gain an understanding of managing risk, there is need to identify the risk or where the risk is coming from then assess or classify which can aid in identifying or deciding on how to manage the risk, can one tolerate it, transfer it, terminate if severe, or treat it. Risk management helps the key project participants to meet their commitments and minimize the negative impact (K.Srinivas, 2018).

2.2. How supply chain mapping reduces risk in a supply chain.

Supply chain mapping being a crucial process that involves identifying and documenting various elements, stakeholders and activities within a supply chain provides organizations with a wide understanding of their supply chain networks, enabling them to assess risks and vulnerabilities effectively. Supply chain mapping aids in reducing risk in the following ways;

Enhanced visibility and transparency; supply chain mapping enhanced visibility throw out the entire supply chain network which enabled organizations to identify and understand the dependencies and interconnections between different entities or parties. The visibility aided in assessing potential risks and vulnerabilities within the supply chain network (Simchi-Levi.D., 2018).

Identification of single points of failure. Mapping the supply chain aids in the identification of crucial points and dependencies within the supply chain network. It enables the identification of areas where if a disruption occurs it can cause an effect on the entire supply chain (Chopra.S., 2021).

Supply chain mapping enables risk assessment and mitigation. Through supply chain mapping an evaluation of risks associated with each component and process within the supply chain is examined and this enables companies/organizations to priorities risks based on their potential impact and likelihood hence enabling development of effective risk mitigation strategies (Khan.O., 2019).

According to Christopher, mapping the supply chain aids in diversifying supplier networks and building redundancy. With supply chain mapping an organization is able to identify potential risks as a result of over reliance on suppliers, regions or transportation routes which enables them to develop strategies for diversification and redundancy planning hence reducing the impact of disruption (Christopher.M., 2016).

Supply chain mapping enhances or brings forth the value of collaboration and coordination within the stakeholders in the supply chain; the manufacturers, suppliers, distributors way down to the consumers through sharing insights gained from the mapping exercises hence giving a

chance to organizations to appropriately address potential risks in this aspect (Van Hoek.R., 2020).

Venturing into supply chain mapping by an organization or company can enable the company identify risks and find a way to mitigate them in order to hike the overall performance of the entire supply chain.

2.3. Possible issues related to supply chain mapping.

Offering various benefits like transparency, improved risk management and enhanced sustainability within the supply chain, there are issues associated with supply chain mapping and they could include the following;

Lack of data availability: acquiring accurate and precise data for mapping the entire supply chain can be challenging especially when dealing with complex global supply chains involving various suppliers, sub-contractors and intermediaries. This can limit the accuracy and completeness of the supply chain mapping process (Beske.P., 2014)

Supplier reluctances and confidentiality: some suppliers within the supply chain might be reluctant to share certain or detailed information about operations, processes and sources due to the fear that they might be over sharing hence reducing on their competitive edge or confidentiality issues hence reducing on the visibility of specific supply chain segments (Meehan.J., 2011).

Supply Chain Complexity and fragmentation: the modern era supply chains involve multiple players or breakdowns of suppliers throughout different geographical regions making it difficult to map the supply chain due to the involvement of various stakeholders, lack of standardization and the dynamic nature of relationships (Cousins.P.D., 2004).

The dynamic nature of supply chains: supply chains are dynamic systems in nature that undergo changes due to several factors for instance market conditions, regulatory requirements, technological advancements and supplier relationships and this makes mapping the supply chain miss some information due to failure to capture their evolving nature (Koh.S.C.L, 2010).

Incomplete or inaccurate information: in the presence of lack of data transparency and data sharing within the supply chain, there is likely to be a deficiency in the information collected during supply chain mapping in that it would not be accurate or complete hence initiating gaps in the understanding of the true extent and nature of the supply chain activities and dependencies (Erol.1., 2014).

However much these issues do exist, they can be mitigated through collaboration, effective communication and adapting to advanced technologies for example block chain and data analytics to improve the visibility and accuracy during supply chain mapping.

2.4. The key success factors for supply chain mapping.

Clear definition of the objectives and purpose of the supply chain mapping is a vital key success factor. In other words, creating an understanding of what to achieve from the mapping exercise and its importance. It involves determining the scope of the supply chain mapping exercise, the level of details required and specific goals to be achieved. Having a well-defined purpose aids in aligning efforts and gives a road map for implementation (Christopher.M. & T., 2002)

Stakeholder engagement is very key throughout the mapping process as this ensures that their knowledge and perspectives are incorporated hence more accurate and comprehensive mapping results. (Seuring.S, 2013). Additionally, developing cordial relationships and partnerships aids in building trust hence a success factor to the implementation of the mapping exercise (Manish Seth, 2015).

The availability of data and its quality also contribute to the success of the supply chain mapping. There is need to ensure that relevant data is provided by the participates in the supply chain both within their organization and outside as this seeks to make work easier (Lambert.D.M., 2000).

Use of appropriate technology and tools aid in supply chain mapping in that they provide visualization capabilities, data analysis functionalities and modeling capabilities. Implementation of computer software such as geographic information systems or network modeling tools can

improve the efficiency and effectiveness of the supply chain mapping exercise (Bodnar.C.A., 2011).

For a successful implementation of the supply chain mapping exercise, communication is very vital both internally and externally. Internally to minimize resistance to change and also to gain strong support and commitment and externally to promote cooperation from the outside parties like suppliers (Manish Seth, 2015).

To sum up, for the successful implementation of the supply chain mapping exercise, there is need for teamwork within the entire supply chain because failure to work as a team could slow down the entire mapping exercise and this could lead to various risks like confidentiality issues, disruptions due to delays and hence overall dissatisfaction.

CHAPTER THREE

RESEARCH METHODOLOGY

3:0 Introduction

This chapter put forth the methods used to acquire data during the study. It consisted of research design, study population, sampling techniques, data collection sources, methods of data collection, data collection procedure, data analysis and limitations.

3.1 Research Design

A research design is considered very vital when carrying out research as it seeks to put forth or exhibit the type of techniques a researcher would use to carry out their research in order to prove the validity and reliability of the research they conducted. “Research design was defined as the framework, of research methods and techniques chosen by a researcher to conduct a study” (Bhait) According to Trochim, Williams, Research design referred to the overall strategy and analytical approach that a researcher chooses in order to integrate, in a coherent and logical way the different components of the study, thus ensuring that the research problem is thoroughly investigated (Trochim).

Research designs used have a various types but for this particular research qualitative research was used which involved in-depth and further probing and questioning respondents based on their response. (Bhait) In other words, it involved interactions with respondents to acquire information.

3.2 Study population

A study population also known as a population of interest is the target population that is intended to be studied. (Majid, 2018). Any inference from a sample was referred only to the defined population from which the sample had been properly selected. (Chaudhury, 2010). For this particular study, the study population was the supply chain and logistics department of World Vision Uganda, Plot 15B-Nakasero road-Kampala.

3.3 Sample size

To come up with a representative sample, there was need to compute the sample size. Therefore,

since my population had been stated already, I used Taro Yamane's 1967's formula.

$$n = \frac{N}{1 + N(e)^2}$$

Whereby;

n was the sample size

N was the population

e was the error team which ranges between 0.01 and 0.10

$$n = \frac{25}{1 + 25(0.05)^2}$$

$$n = \frac{25}{1 + 0.25}$$

$$n = \frac{25}{1.25} = 20 \text{ respondents}$$

Therefore the size of my same was 20 respondents.

3.4 Sampling techniques

While sampling, a sample or representatives was picked to represent a whole population. A sample was referred to the group of individuals who participate in the research (McCombes, 2023)

There were two types of sampling techniques which included probability or random sampling techniques and non-probability or non-random sampling techniques. For this case I used non probability techniques whereby it was defined as the sampling technique in which the researcher selects samples based on the subjective judgment of the researcher rather than random selection. Some of the methods used under this technique included accidental or convenient, snow ball or network, judgmental or purpose and quota system sampling.

This technique enabled me (the researcher) to obtain data and information faster and more cost effectively because it's well-known and understood by the researcher.

3.5 Data collection sources

Primary and secondary data was gathered. Primary data was obtained by the aid of an unstructured questionnaire comprised of both closed and open-ended questions. Structured and unstructured questions were used because they saved time and they were easier to be analyzed. Questionnaires were easily administered, affordable and efficient. Secondary data was collected from annual reports, manuals and publications.

3.5.1 Primary sources

Primary sources were defined as anything that gives direct evidence about the people, events or Phenomena that one intended carry search on (Streefkerk, 2018). With this source data was directly collected from the source itself. This source provided firsthand information about the event.

3.5.2 Secondary sources

Secondary sources was defined as anything that describes, interprets, evaluates or analyzes information from primary sources such as journal articles, reviews, documentary and academic books (Streefkerk, 2018).

3.6 Methods of data collection

Data collection methods were defined as techniques and procedures used to obtain information for research purposes.

3.6.1 Interview and focus groups

Interviews and focused groups consisted of talking to respondents face-to-face about a specific topic or issue. Interviews were one-on-one whereas focus groups tended to be made up of several people in a group.

3.6.2 Questionnaire

With the questionnaire, a researcher comes up with a list of questions about the topic of study and presents it to the respondents and he/she fills it either online or physically and also oral. This method was convenient because it was affordable and easy to use.

3.7 Data collection procedure

A letter of introduction was obtained from Uganda Christian University School of Business for introduction to the field where the research was conducted from.

3.8 Data analysis interpretation and presentation

This was defined as the process of collecting, modeling and analyzing data using various statistical and logical methods and techniques (Calzon, Datapine, 2023). The main purpose of this activity was to create conclusions on specific data. The study put forth the level at which supply chain mapping was a risk management strategy for instance with the aid of pie charts, graphs, presentations and tables.

3.9 Limitations of the study

- Scarcity of finances to carry out the research; since am financed by my parents, there was an issues of not having transport hence limiting my study.
- Limited access to information; this was because some people were not willing to give information concerning the study as they feared that in time to come because of linking information that could be examined during interviews they would loss their jobs.
- Unfavorable weather. At times heavy it was either so sunny or rainy which tended to disorganize the movements to collect data and also disrupted the gathering of respondents hence limited sufficient information gathering from the field.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND INTERPRETATION OF FINDINGS

4.0 INTRODUCTION

This chapter puts forth the presentation, analysis and interpretations of the findings obtained from World Vision Uganda-Kampala. The main objective was to examine supply chain mapping as a risk management tool. Frequencies, tables, percentages have been used to describe and analyze the findings.

SECTION A

4.1 Findings on the gender of respondents.

Table 1: Gender of respondents.

| Response | Frequency | Valid response (%) |
|----------|-----------|--------------------|
| Male | 6 | 30 |
| Female | 14 | 70 |
| Total | 20 | 100 |

Source: Primary data

With basis on the information in table one above, 30% (6) of the respondents are male and 70% (14) of them are female. This implies that the organization employees more of the female gender than the male gender. This is probably due to the nature of job that consist of a high level of accountability and devotion or women easily respond to job adverts posted, tend to have a great level of resilience and also tend to seek opportunities to learn and improve throughout their career.

4.2 Findings on the level of education.

Table 2: Level of education.

| Level | Frequency | Valid Response (%) |
|--------------------------|------------------|---------------------------|
| Diploma | 1 | 5 |
| Bachelor's Degree | 18 | 90 |
| Masters | 1 | 5 |
| Total | 20 | 100 |

Source: Primary data

From the obtained results in table two, it is observed that 5% acquired a Diploma, 90% acquired a Bachelor's degree and 5% attained a Master's. This elaborates that this particular sector employees more people with a Bachelor's Degree.

4.3 Findings on the employees' work experience.

Table 3: Employees' work experience

| Work experience | Frequency | Valid Response (%) |
|--------------------------|------------------|---------------------------|
| Less than 1year | 10 | 52.6 |
| 1-5years | 8 | 36.8 |
| 5-10years | 2 | 10.6 |
| More than 10years | 0 | 0 |
| Total | 20 | 100 |

Source: Primary data

From the table above 52.6% have a working experience, 36.8% have 1-5years experience, 10.6 have 5-10years experience and 0% have more than 10years experience. this implies that either the organization has a high level of labor turnover in this sector of the organization, the organization prefers to engage the young people and equip them with knowledge, or it is just a new field that in trying to be adopted to hence having more numbers below the 10years experience mark.

SECTION B

4.4 Findings on how supply chain mapping reduces risk in a supply chain.

Table 4: Showing how supply chain mapping reduces risk in a supply chain.

| Serial number | Statement | Strongly Agree (F, P [%]) | Agree (F, P [%]) | Disagree (F, P [%]) | Strongly disagree (F, P [%]) | Not sure (F, P [%]) |
|----------------------|--|----------------------------------|-------------------------|----------------------------|-------------------------------------|----------------------------|
| A | Supply chain mapping enhances visibility within the supply chain and transparency. | 15(75) | 5(25) | | | |
| B | Supply chain mapping enables risk assessment and mitigation within the supply chain. | 12(60) | 8(40) | | | |
| C | Supply chain mapping aids in diversifying supplier networks and building reluctance within the supply chain. | 4(20) | 9(45) | 6(30) | 1(5) | |
| D | Supply chain mapping brings about value of collaboration and coordination within the stakeholders of the supply chain. | 10(50) | 10(50) | | | |

Source: Primary data

According to the table above,75% respondents strongly agree that supply chain mapping enhances visibility within the supply chain and transparency as well whereas 25% of them agree to the statement stated. 60% of the respondents went on to strongly agree that supply chain mapping enables risk assessment and mitigation within the supply chain while 40% just agree to the statement. 20% of the respondents strongly agree that supply chain mapping aids in diversifying supplier networks and building reluctance within the supply chain, 45% agree to the statement,30% disagree and 5% of the respondents strongly disagree that supply chain mapping aids in diversifying supplier networks and building reluctance within the supply chain. The statement of supply chain mapping brings about the value of collaboration within the stakeholders of supply chain was equally shared between strongly agree and agree meaning 50% strongly agreed to the statement and 50% agreed.

SECTION C

4.5 Findings on the possible issues related to supply chain mapping.

Table 5: Showing the possible issues related to supply chain mapping.

| Serial number | Statement | Strongly Agree | Agree | Disagree | Strongly disagree | Not sure |
|---------------|---|----------------|------------|------------|-------------------|------------|
| | | (F, P [%]) | (F, P [%]) | (F, P [%]) | (F, P [%]) | (F, P [%]) |
| A | Lack of data availability about supply chain. | 11(55) | 8(40) | 1(5) | | |
| B | Supplier reluctance and confidentiality hence miss out on relevant information. | 4(20) | 14(70) | 1(5) | 1(5) | |
| C | Supply chain complexity. | 8(40) | 12(60) | | | |
| D | The dynamic nature of supply chain. | 11(55) | 9(45) | | | |
| E | Incomplete or inaccurate information collected. | 10(50) | 10(50) | | | |

Source: Primary data

With reference to the table above, the findings on the possible issues related to supply chain mapping in accordance to the statements are as follows; the lack of data availability about supply chain is strongly agreed by 55%, agreed by 40% and 5% disagree to the statement, supplier reluctance and confidentiality hence miss out on relevant information was strongly agreed to by 20%, 70% agree and 5% disagree and strongly disagree. Supply chain complexity as an issue related to supply chain mapping was strongly agree upon by 40% and agree on by 60% of the respondents. The dynamic nature of supply chain was strongly agreed by 55% of the respondents and 45% just agreed to the statement. Lastly, incomplete and inaccurate information collected as an issue related to supply chain mapping was strongly agreed to by 50% and agreed by 50% of the respondents.

SECTION D

4.6 Findings on the key success factors for supply chain mapping.

Table 6: Showing the key success factors for supply chain mapping.

| Serial number | Statement | Strongly Agree (F, P [%]) | Agree (F, P [%]) | Disagree (F, P [%]) | Strongly disagree (F, P [%]) | Not sure (F, P [%]) |
|---------------|--|---------------------------|------------------|---------------------|------------------------------|---------------------|
| A | Stating clear definitions and objectives of supply chain mapping exercise. | 14(70) | 6(30) | | | |
| B | Stakeholder engagement. | 14(70) | 6(30) | | | |
| C | Availability of data and it's quality. | 12(60) | 8(40) | | | |
| D | Use of appropriate technology and tools. | 12(60) | 8(40) | | | |

Source: Primary data

In the relation to the findings on the key success factors for supply chain mapping, the following

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0 INTRODUCTION

This chapter exhibits a summary of the major findings of the study and draws an appropriate conclusion provides recommendations and the purpose of the study to evaluate the validity of supply chain mapping as a risk management tool.

5.1. Summary of major findings.

The summary of the major findings briefly highlights the outcomes of the research objectives and gives answers to the research questions.

5.1.1. How supply chain mapping reduces risk in a supply chain.

In regards to this objective, the data collected showed that supply chain mapping to a higher degree enables visibility and transparency as it enables assessing of potential risks and vulnerabilities within the supply chain network since supply chains involve inter dependencies between different entities like stated by Simchi,2018, enables assessment and mitigation of risks examining it's likelihood and potential impact, aids in diversifying supplier networks and reluctance and also brings forth the value of collaboration and coordination within the stakeholders in the supply chain. There this implied a strongly positive relationship between supply chain mapping and how it reduces risk within the supply chain.

5.1.2 Possible issues related to supply chain mapping.

Every activity has a set of issues that can arise while carrying it out, in relation to the data collected and analyzed in chapter four, the lack of data available contributes to the chases of failure of supply chain mapping so does supplier reluctance and confidentiality in that proper information may not be

were contributed by respondents; 70% of the respondents strongly agree that stating clear definitions and objectives of supply chain mapping exercise is one of the key success factors for supply chain mapping and 30% agree to the same statement. Also, in regard to stakeholder engagement,70% strongly agree to this cause and 30% agree to it. Additionally, in regards to availability of data and its quality.60% of the respondents strongly agree to this cause and 40% plainly agree to the given statement. Finally, the use of appropriate technology and tools as a key success factor for supply chain mapping was strongly agreed on by 60% of the respondents and 40% plainly agree to the statement.

shared due to lack of trust, supply chain complexity(how complex or complicated the supply chain is), the dynamic nature of supply chains and the incomplete or inaccurate data or information gathered. This implied that there was a strongly positive relationship between the possible issues likely to affect the mapping exercise and risk management. In other words, the possible issues stated under the literature reviewed are have a high chance of disrupting or reducing the effectiveness of the supply chain mapping exercise.

5.1.3. Key success factors for supply chain mapping.

When carrying out supply chain mapping, for its success there are some things that need to be put into consideration and in regards to the information provided for World Vision Uganda respondents, clearly defining the objective and purpose of supply chain mapping contributes to is success so does the stakeholder engagement, availability of data and its quality, and ensuring the use of appropriate technology and tools. With the findings on this particular objective, the relationship between the key success factors for successful supply chain mapping exercise implementation and risk management are strongly positive in that the key success factors stated in the literature reviewed have high chances of positively influencing the outcome or the success of the supply chain mapping exercise.

5.2. Conclusion

Basing on the findings, it is evident that supply chain mapping as a risk management tool is very important as this research airs how it reduces risk, the possible issues or what would make it difficulty and how to management them by considering the key success factors for a successful exercise especially in this era if supply chains are to ensure efficiency, risk management (identification and mitigation), productivity and effectiveness.

5.3. Recommendations

My recommendations to any organization especially one like World Vision Uganda would be to invest more into training and creating awareness of supply chain mapping within their stakeholders so that risks could be reduced.

In the same regard, I would encourage them to update their system of supply chain mapping tools and technologies that could make their work less hectic but also to promote accuracy.

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APPENDICES

QUESTIONNAIRE

Dear Respondent,

RE: **Request to fill the questionnaire**

My name is ASUBU RUTH GIFT and I am conducting research about SUPPLY CHAIN MAPPING AS A RISK MANAGEMENT TOOL. This research is for academic purposes which is one of the essentials required to be awarded with a BACHELOR'S DEGREE IN PROCUREMENT AND LOGISTICS MANAGEMENT at Uganda Christian University-Mukono. The information you provide shall be treated with confidentiality and will only be used for statistical and analytical purposes. Thank you so much for accepting to participate in this study.

Please tick where appropriate.

Section A: Respondent’s Background Characteristics

Gender

Male Female

Respondents’ Level of Education

| Level of Education | Please tick |
|--------------------|-------------|
| Diploma | |
| Bachelor’s degree | |
| Masters | |

Employees Work Experience

| Period(years) | Please tick |
|--------------------|-------------|
| Less than 1 year | |
| 1-5 years | |
| 5-10 years | |
| More than 10 years | |

Section B: How supply chain mapping reduces risk in a supply chain.

Which of the following best elaborates how supply chain mapping reduces risk in a supply chain. Please tick where appropriate. (Where 1 is strongly agree, 2 is agree, 3 is not sure, 4 is disagree and 5 strongly disagree.)

| STATEMENT | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Supply chain mapping enhances visibility within the supply chain and transparency. | | | | | |
| Supply chain mapping enables risk assessment and mitigation within the supply chain. | | | | | |
| Supply chain mapping aids in diversifying supplier network and building redundancy within the supply chain. | | | | | |
| Supply chain mapping brings about the value | | | | | |

| | | | | | |
|--|--|--|--|--|--|
| of collaboration and coordination within the stakeholders of a supply chain. | | | | | |
|--|--|--|--|--|--|

SECTION C; POSSIBLE ISSUES RELATED TO SUPPLY CHAIN MAPPING.

Of the following statements, which one puts forth the possible issue related to supply chain mapping. Please tick where appropriate. (Where 1 is strongly agree, 2 is agree, 3 is not sure, 4 is disagree and 5 strongly disagree.)

| STATEMENT | 1 | 2 | 3 | 4 | 5 |
|--|---|---|---|---|---|
| Lack of data availability about the supply chain. | | | | | |
| Supplier reluctance and confidentiality hence miss out on relevant information | | | | | |
| Supply chain complexity | | | | | |
| The Dynamic nature of the supply chain | | | | | |

| | | | | | |
|--|--|--|--|--|--|
| Incomplete or inaccurate information collected | | | | | |
|--|--|--|--|--|--|

SECTION D; KEY SUCCESS FACTORS FOR SUPPLY CHAIN MAPPING.

Below are the key success factors for Supply Chain Mapping. These are the activities done that can ensure supply chain mapping is a success. Please tick where appropriate. (Where 1 is strongly agree, 2 is agree, 3 is not sure, 4 is disagree and 5 strongly disagree.)

| STATEMENT | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Stating the clear definition and objectives of the supply chain mapping exercise. | | | | | |
| Stakeholder engagement. | | | | | |
| Availability of data and its quality. | | | | | |
| Use of appropriate technology and tools. | | | | | |

Thank you for your contribution.



UGANDA CHRISTIAN UNIVERSITY

A Centre of Excellence in the Heart of Africa

SCHOOL OF BUSINESS

1st Aug 2023

TO WHOM IT MAY CONCERN

Name: *ASUBU RUTH GIFT*

Reg. No. *520812/269*

A bachelor's student who is seeking permission from your office to collect data for his/her dissertation titled

"..... SUPPLY CHAIN MAPPING AS A RISK MANAGEMENT STRATEGY"

We shall be grateful if you could render assistance to him/her in collecting the necessary data for his/her dissertation

The Uganda Christian University School of Business thanks you in advance

A handwritten signature in blue ink, appearing to read 'Mukisa Simon Peter', written over a dotted line.

Mukisa Simon Peter
Research coordinator