



اهداء الى الإتحاد الأردني لشركات التأمين

## رسالة شكر

يسرني أن اتقدم بجزيل الشكر والعرفان الى الاتحاد الاردني لشركات التأمين على نشر هذه الرسالة و دعمهم المستمر لمثل هذه الابحاث ، واتوجه بالشكر الخاص الى السيد ماهر عواد مساعد مدير الاتحاد لشؤون الدراسات والتدريب على ما يقدمه من برامج ونشاطات ودورات في خدمة قطاع التأمين .

## ملخص

تتناول هذه الرسالة موضوع ادارة المخاطر و اثرها على شركات التأمين, و قد تناولت عدة محاور اهمها:

1. تعريف الخطر و ادارة المخاطر.
2. فائدة ادارة المخاطر.
3. ابرز المخاطر المتعلقة في قطاع التأمين.
4. كيفية و مراحل التعامل مع الخطر.
5. متطلبات تأمين الخطر.

و قد كانت هذه الرسالة جزء هام في استكمال متطلبات الحصول على درجة الماجستير في ادارة الاعمال الدولية, Global MBA المقدم من جامعة Bedfordshire البريطانية في الاردن لعام 2020 بعنوان اثر ادارة المخاطر على قطاع التأمين الاردني.

أظهر البحث العلاقة القوية بين إدارة المخاطر و التأمين, و بين اهمية قسم ادارة المخاطر و فنيات التعامل مع الخطر و فوائده للشركات. كما هدفت الرسالة الى نشر الفهم الكامل لبرامج ادارة المخاطر و نشر الوعي لدى العاملين بالقطاع و اهمية المشاركة بإدارة الخطر.



**Dissertation**

**Assignment 2: Individual Written Report**

**Unit Code: APO003-6**

**Topic: The Impact of Risk Management on Jordanian Insurance Sector**

**Unit Coordinator: Dr. Rodolphe Ocler**

**Unit Supervisor: Dr. Mohammad Ali Rasel**

**Student Name: Hatem Abu Alfelat**

**Student ID: 1824003**

**Email: [hatem\\_96@icloud.com](mailto:hatem_96@icloud.com)**

**Contact Number: 0795559530**

An assignment submitted in partial fulfillment of the assessment for the **MBA**

**Jordan**

Submission Date: September 25, 2020

## Executive Summary

Risk management has occupied an important place on the agenda of practitioners, academics, and the business community and has been on the top of every corporate strategy because it enhances organizational performance and creates value for shareholders. Life could not be without risk. Understanding risk and how it is perceived is a crucial step toward developing companies and to raise awareness and make communities and workplaces safer.

Risk management is one of the main factors that affect insurance institutions. The primary objective of insurance is to take and share risks with people, companies, organizations and etc. who face risks. This paper aims to study risk management and how does it impact Jordanian insurance companies using articles, books, journals from the past ten years, and using a systematic review as an analysis method.

The paper is divided into five chapters. The first chapter gives an introduction to the whole report, background, aim, and objectives with the research question then the research rationale, and brief about the method of analysis. The second chapter presents the literature review with conceptual and theoretical frameworks of the study and the main risks faced an insurer. The third chapter about the method of analysis and findings focuses on the research and the literature review methodology, which are grouped around the risk management concept. The fourth chapter reflects the discussions and gives a detailed explanation of the results, while the final chapter highlights the overall conclusion and summary of the study and suggests directions for future research and researchers.

## Contents

رسالة شكر .....	2
ملخص .....	3
Executive Summary .....	5
Chapter 1 .....	8
<b>Introduction</b> .....	8
This section introduces sets the background to this research and its scope along with its research aim, objectives, and questions, followed by the research rationale and method of analysis .....	8
Background of the Study .....	8
Aim and Objectives.....	10
Research Questions .....	10
Research Rational .....	11
Furthermore. This study is a useful guide for carrying out further studies, it will be added academic value to researchers and academicians in the field according to the lack of academic resources related to the same topic, and the poorness of information related to the Jordanian insurance sector, hopefully, this research become as a reference for scholar and researcher. This research will contribute to the existing knowledge of the relationship between risk management and insurance. ....	11
Method of Analysis.....	11
Chapter two .....	12
<b>Literature Review</b> .....	12
Introduction.....	12
Theoretical Frameworks .....	12
Conceptual Framework .....	14
Literature Review.....	18
Requirements of an Insurable Risk.....	18
Benefits of Risk Management .....	19
Risk Management Function.....	20
Characteristics of Insurance .....	22
Risk Management Process.....	23
Chapter Three.....	25
<b>Method of Analysis</b> .....	25
Introduction.....	25
Justification of the Methodology .....	25
Research strategy .....	26
Inclusion and exclusion.....	26

Study selection .....	27
Data extraction .....	28
Chapter Four .....	28
<b>Findings and Discussion</b> .....	28
Introduction .....	28
Background investigation .....	29
Risk Management Techniques .....	29
Type of risks in insurance sector .....	30
Chapter Five .....	32
<b>Conclusion, Limitations and Recommendations</b> .....	32
Introduction .....	33
Conclusion .....	33
Limitation .....	34
Recommendations .....	34
References .....	35
Appendix .....	41

## Chapter 1

### Introduction

This section introduces sets the background to this research and its scope along with its research aim, objectives, and questions, followed by the research rationale and method of analysis.

#### Background of the Study

Insurance companies are financial institutions with financial objectives and like any other company, they aim to maximize profits and minimize costs. In order to do this, insurance companies need to build customer loyalty to achieve the highest market share and maximize the insurance pool. Insurance companies need to consider good strategies to maintain their market share and to be ready for facing risks. Therefore, there is a strong need for assessing and controlling risk. Effective risk management is essential for all companies in order to eliminate the negative outcomes of exposures. Risk management has become a priority for all sectors, so organizations can protect their interests while achieving their goals. Risk management is a technique that is used in many other industries from, IT-related to business, automobile, pharmaceutical industry, to the construction and insurance sectors.

Risks and uncertainties inherent in the insurance industry are more than any other industry. With the continued liberalization of international financial markets and the proliferation of trade in financial services, the role of international insurance services is becoming increasingly important. The political issues in recent years in the middle east and the Arab spring affected significantly the economy and the population of Jordan. Jordan Population growth rate for the past 10 years was 63%, the population reached about 10,554,000 people at the end of 2019 (department of statistics, 2020), which explains the increase of the underwriting premium in addition to increasing awareness about insurance. The total underwritten premiums in 2018 reached 606 million JD (Jordan Insurance Federation, 2019), which brought additional challenges as the industry became more complex and competitive and the probability of exposure to risk also increased.

Risk is a natural element of any business. Risk management is not an option for an enterprise. Every business is associated with risk and encounters many risks that can affect their survival and growth (Rahman and Adnan, 2020). Risk management must be part of the organization's strategy and have a significant impact on risk management within the organization (Shad and Lai, 2015). This approach helps to provide reasonable assurance as to the achievement of the company's objectives and

helps the company in achieving its financial targets. Through risk management, organizations can ensure that it will achieve the desired results. Risk management is critical to determining business success or failure, there is a significant relationship between the risk managing approach of a business' management and the organization's success (Rejda and McNamara, 2014), it allows companies to identify the critical problem and improve them accordingly and assist companies evaluates other departments performance, performance management, and employees' performance (Ling & Hung, 2010).

The risk management strategy can improve the probability of the company's success, but it is equally important to maintain a good risk management technique on a regular basis. Usually, companies take many different steps in order to identify the risk and different corrective actions to solve them, but they fail. That is why the company should monitor the risk management strategy's effectiveness during the progress (Basova and Mitselsky, 2011). Without good risk management evaluation, an organization is unable to track the progress of the risk mitigation, which in turn can contribute to a project unsuccessfulness.

Decision making and knowledge creation are not easy tasks, especially when dealing with uncertainty. Uncertainty defined as the absence of knowledge, inability to know the future, and the lack of information and knowledge (Allport et al., 2014). We are part of an evolving situation where we don't know what will happen next. In insurance, the uncertainty referred to an event that we cannot predict; the consequences of these events are uncertainly for this reason the risks management in the industries has to consider as an important topic to investigate in. Indeed, the risk is absolutely linked with uncertainty; increased uncertainty increases risk. Risk management is a process of identifying measure, prioritize, and mitigate the adverse effect of uncertainties (Mohammed and Knapkova, 2016). Risk in insurance could be associated with sales, underwriting, medical network, claims, operations, and finance (Chudgar and Asthana, 2013). Risk management tries to identify these uncertainties, assign probabilities, and possible harm to each, and acts to minimize those risks.

Insurance is the most important tool that has been prepare for dealing with threats. The importance of insurance is obvious through its operation; the insurance sector provides security and protection to society, and support the local economy by collecting huge premiums that can be invested. "Insurance sector development is an important determinant of economic growth", insurance offering protection to projects and companies. Despite the differences in insurance research, the results have shown a positive impact on economic growth as it provides long-term investments (Peleckienė, Peleckis,

Dudzevičiūtė, and Peleckis, 2019). The investment of the insurance sector in Jordan reached 563 million JD (Jordan Insurance Federation, 2018). These results show a clear positive and significant impact between insurance and economic development. The insurance industry encourages investment to reduce losses and increase profit. Risk management has a strong impact on the major shareholders to invest more through studying the opportunities and clarifying risks and provide better business opportunities.

### Aim and Objectives

Risk management is an effective tool for businesses to achieve their objectives; It helps improve the performance of companies by effectively managing their risks. The recent crises and political issues made the implementation of risk management a top priority for most companies. Many companies attempted to develop their risk management system, hoping it would serve as a business-standard that would ensure their survival in an increasingly competitive business world.

The study aim is to investigate the relationship between risk management and the insurance sector and focuses on the role of the risk management program and to propose the main duty of the risk manager and to display the role of the risk management function.

The objectives of this study were to establish the effect of risk management on the insurance companies in Jordan. The objectives can be divided into five points:

1. To identify the risks faced by the insurance industry.
2. To examine risk management approaches for Jordanian insurance companies.
3. To propose risk management practice based on the literature review for Jordanian insurance companies.

### Research Questions

The overall objective of the research described in this paper was to conduct an analysis of risk management and insurance within the insurance industry in Jordan. To achieve the stated objectives, the following research questions were designed.

1. What are risks faced by the insurance industry?
2. What are risk management approaches?

3. What risk management practice can be proposed for Jordanian insurance companies based on the literature review?

### Research Rational

The insurance sector has been chosen due to the nature of this sector. Insurance companies have to deal with uncertain risks and uncertain expected performance in every aspect of both their internal and external environments, that is may expose companies to serious losses. The effects of such losses can threaten not only operational goals such as profitability and growth but also the company's very survival. In addition, risk management implementation in the Jordanian insurance sector is very poor and not utilized as it should be due to a lack of knowledge and awareness about it. Additionally, Jordanian insurance companies operate in a difficult political and economic area, such environments make risk management really important for companies.

Additionally, since this study is a systematic review based on secondary data and published literature, the main limitation faced was the lack of available resources related to risk management and insurance especially in Jordan, and the shortage of available data that talks about insurance in Jordan.

Furthermore. This study is a useful guide for carrying out further studies, it will be added academic value to researchers and academicians in the field according to the lack of academic resources related to the same topic, and the poorness of information related to the Jordanian insurance sector, hopefully, this research become as a reference for scholar and researcher. This research will contribute to the existing knowledge of the relationship between risk management and insurance.

### Method of Analysis

This study is a systematic review based on secondary data due to the University of Bedfordshire requirements. The systematic review is an evidence-based approach to identify, select, and analyze the most relevant secondary data to provide a deep understanding of what is already known. The data was collected from previous literature and through scientific papers, journals, books, previous studies, and online resources covered the same or similar topic and used a systematic approach to analyze data. To answer the research question, the systematic approach to reviewing the body of literature in order to give a reasonably clear conclusion. A systematic literature review has become an established methodology in reviewing the accumulated knowledge to generate new ideas from empirical evidence, and identifying knowledge and set directions for future research (Al-Tabbaa, Ankrah and Zahoor, 2019).

## Chapter two

### Literature Review

#### Introduction

The lives of human beings and organizations set up or managed by them are characterized by exposure to a variety of risks and much effort is employed in an attempt to mitigate those risks. Every day we exposure risk in life; in both personal life and business we are faced by various risks. When we walk on the streets we are faced with many risks such as being run over by a vehicle. Many people have experienced financial losses and companies have collapsed because of their inability to manage risks or their poor technique of handling the risks to which they are exposed. The main areas covered by this chapter; theoretical and conceptual frameworks, and the literature review.

#### Theoretical Frameworks

The following section establishes a theoretical foundation for studying risk management.

To advance the understanding of the theoretical application, the researcher looks after several theories. Gupta says that: “an increase in risk should increase demand for insurance” (Gupta, 2011) and Harrison and Ng explain why an insurer should be interested in knowing the risk attitudes of an agent (Harrison and Ng, 2019). That indicates a direct relationship between risk management and insurance, but insurers have to be willing to insure that risk. If the insurer worried about their capital, they might be unwilling to take the risk and if though, the insurer should keep that risk small.

**Risk Homeostasis Theory (RHT):** refer to that people tend to take more risks when they feel secure. This means that people adjust their life’s risk and accept a certain level of risk depending on how much they are secured (Kearney and Kruger, 2016). This theory suggests that people typically adjust their behavior in response to an acceptable level of risk and become more careful when they exposed to greater risk, and less careful if they feel more protected. That shows when people insure their things,

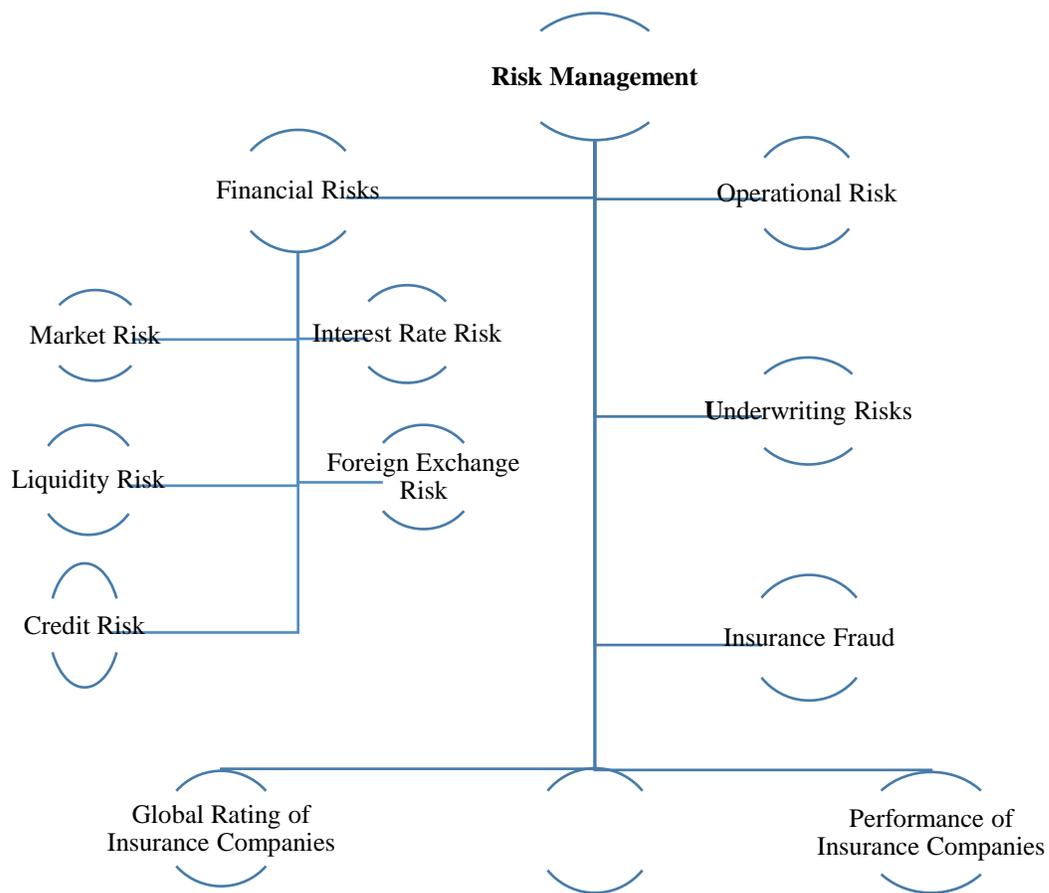
regardless if these things are expensive or not, they usually tend to expose higher risk as the insurer will compensate them; that's will affect badly on insurance companies and expose them to liquidity risk.

**Protection Motivation Theory (PMT):** said that people tend to protect themselves when they anticipate negative consequences and they have the desire to avoid them (Clubb and Hinkle, 2015), the applications of this theory in insurance shows that people tend to insure their valued property to avoid exposure to loss. For instance, if an individual had bought a new car and he afraid of anticipating negative consequences, he definitely will insure it or if someone wants to avoid expensive medical bills, he will get medical insurance.

**Extreme value theory (EVT):** This theory was pioneered by Leonard Tippet in the 1950s. Michael L. Bukwimba explains that this theory is a tool used to determine different risks among the financial institutions and insurance companies (Bukwimba, 2015). Risk manager uses this theory to make strong assumptions about the process of gathering information which assists in forecast risk. It measures the maximum loss of the portfolio value that will occur over some period at some specific confidence level. EVT allows us to estimate the probabilities of the extreme movements that can be expected in financial markets. (Uppal and Mudakkar, 2014)

**Value at Risk (VaR):** Risk managers use VaR to measure and control the level of risk exposure. It is a very simple and popular way of measuring market risk. VaR is not only applicable in exploring the market risk but also to manage all other types of risk. It is very easy for people to understand and bring into the financial market to measure the risk of a company. Also, it makes the risk much easier to clarify (Christoffersen, 2012).

## Conceptual Framework



**Risk** is the uncertainty of outcome that could have an impact on the achievement of the objectives or cause a hindrance in the way of achievement of certain objectives (Hopkin, 2010), risk refers to a situation where there is a possibility of loss. The insurance business is based on the probability of loss (Gupta, 2016).

Risk in the insurance sector could be associated with sales, underwriting, medical network, claims, operations, and finance. **Following are the different types of risks faced by Insurance Industry:**

Profitability is the most important and reliable indicator for companies, as it provides an indicator of the ability of insurance companies to raise their income level (Daare, 2016). As insurance is a financial arrangement, the most important risk facing the insurance industry is a financial risk, which can be divided into five categories.

#### 1. Market Risk

Insurance companies take on a lot of market risk in order to maximize expected profit (Christoffersen, 2012). The market risk is associated with a financial portfolio. It is the exposure to a potential loss due to changing or adverse movements in market prices or rates (Dvorský, Petráková and Polách, 2019). Market risk aims to protect insurance companies against unexpected losses that associated with market factors such as competitors, demographics (Milanova, 2010). It is obvious that this risk affects the actual value of the company's assets and the market price of assets will also affect the liabilities.

2. Interest Rate Risk: the interest rate associated with market value; this happens because of market fluctuations. The market value will be adversely affected by increasing interest rates (Dorfman, 2010). The investment losses that result from a change in the interest rates; interest rate changes can affect many investments, when the interest rate rises the opportunity cost will increase as well as the value of fixed-income investment will decline (Chen, 2020). Studies

found that risk management led to reducing exposure to increasing interest rates (Christoffersen, 2012). Changes in interest rates also affect businesses indirectly, through their effect on the overall business environment.

When it comes to interest rates and insurance, it is an important factor in determining companies' profitability, if interest rates increase, the value of a bond and fixed income investment will decrease and an insurer may have to raise premiums. The changes in interest rates will affect the value of assets for an insurance company (Maverick, 2020). It will become harder for insurers to keep promises on guaranteed returns when rates are high.

3. **Liquidity Risk:** Insurer's ability to meet the cash demands of his policies and contract holders without suffering any loss, this caused by a lack of cash flow due to a decline in new premium income or outflow of funds caused by a big disaster. Liquidity is very important for financial companies, "it is one of the most important risks to affect the solvency of insurance companies" (Gaspar and Sousa, 2010); it refers to how able a firm is to pay its short term debts and current liabilities. Liquidity risk is the risk that a company may be unable to meet short term financial demands or not having enough cash or liquid assets to meet its debt obligations (Arif and NaumanAnees, 2012) and in insurance, it refers to the inability of the insurance company to compensate the insures so they start selling assets at markedly lower prices than normal which will incur more losses. Liquidity risk management is an essential component of the overall risk management framework of the insurance industry, it allows risk managers to do an inspection of the market liquidity. Typically, insurers companies hold cash in the form of bank deposits, treasury bills, commercial paper, and other money market instruments to meet outflows.
  
4. **Foreign Exchange Risk:** associated with international inflation, it refers to the loss of potential occur due to fluctuation in the purchasing power of the domestic currency relative to foreign currency (Dorfman, 2010). With the increased internationalization of insurance operations, insurers start taking great investments in a foreign country. The inflation exposes the companies to foreign exchange risk, this risk threatens the profitability of the company involving exposure to solvency (Lam, 2014). It impacts negatively on firms when it leads to losses. In such a risk, the investment is playing an important role in monitoring solvency. The foreign currency was an important consideration since it implies that the insurance companies

enjoy diversification of both risk and revenue while expanding their customer base. Foreign exchange risk management practices aimed at minimizing potential currency losses.

5. **Credit Risk:** when companies are unable or unwilling to pay their debts (Coogan and Bouteille, 2013). Is one of the important risk in the financial institutions, if it does not manage properly then it can result in decreased profit margins, affect capital badly, and may lead to the failure of the organization (Singh, 2019). Insurance companies operate under high leverage as a result of their large insurance liabilities. The debt is used as an indicator to assess the financial health of an insurance company so the credit risk threatens the increasing the possibility of default and bankruptcy (Gonzalez and Naranjo, 2014).

Insurance companies should maintain their adjusted capital above the minimum required that depends on the risk of their assets and liabilities and that depends on future premium and claims' liabilities (Gonzalez and Naranjo, 2014).

**Operational Risk:** risk arising from business activity. It is the risk that exposure a company to fail or lose money due to accidental human error or failure of the internal process. It is the uncertainties that a company will face due to its daily business operation due to a lack of procedures, people, standards, and systems (Segal, 2019). Examples of operational risk: late filing of documents, employee embezzles, internal and external fraud, inexperienced employees. These are the day-to-day hazards of running a business from its money-making activities.

**Underwriting Insurance Risks:** underwriting is the process that the insurer determines the risks that are covered and deciding how much of a premium to take by providing coverage. (Dorfman, 2010). "There are many risks in the proceeding of underwriting which affect the development of insurance" (Chehui, Zhangjiwu and Zhangxingyang, 2011). Therefore, Underwritings risk management plays an important role, resulting from these processes of selection and approval of which risks need to be insured. Insurance risks may also be caused by the use of an inflexible underwriting of risks process. The failure of the process of underwriting forms may result a great loses in the future.

**Insurance Fraud:** based on the definition of the insurance that it is a contract between an insurer and an insured where the insurer compensates the insured against losses and damages. Insurance fraud occurs when the insured try to make a profit by failing to comply with the terms of the insurance

agreement or by creating losses, damage or an incident intentionally rather than others who have no losses but try to keep themselves safe in case of the uncertain events may occur (Whitaker, 2020) or add some more damage to the claim that has nothing to do with the accident, in order to gain more. Insurance fraud is one of the most serious problems threatening insurance companies which causes substantial losses (Kirlidog and Asuk, 2012). Fraudsters exploit such claims as a way of recovering the overall costs of insured and their premiums and they consider it as a revenue generator. In this context, the insurance industry is actively seeking solutions, that might solve the increasing problem of fraud (Morley, Ball and Ormerod, 2016). Risk management is the process of measuring and assessing risks and then developing strategies to avoid them or to come at least with minimum losses. Risk management is needed because of the increasing occurrence of fraud, to have a framework in place to handle risks and fraud issues, enhances company reputation, and to deterrent frauds (Chudgar and Asthana, 2013).

### **Moral and Moral Hazard**

Insurance policies often cover fully or partially the expenses consumers may have to insure to recover some of the losses. Moral hazard refers to increasing in people who exploit insurance compensations and services when it is covered by insurance policy by assume additional losses, such an act is immoral because people are using something that does not consider worth its cost trying to maximize profits. The moral hazard problem becomes more extensive to all types of insurance (Van Wolferen, Zeelenberg and Inbar, 2020).

### **Literature Review**

**Risk management** is a well-known concept in all over the world. It is a systematic method of handling risks used to identify, analyze, prioritize then respond to specific risks. it refers to an organized set of methods that are used to direct an organization and to control many risks that may affect its ability to achieve objectives (Singh, 2019).

#### **Requirements of an Insurable Risk**

There are many risks that no insurance company is willing to accept, from a risk management perspective the insurable risk must be pure, static and particular (Ross, 2020). As society has changed,

and the nature and number of potential losses have increased, the evaluation of the insurable risks has become more complex, here are some characteristics of insurable risk:

1. Large numbers of exposure units: a large group of similar items exposed to the same risk. When the insurance company insured more same risk, that helps the company to predict losses and set appropriate premiums which mean collecting more premium.
2. Define and measurable loss: any risk to be insured must be able to demonstrate an obvious as to cause, place, time, and the amount so the company can indemnify the insured. Without this information, the insurance company cannot insure the risk as it is cannot be calculated or identified (Ross, 2019).
3. Calculable chance of loss: refers to the probability and frequency that an event (risk) will occur. Loss control plays an important role in controlling insurance premiums and maximize profit through improve saving and cutting cost (Wilson and Bassett, 2018).
4. Fortuitous loss: loss occurring by accident or chance, not by anyone's intention. The occurrence of loss must be accidental and unintentional and out of control. Otherwise it becomes Insurance Fraud. Insurance policies provide coverage against losses that occur only by a chance.
5. Non-catastrophic loss: the risk exposure should not be catastrophic otherwise, the insurance company will suffer a high amount of compensation so, the premium going to increase to an unacceptable level.

### Benefits of Risk Management

Risk management is an overall concept of identifying and measuring the risks within a company. The Purpose of the risk management program is to manage and protect the company's assets and its exposure to loss. Proper risk management program explains the consequences of potential risk and identifying new risks in advance and fewer unwelcome surprises that affect the organization and assist in understanding the chance of occurrence.

Also, it provides useful information to lead to better decision making to keep the company in a progress (Allport et al., 2014). Risk management helps managers become aware of any problem it may

occur and gives a possible solution and reduce anxiety about future risks and reduce the damage caused by these risks. Additionally, it assists companies to be prepared for any potential losses in the cheapest way (Rejda and McNamara, 2014), that gives a superior financial performance.

Good risk management program aimed to achieve the company's objectives and helps the company in achieving its financial targets and minimizes the probability of bankruptcy. Furthermore, risk management activity includes providing executives and widely relevant and reliable information and data at different levels and more efficient use of resources (Mohammed and Knapkova, 2016). By taking a proactive approach to risk and risk management, organizations will be able to improve its operation and process to become more efficient and effective and, improve service delivery.

Moreover, the corporate strategy will be fully analyzed and better strategic decisions will be reached with a greater competitive advantage (Hopkin, 2010). Active risk management Knowing the risks associated with the insurance business, and give an appropriate measurement of these risks and set a comparative advantage in managing risks and reduced waste and fraud. Also, determining which risks should be hedging and which risks will be more efficiently managed within the company.

#### Risk Management Function

Recognition of risk management as a separate managerial function involves many advantages. Applying risk management as a strategy in the general administrative function helps to enhance the value of the overall corporate strategy (Gupta, 2016). Risk Management Department; established and implemented a comprehensive risk management framework that provides the necessary foundations for managing the company's overall risks. This framework includes the process of identifying, measuring, controlling, and monitoring risks, with the best practices and standards, aiming to enhance the company's risk management culture, while also monitoring the compliance with relevant laws and regulations, to ensure sustainable achievement of strategic goals and objective (Al Fayoumi, 2020).

Insurance companies face a wide variety of potential risks that cause expensive losses so they must employ a staff of people to conduct their risk management programs. Risk management department headed by a director with overall responsibility(Dorfman, 2010). The risk management department plays an important role in a company successful through handling the process of risk management and establishing the level of risk that a company is willing to take The risk manager role is to clarify, communicate risk policies and processes for an organization and prevent something that shouldn't happen from happening.

Risk is a bad or negative event that has the potential to badly affect the organization. Risk management is the application of proactive strategy used to set plans in order to lead, organize, and control different types of risks that are faced by an organization, through specific processes which are identifying, analyzing, controlling and then respond to that risk (Narayana, 2016).

Risks are two types:

1. Pure risk: are risks in which all possible outcomes are harmful in some way. The results are never being good (Dorfman, 2010).
2. Speculative risks: are risks in which some possible outcomes are beneficial and might end in a gain (Dorfman, 2010).

An insurance company usually insure pure risk that creates great financial anxiety. Pure risk divided into three types: 1. A personal risk that affects individuals such as, death and poor health. 2. Property risk which affects properties itself like fire, tornadoes, or even theft. 3 Liability risk is when someone causes a bodily injury or property damage so he becomes legally liable (Rejda and McNamara, 2014). Form one hand, all types of insurance, the actual policy limit paid by the company for a covered loss is an essential element of the insurance contract. On the other hand, insurance companies do not insure all pure risk, there are some criteria that must be taken into consideration before insure it (Hristo and Georgi, 2018).

**Insurance** is the transfer of the risk of a loss, from one entity to another in exchange for payment. It is a form of risk management primarily used to hedge against the risk of a contingent, uncertain loss. The business of insurance is based on risk and dealing with uncertainty. Therefore, insurance companies need to consider a wide range of possible risks and the outcome that may affect the current and future financial position. Possible losses can take many forms, including loss of life, health, property, or finances.

As mentioned, the insurance is about dealing with uncertainty so it is very important to adopt a proactive approach to the management of uncertainty. Gaining more information is the important thing to respond to uncertain events which in its turn will assist exploring the impact of different risks (Allport et al., 2014).

### Characteristics of Insurance

Since the insurance is the contract, so, it is required to be written and also contains some features. The followings are some important characteristics of an insurance:

1. Pooling of losses: basically is about sharing of losses, spreading of losses by over the entire group which mean as insurance pool is involving a large number of insured, as to minimize losses and expenses (Rejda and McNamara, 2014). The fundamental requirement for the existence of insurance contracts is the existence of a large number of similar loss exposures.
2. Payment of unexpected losses: is the unforeseen risk that occurs by chance. Insurance policies provide coverage against fortuitous losses only, which means that the loss must be accidental to be under insurance cover (Rejda and McNamara, 2014). Insurance policies do not cover intentional losses.
3. Risk transfer: insurance always involves risk transfer. Risk transfer enables companies to transfer risks to another party who is willing to accept responsibility, mainly to insurance companies which is in a strong financial position (Njegomir and Maksimovic, 2010). Transferring the risk to another party a way of reinsurance. Reinsurance means the insured is purchased by another insurance company. Both companies will enter into a reinsurance agreement which contains the conditions upon which the reinsurer would pay the insurer's losses (Chudgar and Asthana, 2013).
4. Indemnification: refer to compensation insured for a harm or loss and restored to the approximate financial position before the occurrence of the loss (Rejda and McNamara, 2014).

## Risk Management Process

A proper risk management process is useful at all stages in company life, the application of risk management processes would provide a logical and consistent framework for identifying and assessing potential risk factors, such a process occurs before, during, and after losses (Yirenkyi-Fianko and Chileshe, 2015). The process whereby decisions are made to evaluate risks to accept it or reject it and the implementation of actions to reduce the consequences of these risks or reduce the probability of occurrence (Wissem, 2013). Risk management is the process that consists of planning, identification, assessment, response, monitor as shown in figure one.

1. Risk Planning: this is the first step in the risk process, through this step, the risk manager set objectives and clarify the risk standard and allocate duties to staff. In addition, define roles and responsibilities, methodology and approach, review and reporting (Hillson, 2012).
2. Risk Identification: it is a fundamental stage in the risk management process, it helps in recognizing and investigating future uncertainties and manage them proactively. Its importance in ensuring risk management effectiveness (Tchankova, 2012).
3. Risk Assessment: it is the third stage in the risk management process where collated data and analyzed it for potential risks, how big the risk is, the probability to occur, and when it is going to happen. Also, create awareness of hazards in order to manage these risks properly (Srinivas, 2019). Through this step, the risk manager finds out the proper risk management technique for handling the risk (Rejda and McNamara, 2014).
4. Risk Response: very deep thinking is required in this stage. In this step the risk manager selects the best technique for treating the risks. These techniques classified as ether risk control or risk financing.
  - A. Risk Control: it is a technique to reduce the severity and/or the frequency of losses or eliminate such threats (Rejda and McNamara, 2014). Risk control assists companies to limit lost assets and income (Kenton, 2019).

The core concept of risk control includes:

- a. Avoidance: risk is avoided when the organization refuses to accept it so never undertake loss exposure and reduce the chance of loss to zero (Rejda and

McNamara, 2014). That means, canceling the policy if it sounds suspicious better than to deal with it.

- b. Loss prevention: companies are not able to avoid all risks, so they start to reduce the frequency of it. Actions taken to reduce the threat (Rejda and McNamara, 2014).
- c. Loss reduction: when companies cannot avoid losses or prevent it to occur again, they start to reduce the severity of these losses and risks after it happens (Rejda and McNamara, 2014). A successful insurance system must reduce the negative effect of the risk by predicting losses.

B. Financing Risk: it is a technique concerned with providing funds and payments that are reliable, reasonable, and cost-effective to cover the financial of unexpected losses after they happen to avoid financial consequences of poor decisions (Rejda and McNamara, 2014).

- Risk Control and Risk Financing are not exclusive each separately; they are complementary to one another.

5. Risk Monitor: it is the fifth and the final step in the risk management process. It is about implementation and monitoring the risk management program where the system is supervised to measure the efficiency of the corrective actions that had been used to deal with risks. This step can improve the risk management system through the outputs and feedbacks that come with it (Wisseem, 2013).

Risk Documentation: good documentation is important in the success of a risk management program. This documentation may take the form of summarized info or may entail a more specific, this helps a specific risk to be identified during planning. Specific documentations are more likely to contain detailed information allowing the risk manager to determine how risk could occur and which technique should be taken to handle it (Hammersley, Bamber and Carpenter, 2010).

Figure 1



## Chapter Three

### Method of Analysis

#### Introduction

This part presents the research methodology and strategy that is used in this study. It addresses the inclusion/exclusion criteria and the quality assessment of the chosen articles. Also, presents data extraction.

#### Justification of the Methodology

This study is a systematic review based on secondary data analysis. It investigated the theories relevant to risk management and insurance in Jordan. Since this study answers a clear research question, and utilizes evidence-based practice, by collecting consolidate information from high-quality studies and books to supports logical decision-making and revealing the strengths/deficiencies of each study, Systematic Review was the most suitable method.

A systematic review is a useful tool to examine, inspect, and synthesizing different researches on a specific topic and figure out new ideas from empirical researches. Also, identifying gaps and set directions and advices for future research (Al-Tabbaa, Ankrah and Zahoor, 2019).

## Research strategy

The main framework of this research methodology was shaped through exploring answers for the research question and meeting its objectives (Al-Tabbaa, Ankrah and Zahoor, 2019). It was important to take into consideration multiple business articles reflecting different perspectives related to the industry being researched. To pursue the analysis in this research, much more statistical resources were reviewed from different authentic publications to reflect more realistic review for the targeted factors.

Systematic reviews refer to studies that answer a clear question and meet specific objectives by finding, and evaluating researches on a specific topic. During the research process, seven electronic databases were used, including Emerald, Research Gate, Google Scholar, Science Direct EBSCO, Wiley Online Library, and Elsevier. These particular databases have been selected because they are the best academic sources of relevant articles and provide wide coverage of the literature and provided access to a huge number of articles, researches and scholarly contributions. Also, they provide high-quality research on business and management journals. The search strategy was based on risk management and relevant articles were located using multiple keywords like Risk, Risk Management, Insurance Risk Management, Risk Management Techniques, Risk Management Department, Liquidity Risk, Credit Risk, Market Risk, Insurance Companies, Risk Assessment, risk Identification, Importance of Insurance, Risk Analysis, Uncertainty.

## Inclusion and exclusion

The review aimed to examine the effect of risk management on insurance companies in Jordan. Therefore, papers were included in the report if they took into consideration the risk management or insurance or combined both. Data for analysis in this study were gathered from 42 different articles, journals, and books for the ten-year period 2010–2020.

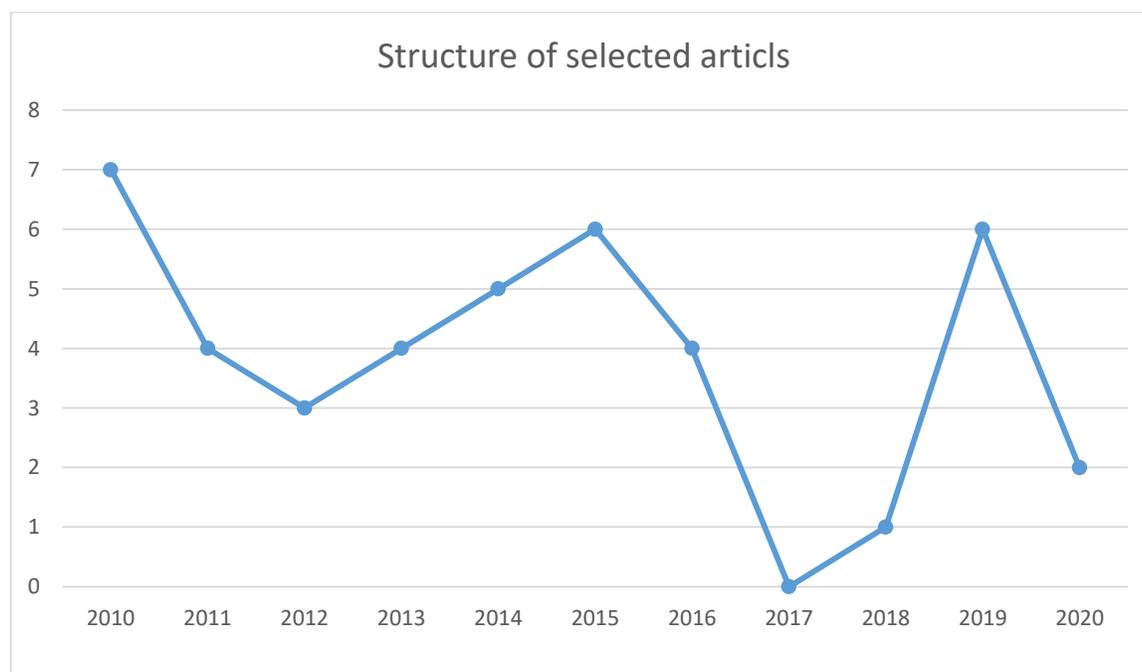
Selected articles were filtered based on the following Inclusion and exclusion criteria as shown in table one:

<b>Table One</b>		
<b>Criteria</b>	<b>Inclusion</b>	<b>Exclusion</b>
Date	Articles were only included in the review if they published in the period 2010 to 2020.	Sources and articles before 2010.
Types of studies	Scientific research.	Articles are not relying on scientific research.

Language	English and Arabic	Study in a language other than English and Arabic.
Location	International	_____
Availability	Available in full text	Only abstract is available

## Study selection

The criteria for the search as mentioned above were carried out with all possible combinations of the keywords mentioned. All papers identified through the database search and through manual search to make sure there are not any duplicates. Subsequently, study selection was carried out through some phases. First, all titles were inspected against the inclusion and exclusion criteria as well as the abstracts from articles selected. Also, full texts of articles that its abstract were included were reviewed to check for eligibility for inclusion in the review. Then as listed in the inclusion and exclusion criteria, only full text articles which were available as open access articles and those for which the university library had access were considered for the review, because abstracts do not yield the required information.



## Data extraction

During the data extraction step, studies that meet the inclusion criteria are further critically re-reviewed. Data were extracted by the author based on study characteristics, methods, and outcomes of interest. For the part covering the risk management and insurance, the author aimed to examine whether the results of the included studies indicated the risk management characteristics and the value of the risk management or not and for both parts; risk management and insurance, if the data were collected from new, reliable or not otherwise it was excluded.

The review methodology consists of three steps:

1. Selection of the included journals.
2. Development of key categories and analysis framework
3. Selection of articles.

The searches were further screened to yield 42 articles (listed in the Appendix) to be finally included for the review.

## Chapter Four

### Findings and Discussion

#### Introduction

This chapter is where the detailed explanation of the results for this research will be presented. The research shows how effective is the risk management procedures at adding value to the business. This section presents the main results of the literature review.

The literature review of related topics to risk management and insurance was presented to ensure in-depth understanding of the thesis background. The author found articles about effective risk management procedures, that explains the process and the importance of managing risk. Some articles give examples of the critical success factors for effective risk management.

## Background investigation

The topic of risk and risk management has become an unavoidable issue in the insurance sector and has a vital role in companies' success (Rejda and McNamara, 2014). Risk is not new, but an integral part of every organizational activity. The result of this shows the ability of risk management to go beyond and respond to market factors that are out of management control in order to improve company performance. It is vital that the management acknowledge and understand risks within business operations.

The background investigation showed that the insurance sector plays a vital role in the power of the economy and contributes to keep the rate of unemployment low. 24 insurance companies in Jordan with 3106 employees in 2019 (Jordan Insurance Federation, 2019). Moreover, Insurance pays millions for investment every year as the author mentioned before.

As the insurance is concerning to insure risks, and that may affect their survival (Rahman and Adnan, 2020), there is a vital role for risk management program in insurance companies, through this program the company will be able to study a different kind of risk and evaluate them and develop a technique to handle them in a positive way. As a large company with a high level of risk, having a comprehensive risk management program has economic implications for them.

Risk management was one of the top priorities for most companies due to its importance in the firm's success. The risk management department was established to have responsibilities for the overall risk management within the company (Shad and Lai, 2015).

## Risk Management Techniques

The results which have been reached through the analysis of the selected articles show the effect of the implementation of risk management techniques on companies' operation. The study shows that risk planning contributes significantly to the performance of insurance companies followed by risk identification, risk assessment, risk response and controlling then risk monitoring (Wissem, 2013). That summarizes all risk management efforts in reducing the risks facing the business begin by setting a good plan in order to minimize surprising and unacceptable outcome (Hillson, 2012). If these steps are properly evaluated, businesses can benefit from improving organizational performance. After planning become identification which is about knowing and understanding the possible risks that may affect a company's performance. Following that step, comes risk response to reduce or eliminate the impact of risks. Risk response includes mitigation activities that attempt to balance the probability and severity

of the risk with the profitability of the risk management strategy. The final step is risk monitor, which mean permanently check and review the process that was implemented and add necessary instructions for future risk.

Based on the above, risk management is about processing to eliminating, reducing and controlling risks these process involves planning, identifying, evaluating, measuring, monitoring risks and then taking corrective action in order to reduce the negative opportunities and to achieve the business' strategy and objectives.

The proper risk management process helps the firm to first identify what risk to accept and what to avoid and then successfully quantify and measure the identified risk. Risk management practices can help managers achieve their goals and improve organizational performance. Thus, for Jordanian insurers, risk management practices have a positive impact on organizational performance. Studies showed that organizations that implement risk management practices will succeed. Companies can predict potential losses and manage risk well through a proper risk management program. However, if the company can implement and manage the potential losses, the response to risk will be more appropriate and the company will achieve more benefit. This means that companies need to adopt a comprehensive risk management framework.

The study also showed that adopting a risk management program has a significant impact on the organizational performance of Jordanian insurers. This means that companies with more complete risk management programs are likely to avoid many financial risks and keep financially stable in the long term.

The risk management practice that is recommended for insurance companies from the researcher's point of view is Risk Planning. This practice allows the insurer to study and evaluate the situation which has a vital role in eschewing the exposure to risks even before it comes to the insurance pool. That save time, money, and efforts.

### Type of risks in insurance sector

As shown in the conceptual framework, there are several risks that threaten the insurance companies, the author has discussed some of them.

#### **Financial Risk**

Since the insurance sector part of the financial sectors, the financial situation is a judgment on companies' performance, the author examined some of the financial risk faced by insurance companies.

Market risk management protects companies' financial levels from uncertain losses associated with the market (Milanova, 2010). This risk affects the reputation of the company which in turn affects market share. This risk plays an important role in companies' success as it gives a reflection about companies' financial position and affects the stock price. Interest rate risk reflects the market position (Dorfman, 2010). This risk directly affects the overall investment value, and banks' deposits, which in turn reflect negatively on the financial performance of the company (Chen, 2020). Interest rate risk management helps to gain more information about the economic status and gives steps in advance in order to mitigate the unwilling results. Liquidity risk is the most dangerous risk that threatening insurance companies (Gaspar and Sousa, 2010). It is threatening their existence. Liquidity risk management is of paramount importance; constant assessment of the liquidity risk management framework is an important action that will ensure the proper functioning of the insurance company. The challenge faced by insurance companies is to maintain the available cash (liquidity) that allows the various claims to be satisfied. If insurers exposed to liquidity risk, will fail to compensate for some claims then adverse consequences will arise. Foreign exchange risk associated with the money value of a foreign currency relative to domestic currency (Dorfman, 2010). Foreign exchange management about the protection of cash value, assets or even liabilities from adverse fluctuations of the exchange rate. This important for an insurer who investing or operating across borders whose financial transactions are in foreign currencies and any bad movements in currency markets may increase their costs or reduce their revenues. The credit risk associated with insurance regarding losses compensation. It is very important to manage it in order to protect companies from exposed to bankruptcy (Singh, 2019). All kinds of businesses are exposed to this risk especially the financial one. Insurance is about the compensation for the insured for his losses. Typically, give money in recognition of loss, suffering, or injury depends on the insured in the insurance policy. When the insurer faces a huge amount of compensation, starts to expose credit risk.

### **Operational Risk**

The severity of this risk depends on the size of the company and the operational volume. It is associated with the operational process and employees' activities (Segal, 2019). Operational risk management requires surveillance for almost all organizational processes and activities to handle it.

## **Underwriting Insurance Risks**

This risk concerns the insurance industry. Underwriting risk management concentrate on developing gathering information processes. (Chehui, Zhangjiwu and Zhangxingyang, 2011). It is the process of reviewing and selecting risks to insure, set terms of the policy, and determining an expected cost. Inaccurate calculation of premiums has adverse financial implications to the company especially in relation to payments of claims. Good handling of this risk assist the insurer to choose the clients that are likely to have the fewest losses.

## **Insurance Fraud**

Many departments, employees and third-party and involving in the insurance process, such as, underwriter, brokers, agency insurers, sales and more. And the compensation process involved many parties as well, such as the concerned broker, actuaries and more. That makes insurance companies vulnerable to theft. “Insurers were also more likely to act against their employees for fraud compared to other industries” (Chudgar and Asthana, 2013). Insurance fraud happens when a person or entity makes false insurance claims to gain profit (Whitaker, 2020). A proper risk management program put the right person in the right place, and keep observing and monitoring all involved parties and keep them under control.

Finally, within this area of research, the authors agreed on the fact that uncertainty is still one of the greatest challenges that the insurance sector has to face.

The result of this research is believed to be helpful for further researches in the field. For further researches, the author suggests deeper data collection concerning operational and financial performance as the figures will help to clarify the outcomes of risk management strategies.

All studies agreed that risk management program has a vital role in enhancing the overall performance of the insurance companies.

## **Chapter Five**

### **Conclusion, Limitations and Recommendations**

## Introduction

In this final chapter of the research paper, will present the overall conclusion and summary of the study. Along with that, any recommendation for this study as well as recommendation for further study will also be described in this chapter.

## Conclusion

The studies showed a significant relationship between insurance and economic growth. The purpose of this paper was to contribute to a more complete understanding of the risk management programs in insurance companies. Business organization and industries suffer from loss and harm because of poor handling in risk management. The objective of the study was to study the effects of risk management on insurance companies in Jordan. Insurance sector playing an essential role in the growth of a country. However, the profitability of such companies is not free from the effect of both internal and external factors. Risk management is one of the most important activities of financial institutions. The role of risk management is to identify all risks that a financial institution can be exposed to.

The paper described different kinds of risks that face insurance companies. In addition, clarify the basics of risk management through a literature review for risk management. This would enhance the knowledge about how to treat risky events and in turn to improve the risk knowledge management process in order to allow risk management processes to give the expected benefits and shows the deference that risk management dose to companies.

Another significant contribution of this paper is that it sheds light on the awareness, usage, and perception of benefits of risk management within the Jordanian insurance sector. There exists a need for improving the overall processes of evaluating risks by increasing access to information.

The increasing number of insurance risks leads to increases in the costs of the companies and also leads to inflated premium which will minimize the insurance pool. Therefore, it is very much necessary to have a proper risk management framework in order to curtail or minimize insurance risks.

While efforts are being made to standardize risk management approaches within organizations, there are many opportunities to enhance the benefit of risk management by gathering more quality information and rely on a quantitative database.

The first research question was regarding the risks faced by the insurance industry. The literature review in the conceptual framework part covered some of these risks. The financial risk, the operational risk, underwriting risk, and insurance fraud, are the most risks that threatening insurance companies due to its direct connection with the financial position.

The second research question was about risk management approaches. Both, the literature review and the conceptual framework tested them. There are many and many risk management benefits to organizations. In order to achieve them, a proper risk management process is required. The investigation showed that the organization saw risk management as the lifeline of the corporate strategy's' success to achieve its objectives. The result from the main investigation showed that there is a need to consolidate risk management strategy within the whole corporate strategy. Therefore, the companies need to increase the attention given for risk management.

The third research question was concerned the best risk management practice for Jordanian insurance companies. Which is Planning as the author explain before.

### Limitation

There are several limitations and shortcomings of this paper. The limitation faced was the lack of studies and reports about the same topic as mentioned previously. It is considered a new topic that has not been investigated by published researches, also Jordan insurance federation is not investing in statistical studies to enhance their position. In addition, due to the short timescale of the research in regard to the research area, the author might not be able to make a deep study in the field. Additionally, only the accessible articles were used in the research and that makes the author restricted by these data. Finally, the searches were restricted to only seven databases of choice which, even if it is reasonably comprehensive, but may have missed some articles available on other databases.

### Recommendations

Upon completing this study, the researcher had recognized some topics under this area of study to be researched by other researchers in order to expand the outcome of this study in the future. Further study could provide a critical analysis of risk perception factors and theories to determine which are

most salient for reducing risk tolerance and encouraging safer behavior. Future research can qualitatively focus on critical factors for the successful implementation of risk management.

The researcher, therefore, recommends that there is a need to invest in risk management programs in insurance companies in order to improve the operational process and to have a staple financial performance avoid future insolvencies. Future reviews can include more databases in order to cover a wider range of relevant materials.

Future research is also needed to investigate the readiness of local insurance firms on the adoption of risk management practices. Similar research can be carried out by increasing the number of risks faced by insurance companies.

## References

Al Fayoumi, A., 2020. Risk Management and Compliance Department. [online] Central Bank of Jordan. Available at: <<https://www.cbj.gov.jo/Pages/viewpage.aspx?pageID=299>> [Accessed 4 September 2020].

Allport, R., Clark, M., Greenhalgh, J., Lewin, C., Nichols, M. and Yan, C., 2014. RAMP Risk Analysis and Management for Projects. 3rd ed. London: Institution of Civil Engineers and the Institute and Faculty of Actuaries.

Al-Tabbaa, O., Ankrah, S. and Zahoor, N., 2019. Systematic Literature Review In Management And Business Studies: A Case Study On University–Industry Collaboration. [ebook] London: SAGE Publications Ltd. Available at: <<https://www.researchgate.net/publication/330140307>> [Accessed 17 September 2020].

Basova, M., Mitselsky, A., (2011). Risk Management KPIs: Efficiency Tool or Formality, Enterprise Risk Management Symposium, Society of Actuaries, p2.

Bukwimba, M., 2015. Extreme Value Theory in Financial Risk Management: The Random Walk Approach. International Journal of Probability and Statistics, [online] 4(1), pp.32-35. Available at: <<http://article.sapub.org/10.5923.j.ijps.20150401.03.html>> [Accessed 14 September 2020].

Chehui, Zhangjiwu and Zhangxingyang, 2011. Research on motor vehicle insurance underwriting risk management model. *Procedia Engineering*, 15, pp.4973-4977.

CHEN, J., 2020. Interest Rate Risk. [online] Investopedia. Available at: <<https://www.investopedia.com/terms/i/interestraterisk.asp>> [Accessed 26 August 2020].

Christoffersen, P., 2012. *Elements of Financial Risk Management*. 2nd ed. Waltham [Massachusetts]: Elsevier Academic Press, p.5-6.

Chudgar, D. and Asthana, A., 2013. Life insurance Fraud – Risk Management and Fraud Prevention. *International Journal of Marketing, Financial Services & Management Research*, [online] 2(5), pp.100-109. Available at: <[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2900674](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2900674)> [Accessed 20 September 2020].

Clubb, A. and Hinkle, J., 2015. Protection motivation theory as a theoretical framework for understanding the use of protective measures. *Criminal Justice Studies*, 28(3), pp.336-355.

Coogan, D. and Bouteille, S., 2013. *The Handbook Of Credit Risk Management*. 1st ed. Canada: John Wiley & Sons.

Daare, W., 2016. FACTORS AFFECTING GENERAL INSURANCE COMPANIES PROFITABILITY: EMPIRICAL STUDY IN INDIA. *International Journal Of Marketing, Financial Services & Management Research*, 5(12), pp.6-11.

Department of statistics, 2020. *Population Of The Kingdom By Sex According To The 1952, 1961, 1979 ,1994,2015 And 2018 Censuses, And Estimated Population For Some Selected Years (In 000)*. Jordan: department of statistics, p.1.

Dorfman, M., 2010. *Introduction To Risk Management And Insurance*. 10th ed. Upper Saddle River, N.J.: Pearson/Prentice Hall.

Dvorský, J., Petráková, Z. and Polách, J., 2019. Assessing the Market, Financial and Economic Risk Sources by Czech and Slovak SMEs. *International Journal of Entrepreneurial Knowledge*, 7(2), pp.30-40.

Gaspar, R. and Sousa, H., 2010. Liquidity Risk and Solvency. SSRN, [online] 1(3), pp.85-96. Available at: <[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1722709](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1722709)> [Accessed 26 August 2020].

Gonzalez, L. and Naranjo, L., 2014. Credit Risk Determinants Of Insurance Companies. 1st ed. [ebook] Cergy, France: ESSEC Research Center. Available at: <<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.651.3151&rep=rep1&type=pdf>> [Accessed 28 August 2020].

Gupta, A., 2011. Insurance: A General Textbook. 1st ed. New Delhi: G.S Rawat for Cyber Tech Publicatons, p.4.

Gupta, P., 2016. ESSENTIALS OF INSURANCE AND RISK MANAGEMENT. 1st ed. New Delhi: r Himalaya Publishing House Pvt. Ltd.

Hammersley, J., Bamber, E. and Carpenter, T., 2010. The Influence of Documentation Specificity and Priming on Auditors' Fraud Risk Assessments and Evidence Evaluation Decisions. The Accounting Review, 85(2), pp.547-571.

Harrison, G. and Ng, J., 2019. Behavioral insurance and economic theory: A literature review. Risk Management and Insurance Review, 22(2), pp.133-182.

Hillson, D., 2012. Extending the risk process to manage opportunities. International Journal of Project Management, 20(3), pp.235-240.

Hopkin, P., 2010. Fundamentals Of Risk Management. 1st ed. London: Kogan Page.

Jordan Insurance Federation, 2019. Annual Report Insurance Business In Jordan. [online] Jordan: Jordan Insurance Federation, p.2. Available at: <<http://www.jif.jo/SystemFiles/Assets/2%20English%20Annual%20Report%202018.pdf>> [Accessed 12 August 2020].

Jordan Insurance Federation, 2018. Annual Report Insurance Business In Jordan. [online] Jordan: Jordan Insurance Federation, p.1. Available at:

<<http://www.jif.jo/SystemFiles/Assets/2%20English%20Annual%20Report%202018.pdf>>  
[Accessed 16 August 2020].

Jordan Insurance Federation, 2019. Employees In The Insurance Sector. [online] Jordan: Jordan Insurance Federation. Available at:  
<<http://www.jif.jo/page/Default.aspx?page=%D8%A7%D9%84%D8%B9%D8%A7%D9%85%D9%84%D9%88%D9%86%20%D9%81%D9%8A%20%D9%82%D8%B7%D8%A7%D8%B9%20%D8%A7%D9%84%D8%AA%D8%A3%D9%85%D9%8A%D9%86>> [Accessed 21 September 2020].

Kearney, W. and Kruger, H., 2016. Theorising on risk homeostasis in the context of information security behaviour. *Information and Computer Security*, 24(5), pp.496-513.

KENTON, W., 2019. Risk Control. [online] Investopedia. Available at:  
<<https://www.investopedia.com/terms/r/risk-control.asp>> [Accessed 4 September 2020].

Kirlidog, M. and Asuk, C., 2012. A Fraud Detection Approach with Data Mining in Health Insurance. *Procedia - Social and Behavioral Sciences*, 62, pp.989-994.

LAM, J., 2014. Market Risk Management. *Enterprise Risk Management*, pp.209-236.

Ling, Y. H., & Hung, L. (2010). The influence of intellectual capital on organizational performance: The mediation effect of intellectual capital management strategy. *Human Resource Management Student Newspaper*, 10(1).

Mansour, M., 2015. Developing Risk Management Model For The Palestinian Insurance Sector. Master. An-Najah National University.

MAVERICK, J., 2020. Do Changes In Interest Rates Affect The Profitability Of The Insurance Sector?. [online] Investopedia. Available at:  
<<https://www.investopedia.com/ask/answers/061515/how-much-do-changes-interest-rates-affect-profitability-insurance-sector.asp>> [Accessed 14 September 2020].

Milanova, E., 2010. MARKET RISK MANAGEMENT IN BANKS – MODELS FOR ANALYSIS AND ASSESSMENT. [online] 7(4), pp.395-410. Available at: <<http://facta.junis.ni.ac.rs/eao/eao201004/eao201004-04.pdf>> [Accessed 11 September 2020].

Mohammed, H. and Knapkova, A., 2016. The Impact of Total Risk Management on Company's Performance. *Procedia - Social and Behavioral Sciences*, 220, pp.271-277.

Morley, N., Ball, L. and Ormerod, T., 2016. How the detection of insurance fraud succeeds and fails. *Psychology, Crime & Law*, 12(2), pp.163-180.

Narayana, A., 2016. Risk Management in Banking Sector - An Empirical Study. *Empirical Journal of Interdisciplinary Research*, [online] 2(6), p.1. Available at: <<http://www.onlinejournal.in/IJIRV2I8/203.pdf>> [Accessed 23 August 2020].

Njegomir, V. and Maksimovic, R., 2010. Risk transfer solutions for the insurance industry. *Ekonomskianali*, 54(180), pp.57-90.

Peleckienė, V., Peleckis, K., Dudzevičiūtė, G. and Peleckis, K., 2019. The relationship between insurance and economic growth: evidence from the European Union countries. *Economic Research-EkonomiskaIstraživanja*, 32(1), pp.1138-1151.

Rahman, M. and Adnan, T., 2020. Risk management and risk management performance measurement in the construction projects of Finland. *Journal of Project Management*, 5(3), pp.167-178.

Rejda, G. and McNamara, M., 2014. *Principles Of Risk Management And Insurance*. 12th ed. Boston: Pearson.

ROSS, S., 2019. Elements Of Insurable Risks: A Quick Guide. [online] Investopedia. Available at: <<https://www.investopedia.com/articles/insurance/082616/elements-insurable-risks-quick-guide.asp#defin>> [Accessed 2 September 2020].

ROSS, S., 2020. The Business Model Of Reinsurance Companies. [online] Investopedia. Available at: <<https://www.investopedia.com/articles/insurance/082916/business-model-reinsurance-companies.asp>> [Accessed 1 September 2020].

SEGAL, T., 2019. Operational Risk. [online] Investopedia. Available at: <[https://www.investopedia.com/terms/o/operational\\_risk.asp](https://www.investopedia.com/terms/o/operational_risk.asp)> [Accessed 28 August 2020].

Shad, M. and Lai, F., 2015. A Conceptual Framework for Enterprise Risk Management performance measure through Economic Value Added. *Global Business and Management Research: An International Journal*, 7(2), p.1.

Singh, K., 2019. Credit Risk Management in Royal Insurance Corporation of Bhutan Limited (RICBL) and Bhutan Insurance Limited (BIL): Comparative study. [online] 14(6), pp.486-499. Available at: <<https://journals.eduindex.org/index.php/gis/article/view/14023/9263>> [Accessed 15 September 2020].

Srinivas, K., 2019. Process of Risk Management. *Perspectives on Risk, Assessment and Management Paradigms*, 1(1), p.7.

Tchankova, L., 2012. Risk identification – basic stage in risk management. *Environmental Management and Health*, 13(3), pp.290-297.

Uppal, J. and Mudakkar, S., 2014. Challenges in the Application of Extreme Value Theory in Emerging Markets: A Case Study of Pakistan. *Risk Management Post Financial Crisis: A Period of Monetary Easing*, 96, pp.417-437.

Van Wolferen, V., Zeelenberg, M. and Inbar, Y., 2013. Moral Hazard In The Insurance Industry. [ebook] Netherlands: Netspar Panel Paper. Available at: <[https://pure.uvt.nl/ws/portalfiles/portal/4351441/SocPsy\\_Van\\_Wolferen\\_moral\\_Netspar\\_2013.pdf](https://pure.uvt.nl/ws/portalfiles/portal/4351441/SocPsy_Van_Wolferen_moral_Netspar_2013.pdf)>

WHITAKER, J., 2020. INSURANCE FRAUD HANDBOOK. 1st ed. [ebook] United States of America: The Association of Certified Fraud Examiners. Available at: <[https://www.acfe.com/uploadedfiles/acfe\\_website/content/documents/insurance-fraud-ha](https://www.acfe.com/uploadedfiles/acfe_website/content/documents/insurance-fraud-ha)> [Accessed 29 August 2020].

Wilson, J. and Bassett, G., 2018. Financial Impact Of Insurance Loss Control. [ebook] USA: IGFOA. Available at:

<[https://www.igfoa.org/content/documents/the\\_financial\\_impact\\_of\\_insurance\\_loss\\_control.pdf](https://www.igfoa.org/content/documents/the_financial_impact_of_insurance_loss_control.pdf)>  
[Accessed 2 September 2020].

Wisse, E., 2013. RISKS MANAGEMENT: NEW LITERATURE REVIEW. POLISH JOURNAL OF MANAGEMENT STUDIES, [online] 8(1), p.291. Available at: <<http://oaji.net/articles/2014/1384-1416476647.pdf>>

Yirenkyi-Fiako, A. and Chileshe, N., 2015. An analysis of risk management in practice: the case of Ghana's construction industry. Journal of Engineering, Design and Technology, 13(2), pp.240-259.

## Appendix

Author/s& (Year)	Title/Aim	Methodology	Theory/s	Summary of Findings
Rahman and Adnan. (2020)	Risk management and risk management performance measurement in the construction projects of Finland.	Qualitative methodology	No theory used	The findings suggests that the risk management processes are effective and efficient in projects
Milanova. (2010)	Market risk management in banks – models for analysis and Assessment	Conceptual paper	Value at Risk	The findings present the main components of market risk
Clubb& Hinkle. (2015)	Protection motivation theory as a theoretical framework for understanding the use of	Literature Review	Protection motivation theory	The findings explain the use of protective

	protective measures			measures in order to response to threats
Gupta. (2011)	Risk management in Indian companies: EWRM concerns and issues	Systematic Literature Review	No theory used	The findings suggest aspects of risk management
Wolferen, Inbar and Zeelenberg. (2013)	Moral hazard in the insurance industry	Literature Review	No theory used	N/A
Hammersley, Bamber and Carpenter. (2010)	The Influence of Documentation Specificity and Priming on Auditors' Fraud Risk Assessments and Evidence Evaluation Decisions	Systematic Literature Review	No theory used	The findings examine fraud risk documentation
Mansour. (2015)	Developing Risk management model for the Palestinian insurance sector	Qualitative	No theory used	N/A
Chudgar& Asthana. (2013)	Life insurance fraud – risk management and fraudprevention	Qualitative methodology	No theory used	The findings suggests various types of insurance frauds and develop a risk management strategy to minimize them
Narayana &Mahadeva. (2016)	Risk Management in Banking Sector - An Empirical Study	Literature Review	Value at Risk (VaR)	The findings suggests controls for different types

				of risks which are faced by a companies
Hopkin. (2010)	Fundamentals of Risk Management: Understanding, evaluating and implementing effective risk management.	Literature Review	No theory used	N/A
Boadua&Chileshe/2015	An analysis of risk management in practice: The case of Ghana's construction industry	Comprehensive literature review	No theory used	The findings suggests benefits for risk management practices
Ennouri W/ 2013	Risk management: new literature review	Literature review	No theory used	The findings clarify the basics of risk management
Shad & Lai/2015	A Conceptual Framework for Enterprise Risk Management performance measure through Economic Value Added	Conceptual paper	No theory used	N/A
Allport et al/2014	Risk Analysis and Management for Projects	Literature review	No theory used	N/A
Al-Tabbaa, Ankrah&Zahoor/2019	Systematic Literature Review in Management and Business Studies: A Case Study on University–Industry Collaboration	Systematic Literature Review	No theory used	The findings clarify the systematic review process
Basova&Mitselsky/2011	Risk Management KPIs: Efficiency Tool or Formality?	Conceptual paper	No theory used	The findings explain the importance of managing risk

Bukwimba/ 2015	Extreme Value Theory in Financial Risk Management: The Random Walk Approach	Conceptual paper	Extreme Value Theory	The findings explain the extreme value theory
Chehui, Zhangjiwu&Zhangxingyang /2011	Research on motor vehicle insurance underwriting risk management model	Conceptual paper	No theory used	The findings suggests the effectiveness of a proper underwriting process
Christoffersen/ 2012	Elements of Financial Risk Management	Literature review	No theory used	N/A
Bouteille&Coogan-Pushner/2013	The Handbook Of Credit Risk Management	Literature review	No theory used	N/A
Dorfman/2010	Introduction To Risk Management And Insurance	Literature review	No theory used	N/A
Dvorský, Polách&Petráková/2019	Assessing the Market, Financial and Economic Risk Sources by Czech and Slovak SMEs	Conceptual paper	No theory used	N/A
Gaspar & Sousa/2010	Liquidity Risk and Solvency II	Literature review	No theory used	The findings suggests a theoretical understanding about liquidity risk
Gonzalez & Naranjo/2014	Credit Risk Determinants Of Insurance Companies	Literature review	No theory used	N/A
Gupta/2011	Insurance: A General Textbook	Literature review	No theory used	N/A
Gupta/2016	Essentials of insurance and risk management	Literature review	No theory used	N/A

Harrison & Ng/2019	Behavioral insurance and economic theory: A literature review	Literature review	Expected Utility Theory, and Cumulative Prospect Theory	The findings suggest a theories for insurance products
Hillson/2012	Extending the risk process to manage opportunities	Literature review	No theory used	The findings extend the scope of the risk process
Kearney & Kruger/2016	Theorising on risk homeostasis in the context of information security behaviour	Literature review	Theory of risk homeostasis	The findings discussed of risk homeostasis
Kirlidog&Asuk/2012	A Fraud Detection Approach with Data Mining in Health Insurance.	Literature review	No theory used	The findings suggest Some fraud types
Lam/2014	Enterprise Risk Management	Literature review	No theory used	N/A
Ling & Hung/2010	The influence of intellectual capital on organizational performance: The mediation effect of intellectual capital management strategy	Conceptual paper	No theory used	N/A
Morley & Ball/2016	How the detection of insurance fraud succeeds and fails	Literature review	No theory used	The findings suggest motor insurance fraud-detection practices

Njegomir and Maksimović/2010	Risk transfer solutions for the insurance industry	Literature review	No theory used	The findings suggest mechanisms for insurance risk transfer
Peleckienė, Kęstutis et al/2019	The relationship between insurance and economic growth: evidence from the European Union countries	Systematic Literature Review	No theory used	The findings examine the relationships between insurance and economic growth
Rejda& McNamara/2014	Principles Of Risk Management And Insurance	Literature review	No theory used	N/A
Singh/2019	Credit Risk Management in Royal Insurance Corporation of Bhutan Limited (RICBL) and Bhutan Insurance Limited (BIL): Comparative study	Systematic Literature Review	No theory used	The findings evaluated credit risk management practices.
K. Srinivas/2019	Process of Risk Management	Literature review	No theory used	The findings give a comprehensive explanation for risk management
Uppal&Mudakkar/2014	Challenges in the Application of Extreme Value Theory in Emerging Markets: A Case Study of Pakistan.	Literature review	Extreme Value Theory	N/A
Whitaker/2020	Insurance fraud handbook	Literature review	No theory used	N/A

Wilson & Bassett/2018	Financial Impact of Insurance Loss Control	Literature review	No theory used	N/A
Yirenkyi- Fianko&Chileshe/2015	An analysis of risk management in practice: the case of Ghana's construction industry	Systematic Literature Review	No theory used	N/A