

أثر مخاطر التجارة الإلكترونية على مبيعات السيارات في السعودية

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Abstract:

This study will provide a glimpse into the e-commerce process of buying a used car. The most appealing aspect of buying a used car online is the lack of hassle and upfront costs. However, the interest rate and warranty are also important factors to consider when making such a purchase. Many businesses have used the online business model with varying success. The key to success with this model is having an adequate inventory of used cars available for sale and pricing that matches the demographics in their regions. The online car dealership has changed the way consumers buy cars. It has brought in convenience and efficiency in the process of buying a used car. With the help of e-commerce, they can sell more cars without having to invest in excess inventory. This study examines how consumers buy a car online. It starts by examining the benefits of buying a used car online: convenience, price, and value. It also looks at the challenges faced by people who want to buy a used car online. By today's standards, buying a used car online can be tricky. A buyer must consider many factors - a type of car, condition, mileage, pricing, etc. If a buyer is not careful enough, a buyer can waste time and money on a bad purchase. Buying a used car online is more complicated than buying a new one because of the different factors that come into play, like warranties, the condition of the car, and other factors that affect its value.

Keywords: Cars, Vehicles, Ecommerce, Buyer

Introduction:

This paper presents an overview of the risks associated with buying a used car online. It discusses the legal considerations, potential risks, and risk identification. Online used car sales are growing rapidly, but getting a viable vehicle online can be more challenging than it seems. There are many dangers that consumers might not be aware of when buying a used car online. One of these risks is the owner's ability to cancel the sale at any time before the buyer has taken ownership. Therefore, buyers need to identify and understand risk factors before making their final decision (Furber et al., 2020). The key to buying a used car online is getting detailed information about the car before a buyer makes the purchase. Certain risks come with buying a used car online, such as the risk of buying from an unlicensed dealer, not having any warranty or warranty replacement, not vetting the dealer's reputation, and not knowing how much it will cost to take care of issues that might arise later. Online car dealerships such as AutoTrader.com and Autotrader encourage people to sell their used cars online by providing them with a platform to advertise and find buyers for their used cars. This e-commerce website attracts many new customers every year. There is an inherent risk in selling a used car online due to difficulty establishing the item's value. Therefore, identifying the risks associated with the transaction is crucial for sellers who want to avoid potential losses. Risk Identification can identify potential risks that may arise from selling a car online without any visual inspection or paperwork from its previous owner (Huang, 2020). It also helps estimate how much it is worth when sold on this platform before a buyer sells it on another marketplace such as eBay or craigslist, where there are more buyer options and fewer seller options. The paper shows that e-commerce Car Dealers use large data sets to estimate risks associated with buying a used car without physically seeing it first. These e-commerce dealers collect data points like mileage and other state-specific information to increase their likelihood of identifying potential problems with the car.

Problem Statement:

In this study, the increasing number of people willing to buy a used car online poses a problem for the dealers. They have to try and sensationalize the car to sell it, but many potential buyers are not interested in this approach. The buyer also has to consider the risks associated with buying online, which might result in their remorse when they find out that they can't get out of their purchase (Baumann et al., 2021). It is crucial that when dealing with the sale of an item online, every party involved understands all the risks before entering into any transaction. This is especially true for purchasing a used car online because there are several hidden risks associated with buying these vehicles without trying them out first before making a purchase decision.

There are many risks when buying a used car online. It is important to know these risks before a buyer takes the plunge and buys a used car. The warranty that comes with the vehicle may not be valid or may not cover all repairs and services provided by the dealership. A new warranty should be obtained, which is cheaper than replacing the old one. Buying a used car from an unknown dealer can lead to issues in terms of safety and reliability in the future, so it is best to buy from well-established dealerships that have been around for years. The vehicle information provided may include unrevealed details such as previous ownership (Bobeth and Kastner, 2020). The most significant risk in buying a used car is that it may not be worth what a buyer pays for it. Many factors determine the value of a car, but most importantly, the quality of the car's parts and service history impact its worth. The most reliable way to find out if the potential purchase is a good deal or not is by visiting the local dealership and comparing prices with other cars in the same condition. Online sellers won't want to sell a car that has been involved in an accident or has excessive mileage on it. Sellers will also request the buyer to pay the difference if they find something wrong with the vehicle after purchase. There are also risks of buying a used vehicle from someone who doesn't have a lot of experience selling cars

online and may not know what they're doing - for example; they may be selling cars from their home or garage without all the proper permits or documentation required.

With the many risks associated with buying a used car online, it's important to be careful. Online car shopping is a prevalent trend these days. There are many benefits to buying a used car online, such as huge savings and convenience. However, some risks come with this process, as well as potential legal issues. Risks can include not seeing the car in person before purchasing, not knowing if it's a salvage car, and getting stuck with a hefty repair bill. Scammers are constantly trying to take advantage of people's little information when buying a used car online (Boelhouwer et al., 2020). The rise in popularity of the internet has caused a surge in online car sales, but it is also making it easier for scammers to launder stolen cars and sell them. There are numerous cases of scammers using fake classifieds to lure their victims into buying a used car from someone who doesn't even have the car in question. This scam takes place over email and social media platforms, but scams can happen anywhere a buyer might be looking for a used vehicle. This poses new risks for buyers which they might not know any better than their online research can show them, and they might end up buying a car that is problematic because cars can be complicated and many of them need extensive maintenance work, which buyers don't know about until after the purchase.

Literature Review:

According to Baumann et al. (2021), there are several tools available in risk identification and risk evaluation. The paper talks about the most popular tools for conducting a qualitative assessment. The qualitative assessment tools can be classified into two groups: methods that ask whether an event is likely to happen and methods that ask whether an action should be taken or not. They can also be classified into five types: 1) Event Identification Tools, 2) Event Evaluation Tools, 3) Action Identification Tools, 4) Action Evaluation Tools, and 5) No-Action Identification Tools.

Based on Huang (2020), this type of risk identification is used by many businesses to identify potential risks. With the help of data collection tools, they can detect the risks and then use a data-driven decision-making process to minimize potential financial losses. Risk evaluation is a process that can gather information about risks to be evaluated and measured. It is an important part of risk management, which involves identifying sources of risk, analyzing them, and taking steps to manage the risks (Puteri and Safitri, 2020). Risk mitigation is an important aspect of managing risks effectively. Mitigation strategies help reduce the probability and consequences of risks on an organization while minimizing their impacts on its operations, people, and assets. In general, risk mitigation is one of the key components in effective risk management that can be implemented by many different aspects within an organization or industry. In addition, the use of risk identification methods and risk evaluation practices can be a very time-consuming process. It takes a lot of manual work to do it manually, which is not scalable.

Given Furcher et al. (2020), risk identification methods involve various techniques, including questionnaires, interviews, and observation studies. Other tools include using questionnaires to measure people's propensity to engage in risky behaviors or assess their attitudes towards various risk categories. Interviews are used to collect data about the

individual's stance on various topics related to risk behavior or personal characteristics that might place them at increased risk for developing health problems in the future. Risk identification is an important process that every business must undertake to make informed decisions. The risk evaluation practices are critical because they help in maximizing the company's efforts and resources.

Martins et al. (2020) assert that the goal of these practices is to minimize the impact of risk events on an organization's assets, people, or reputation. These techniques include qualitative analysis, quantitative analysis, simulation models, and scenario planning. The most common risk identification methods usually involve team member interviews and surveys. However, these methods can be time-consuming and don't always provide enough insight to make a meaningful decision. Data analytics can help with risk evaluation as it provides an objective result for the situation's outcome. This means that data analytics also helps with communication as it shows how likely something is to happen based on historical data. The most important part of risk identification and evaluation is communication and collaboration between different departments working towards a common goal: managing risks effectively. Today's world is full of risks that are more complex than they were in previous decades. This includes cyber-attacks on businesses that have serious implications for business performance or even human life.

Puteri and Safitri (2020) say that risk evaluation practices can determine risks in a given situation. Risk evaluation practices vary depending on the context of the situation. Common risk evaluation techniques include net present value analysis, sensitivity analysis, cost-benefit analysis, decision tree analysis, and scenario analyses. Organizations are now using four key methods to understand what risk they are exposed to and mitigate it. The first method is through having a clear strategy that can help them identify their exposure to risk in real-time. This includes benchmarking their risks with industry averages or competitor data

(Yoo and Ahn, 2021). The second method uses sensors, data, and analytics to provide information that helps organizations assess their exposure to risk in real-time. The third method for understanding exposure is through predictive modeling, which helps organizations forecast potential exposures in advance; this helps them mitigate any risks before they crop up.

This paper argues that qualitative analyses are more expensive than quantitative analyses (Zhalezka and Zhao, 2021). They also point out that qualitative assessments often provide less value as they cannot provide actionable insights regarding what will happen in the future. It's unclear where the paper stands on whether a risk is good or bad, but it would be a stretch to say that qualitative assessments offer no value whatsoever. A company's business goals and objectives may determine the risk identification methods they employ. For example, companies that aim to grow their customer base can implement statistical sampling techniques to identify risks associated with different regions. In contrast, companies that seek to remain competitive must use more detailed methods for this purpose.

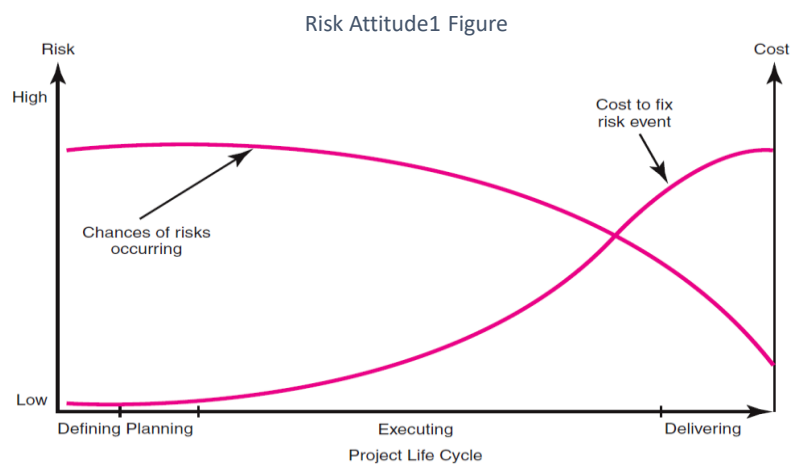
Methodology:

The purpose of this study is to conduct an exploratory study to understand the buying process for used cars better online. More specifically, this study will investigate if consumers use the same methods for shopping for new cars online. It will also evaluate whether or not these methods effectively predict a car's value before being purchased. A study was conducted to understand the buying process for used cars online. In this study, We surveyed 50 people who bought a used car in 2020 (Martins et al., 2020). 57% of those surveyed said they bought a car from an individual seller, and 23% said they bought it from an auction site or dealership. The remainder was split among other sources such as advertising, classifieds, and websites .

This study is aimed at providing insight into how a buyer purchases a vehicle online. It will cover the stages of buying a car from an individual seller, which can benefit private sellers selling cars privately. The article will also discuss the research design used to conduct the study and its qualitative and quantitative phases. The data analysis process will be discussed in detail by analyzing qualitative and quantitative data sets to provide findings evidence. Many people buy cars from these websites because they offer convenience, which is why it's vital for companies to carefully select their customer-facing systems and processes and their advertising efforts. To know what customers, want from these sites, market researchers should conduct user surveys and qualitative interviews with customers who recently purchased a car. Now, there are some important concepts need to be defined before solving any case related to a risk knowledge:

First, we need to define a risk: is uncertain event or condition that, if it occurs, has a positive or a negative effect on a project's objectives. The definition includes two key dimensions of risk: uncertain and effect on a project's objectives. The uncertainty dimension may be describes using the term " Probability" and the effect may be called " impact". The definition of risk includes both distinct events which are uncertain but can be clearly described, and more

general conditions which are less specific but also may give risk to uncertainty. The definition of project risk also encompasses uncertain events which could have a negative effect on a project objective, as well as, those which could have a positive effect. These two types of risk are called, respectively, threats and opportunities. It is important to address both threats and opportunities within a unified project. within a unified project (though other descriptors are possible, such as ‘‘likelihood’’ and ‘‘consequence’’) Then we need to consider the project. So, project risk management is the processes of conducting risk management planning, identification, analysis, response planning, and controlling risk on a project. The objectives of project risk management are to increase the likelihood and impact of positive events, and decrease the likelihood and impact of negative events in the project.



The risk attitudes of both the organization and the stakeholders may be influenced by a number of factors, which are broadly classified into three themes:

- **Risk appetite:** which is the degree of uncertainty an entity is willing to take on in anticipation of a reward.
- **Risk tolerance:** which is the degree, amount, or volume of risk that an organization or individual will withstand.
- **Risk threshold:** which refers to measures along the level of uncertainty or the level of impact at which a stakeholder may have a specific interest. Below that risk threshold, the organization will accept the risk above that risk threshold, the organization will not tolerate the risk.

Then, some important planning activities need to be done for the risks in the Study:

1) Plan Risk Management: is the process of defining how to conduct risk management activities for this Study. The key benefit of this process is it ensures that the degree, type, and visibility of risk management are commensurate with both the risks and the importance of solving this type of the Study to the community. The risk management plan is vital to communicate with and obtain agreement and support from all buyers to ensure the risk management process.

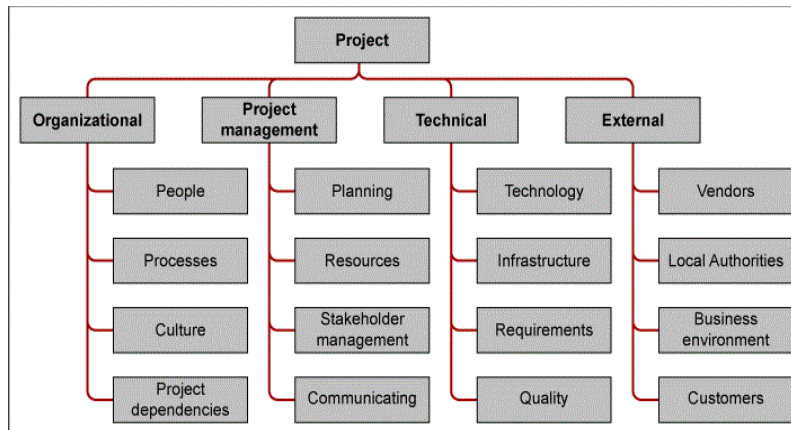
❖ **Based on the planning the Study output from that process will be:**

- **Methodology:** Defines the approaches, tools, and data sources that will be used to perform risk management on the project.
- **Roles and responsibilities:** Define the lead, support, and risk management team members for each type of activity in the risk management plan, clarifies their responsibilities.
- **Budgeting:** Estimates funds needed, based on assigned resources, for inclusion in the cost baseline and establishes protocols for application of contingency and management reserves.
- **Timing:** Defines when and how often the risk management processes will be performed throughout the project life cycle, establishes protocols for application of schedule contingency reserves, and establishes risk management activities for inclusion in the project schedule.
- **Risk categories:** Provide a means for grouping potential causes of risk. Several approaches can be used, for example, a structure based on project objectives by category. risk breakdown structure (RBS) helps the project team to look at many sources from which project risk may arise in a risk identification exercise. Different RBS structures will be appropriate for different types of projects. An organization can use a previously prepared custom categorization framework, which may take the form of a simple list of categories or

may be structured into an RBS. The RBS is a hierarchical representation of risks according to their risk categories.

Example:

RBS Hierarchical Representation2 Figure



- **Definitions of risk probability and impact:** The quality and credibility of the risk analysis requires that different levels of risk probability and impact be defined that are specific to the project context. The quality and credibility of the risk analysis requires that different levels of risk probability and impact be defined that are specific to the project context.
- **Probability and impact matrix:** A probability and impact matrix is a grid for mapping the probability of each risk occurrence and its impact on project objectives if that risk occurs, Risks are prioritized according to their potential implications for having an effect on the project's objectives. A typical approach to prioritizing risks is to use a look-up table or a probability and impact matrix. The specific combinations of probability and impact that lead to a risk being rated as "high," "moderate," or "low" importance are usually set by the organization.
- **Revised stakeholders' tolerances:** Stakeholders' tolerances, as they apply to the specific project, may be revised in the Plan Risk Management process.

- **Reporting formats:** Reporting formats define how the outcomes of the risk management process will be documented, analyzed, and communicated.
- **Tracking:** Tracking documents how risk activities will be recorded for the benefit of the current project and how risk management processes will be audited.

2) **Identify all the possible risks in this Study:** identifying the risks can be defined as the process of determining which risks may affect the project and documenting them.

The key benefit of this process is the documentation of existing risks and the knowledge and ability it provides to the project team to anticipate events. There are some tools which are helped in identifying those risks such as:

- **Documentation Reviews:** A structured review of the project documentation may be performed, including plans, assumptions, previous project files, agreements, and other information.
- **Delphi technique:** The Delphi technique is a way to reach a consensus of experts.
- **Interviewing:** Interviewing experienced project participants, stakeholders, and subject matter experts helps to identify risks.
- **SWOT Analysis:** Helps identify the broad negative and positive risks that apply to a project.
- **Root cause analysis:** Root-cause analysis is a specific technique used to identify a problem, discover the underlying causes that lead to it, and develop preventive action.
- **Risk identification checklists:** are developed based on historical information and knowledge that has been accumulated from previous similar projects and from other sources of information.

❖ **Based on the planning the Study output from that process will be:**

- **Risk Register:** The primary output from Identify Risks is the initial entry into the risk register. The risk register is a document in which the results of risk analysis and risk

response planning are recorded. It contains the outcomes of the other risk management processes as they are conducted, resulting in an increase in the level and type of information contained in the risk register over time.

The preparation of the risk register begins in the Identify Risks process with the following information, and then becomes available to other project management and risk management processes:

- **List of identified risks:** The identified risks are described in as much detail as is reasonable. A structure for describing risks using risk statements may be applied, for example, EVENT may occur causing IMPACT, or If CAUSE exists, EVENT may occur leading to EFFECT. In addition to the list of identified risks, the root causes of those risks may become more evident. These are the fundamental conditions or events that may give rise to one or more identified risks. They should be recorded and used to support future risk identification for this and other projects.
- **List of potential responses:** Potential responses to a risk may sometimes be identified during the Identify Risks process. These responses, if identified in this process, should be used as inputs to the Plan Risk Responses process.

Example:

Risk response process example3 Figure

Risk - All													
Identity	Version	Draft	Owner	Risk Name	Risk Type	Probability	Impact	Priority	Description	Mitigation Strategy	Mitigation Plan	Review Date	Narrative
RSK-1		A	REQMAN	Technical Risks	Technical			TBD				12/03	
RSK-2		A	REQMAN	SSR Integration	Technical	2 - Medium (1 in 20)	4 - High	High	There is a risk that the SSR will not integrate with the existing integrated navigation system.	Reduce		12/03	
RSK-3		A	REQMAN	Impact Shock	Technical	3 - Low (1 in 100)	4 - High	Medium	Current shock absorbers are no longer manufactured. The replacement has a lower absorbency, and may not provide a comfortable ride for passengers.	Accept	Accept that the shock on landing may be high, on the few occasions the aircraft lands heavily. Ensure the testing is thorough to make sure the shock absorbers do work!	12/03	
RSK-4		A	REQMAN	Air Frame Integrity	Technical	1 - High (1 in 2)	4 - High	Critical	The current air frame is 15 years old, and maintenance is getting harder. The requirements for increased maintenance cycles and reduced off-line times will be difficult to achieve with the current air frame.	Reduce	1. Conduct full maintenance survey of current air frame. Identify weaknesses and correct.	12/03	
RSK-5		A	REQMAN	Certification Guidelines	Technical	2 - Medium (1 in 20)	3 - Medium	Medium	Updated certification guidelines are due to be released, in the near future.	Accept	The affected areas of the project should be reviewed, to ensure that they conform to the new guidelines.	01/06	
RSK-6		A	REQMAN	Emergency Equipment Failure	Technical	3 - Low (1 in 100)	2 - Low	Low	Emergency equipment may deteriorate over time, especially when exposed to the environment found within the initial implementation period.	Other	Integration of the emergency equipment should be conducted later into the project.	01/06	
RSK-7		A	REQMAN	Initial Cost Overbudget	Technical	1 - High (1 in 2)	2 - Low	Medium	Expenditure for the first year may exceed the allocated budget.	Avoid		01/06	
RSK-8		A	REQMAN	Test Risk	Contractual			TBD	This is a sample risk.	Accept		27/02	

3) Perform Qualitative Risk Analysis: is the process of prioritizing risks for further analysis or action by assessing and combining their probability of occurrence and impact. The key benefit of this process is that it enables project managers to reduce the level of uncertainty and to focus on high-priority risks. **There are some tools which are helped in perform qualitative risk analysis those risks such as:**

- **Risk Probability and Impact Assessment:** investigates the likelihood that each specific risk will occur. Risk impact assessment investigates the potential effect on a project objective such as schedule, cost, quality, or performance, including both negative effects for threats and positive effects for opportunities.
- **Probability and Impact Matrix:** Risks can be prioritized for further quantitative analysis and planning risk responses based on their risk rating. Ratings are assigned to risks based on their assessed probability and impact. Evaluation of each risk's importance and priority for attention is typically conducted using a look-up table or a probability and impact matrix. Such a matrix specifies combinations of probability and impact that lead to rating the risks as low, moderate, or high priority. Descriptive terms or numeric values can be used depending on organizational preference.

Example:

likelihood and impact matrix4 Figure

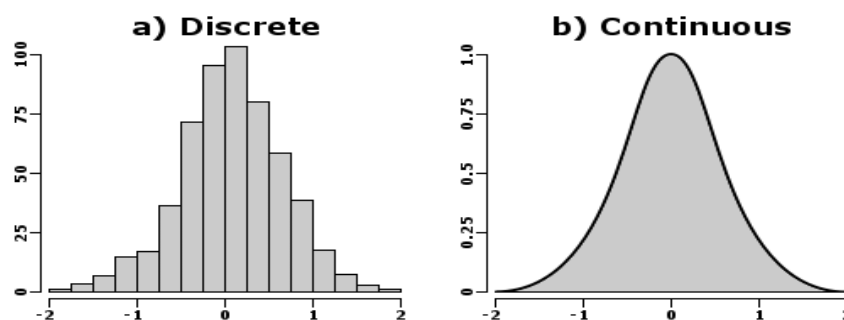
		Impact →				
		Negligible	Minor	Moderate	Significant	Severe
Likelihood ↑	Very Likely	Low Med	Medium	Med Hi	High	High
	Likely	Low	Low Med	Medium	Med Hi	High
	Possible	Low	Low Med	Medium	Med Hi	Med Hi
	Unlikely	Low	Low Med	Low Med	Medium	Med Hi
	Very Unlikely	Low	Low	Low Med	Medium	Medium

4) **Perform Quantitative Risk Analysis:** is the process of numerically analyzing the effect of identified risks on overall project objectives. The key benefit of this process is that it produces quantitative risk information to support decision making in order to reduce project uncertainty. **There are some tools which are helped in perform quantitative risk analysis those risks such as:**

- **Interviewing:** Interviewing techniques draw on experience and historical data to quantify the probability and impact of risks on project objectives.
- **Probability distributions:** Continuous probability distributions, which are used extensively in modeling and simulation, represent the uncertainty in values such as durations of schedule activities and costs of project components.

Example:

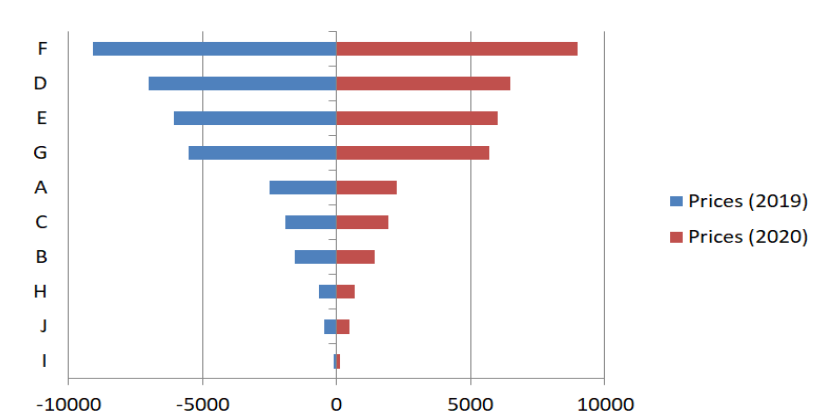
Discrete and Continuous Example5 Figure



- **Sensitivity analysis:** Sensitivity analysis helps to determine which risks have the most potential impact on the project. Example: Tornado Diagram.

Example:

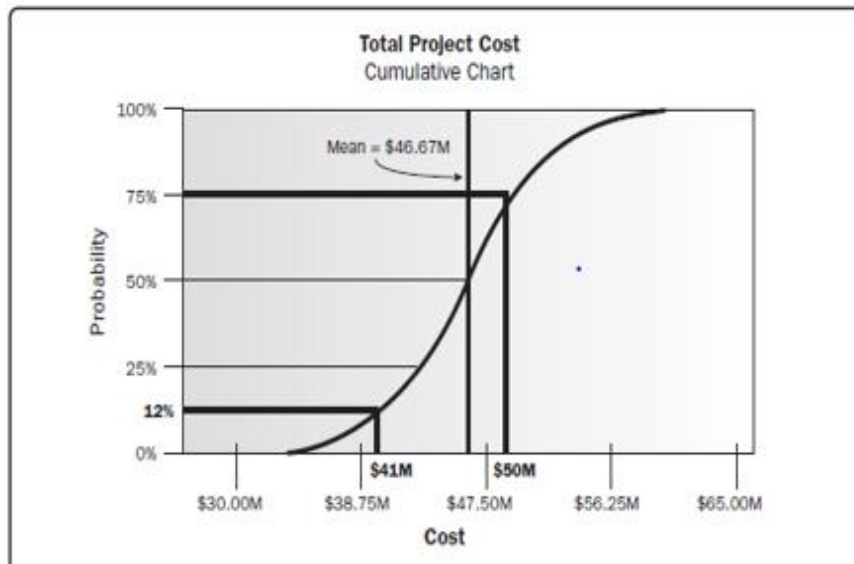
Sensitivity analysis example 6 Figure



- **Modeling and simulation:** A project simulation uses a model that translates the specified detailed uncertainties of the project into their potential impact on project objectives.

Example:

Project total Cumulative cost 7 Figure



5) Plan Risk Responses: is the process of developing options and actions to enhance opportunities and to reduce threats to project objectives. The key benefit of this process is that it addresses the risks by their priority, inserting resources and activities into the budget, schedule and project management plan as needed. There are some strategies to deal with the positive and negative risks:

➤ **Strategies for Negative Risks or Threats:**

Three strategies, which typically deal with threats or risks that may have negative impacts on project objectives if they occur, are: avoid, transfer, and mitigate. The fourth strategy, accept, can be used for negative risks or threats as well as positive risks or opportunities. Each of these risk response strategies have varied and unique influence on the risk condition. These strategies should be chosen to match the risk's probability and impact on the project's overall objectives. Avoidance and mitigation strategies are usually good strategies for critical risks with high impact, while transference and acceptance are usually good strategies for threats that are less critical and with low overall impact. The four strategies for dealing with negative risks or threats are further described as follows:

- **Avoid:** Risk avoidance is a risk response strategy whereby the project team acts to eliminate the threat or protect the project from its impact. It usually involves changing the project management plan to eliminate the threat entirely. The project manager may also isolate the project objectives from the risk's impact or change the objective that is in jeopardy. Examples of this include extending the schedule, changing the strategy, or reducing scope. The most radical avoidance strategy is to shut down the project entirely. Some risks that arise early in the project can be avoided by clarifying requirements, obtaining information, improving communication, or acquiring expertise.
- **Transfer:** Risk transference is a risk response strategy whereby the project team shifts the impact of a threat to a third party, together with ownership of the response. Transferring the risk simply gives another party responsibility for its management—it does not eliminate it. Transferring does not mean disowning the risk by transferring it to a later project or another person without his or her knowledge or agreement. Risk transference nearly always involves payment of a risk premium to the party taking on the risk. Transferring liability for risk is most effective in dealing with financial risk exposure. Transference tools can be quite diverse and include, but are not limited to,
 - the use of insurance, performance bonds, warranties, guarantees, etc. Contracts or

agreements may be used to transfer liability for specified risks to another party. For example, when a buyer has capabilities that the seller does not possess, it may be prudent to transfer some work and its concurrent risk contractually back to the buyer. In many cases, use of a cost-plus contract may transfer the cost risk to the buyer, while a fixed-price contract may transfer risk to the seller.

- **Mitigate:** Risk mitigation is a risk response strategy whereby the project team acts to reduce the probability of occurrence or impact of a risk. It implies a reduction in the probability and/or impact of an adverse risk to be within acceptable threshold limits. Taking early action to reduce the probability and/or impact of a risk occurring on the project is often more effective than trying to repair the damage after the risk has occurred. Adopting less complex processes, conducting more tests, or choosing a more stable supplier are examples of mitigation actions. Mitigation may require prototype development to reduce the risk of scaling up from a bench-scale model of a process or product. Where it is not possible to reduce probability, a mitigation response might address the risk impact by targeting linkages that determine the severity. For example, designing redundancy into a system may reduce the impact from a failure of the original component.
- **Accept:** Risk acceptance is a risk response strategy whereby the project team decides to acknowledge the risk and not take any action unless the risk occurs. This strategy is adopted where it is not possible or cost-effective to address a specific risk in any other way. This strategy indicates that the project team has decided not to change the project management plan to deal with a risk, or is unable to identify any other suitable response strategy. This strategy can be either passive or active. Passive acceptance requires no action except to document the strategy, leaving the project team to deal with the risks as they occur, and to periodically review the threat to ensure that it does not change significantly.

➤ **Strategies for Positive Risks or Opportunities:**

- **Exploit:** The exploit strategy may be selected for risks with positive impacts where the organization wishes to ensure that the opportunity is realized. This strategy seeks to eliminate the uncertainty associated with a particular upside risk by ensuring the opportunity definitely happens. Examples of directly exploiting responses include assigning an organization's most talented resources to the project to reduce the time to completion or using new technologies or technology upgrades to reduce cost and duration required to realize project objectives.
- **Enhance:** The enhance strategy is used to increase the probability and/or the positive impacts of an opportunity. Identifying and maximizing key drivers of these positive-impact risks may increase the probability of their occurrence. Examples of enhancing opportunities include adding more resources to an activity to finish early.
- **Share:** Sharing a positive risk involves allocating some or all of the ownership of the opportunity to a third party who is best able to capture the opportunity for the benefit of the project. Examples of sharing actions include forming risk-sharing partnerships, teams, special-purpose companies, or joint ventures, which can be established with the express purpose of taking advantage of the opportunity so that all parties gain from their actions.
- **Accept:** Accepting an opportunity is being willing to take advantage of the opportunity if it arises, but not actively pursuing it.

6) Control Risks: is the process of implementing risk response plans, tracking identified risks, monitoring residual risks, identifying new risks, and evaluating risk process effectiveness throughout the project. The key benefit of this process is that it improves efficiency of the risk approach throughout the project life cycle to continuously optimize risk responses.

The Control Risks process applies techniques, such as variance and trend analysis, which require the use of performance information generated during project execution. Other purposes of the Control Risks process are to determine if:

- Project assumptions are still valid.
- Analysis shows an assessed risk has changed or can be retired.
- Risk management policies and procedures are being followed.
- Contingency reserves for cost or schedule should be modified in alignment with the current risk assessment.

Body of Knowledge:

There are various online car dealers that buyers can buy a used car from. For example, CarGurus is an online dealership, while there's also a hybrid section on Autotrader. With the rise in e-commerce, we have seen many new and innovative services to meet the increased demand for convenience and product variety. One such service is online auto dealerships like CarGurus and Autotrader, which offer fast service at great prices for anyone looking to buy a car (Zhalezka and Zhao, 2021). One of the most common questions people ask is where to find a dealership that offers the best price on the vehicle they want. The good news is that there are several resources available that can help them find those dealers. Consumers easily shop for products and services and get the best deals and discounts on the internet. When buying a used car online, consumers can now take advantage of e-commerce car dealers. These dealers offer great deals on used cars so that one doesn't have to go through the hassle of visiting multiple dealerships. Although e-commerce car dealers may be a blessing for consumers, they also present challenges as

the business model is new, and not many people know how to buy a used car online.

Buying a used car online is the fastest way to buy the cheapest car possible. The cost of purchase, maintenance, and insurance is much lower than buying new cars. The increasing popularity of used-car websites has led to more options for consumers and increased competition for sellers (Furber et al., 2020). This shift in buying patterns has created a market with many players and many different challenges for buyers and sellers. The only downside of buying an e-commerce car is that there are no warranties when buyers buy one through this channel. However, this can be easily fixed by researching before buying the vehicle and asking for a warranty transfer. E-commerce Car Dealers are the best sellers of used cars in the United States. The e-commerce car dealers will provide information on what type of available vehicles they have and how much they cost to help ensure that buyers get what suits their needs at an affordable price

In general, it's cheaper to buy a used car online than it is to buy from an actual dealership. However, buying a used car from a private seller can be risky if the seller doesn't have good reviews or isn't certified by trustworthy sources such as Cars.com and Kelley Blue Book. Used car dealers are an integral part of the auto industry. They often have many used cars to choose from, so car shoppers need to be armed with information on what they should look for in a used car (Bobeth and Kastner, 2020).). A major obstacle to buying a used car online is finding one that has reliable mileage and features. The best way to do this is by looking at the feedback other buyers have left about the care and services they received after purchasing their cars from other sites like eBay or Craigslist.

Analysis:

This study also reveals that 80% of consumers are willing to buy used cars online to save time and money. In the past few years, buying a used car online has become more popular. This is due to the convenience of not paying for a test drive and the ability to compare multiple offers from different dealerships. This one-of-a-kind study by eBay Motors shows that most consumers are satisfied with their used car purchase online (Bobeth and Kastner, 2020).). Many people who have purchased a pre-owned vehicle from an online dealership reported that they would buy another one from this same dealership again in the future. Online car retailing has seen a significant increase over the last few years. In the year 2016, online car sales have hit a record high of \$121 billion. Used car dealerships are not that common in the United States, but they are in Europe and Asia. They provide a good source of income for these regions because they are not burdened with sales tax or other costs. When it comes to buying a used car online, the first thing the buyer needs to do is find an e-commerce dealer. For cars under \$10,000, the return will be somewhere around 15% on average. If buyers buy a \$30,000 or \$50,000 car, the return will be around 10%. The three most popular used cars sold on the internet are the Honda Civic, Toyota Camry, and Nissan Altima (Puteri and Safitri, 2020). The Honda Civic leads with 54% of the user share. E-commerce Car Dealerships are dominant online sellers this year, with an 87% of market share. They sell over 3 million cars every year with an average sale price of \$17,000. The average sale price of a used car online has gone up by \$17,000 in the past ten years. This is due to the rise in the number of people who are buying cars online.

According to the study, more than 80% of Americans buy their cars from dealerships. E-commerce Car Dealers are the most preferred place to buy a used car for Americans, where more than 75% of them have bought their cars through it. Buying a Used Car Online is not always better than going to an auto dealer. There are certain instances when a buyer will be better off buying a car from the dealership, for example, when a buyer urgently needs a

vehicle or if the buyer has strict requirements on the car features that the dealer has to offer. The number of online car dealerships is estimated to have increased by more than 20% in 2021. This has led to an increase in alternative options for buyers looking for used cars at affordable prices. The number of used cars bought online has increased by 30% within the last five years. This trend is reflected in the increase in the sales of used cars online, which have reached \$8 billion in 2021. Honda has found that nearly 50% of people who buy a Honda from an e-commerce site save up to \$5,000 on their purchase compared with those who visit a dealership. With the increasing demand for used cars, more and more people consider buying a used car online. Online e-commerce car dealers offer a buyer the best deals on quality, pre-owned vehicles. The 2021 study by AutoTrader found that 57% of consumers prefer to buy their cars online over any other option, the most popular choices being eBay (50%), Amazon (35%), and Google Shopping (26%). The global e-commerce forecast will reach \$4.2 trillion by 2020, up from \$3 trillion in 2021.

According to a study, over 90% of the cars on the used car market were sold by e-commerce dealers. It can be hard to compare prices and make a good decision when buyers' not physically able to see the car. The average cost of a new car in 2018 is around \$34,000. The average cost of a used car is around \$4,500. Online dealers offer lower prices than offline dealers because they don't have to pay for advertising and overhead expenses.

In order to have a good analysis for the study, first we need to explain all the steps starting from turn on the computer, until he receives the required car in his house. Those steps will be as the following:

- **Step 1** - The buyer will open his PC and try to connected to the web.
- **Step 2** - The buyer needs to search for a good online car dealer.
- **Step 3**- They will look for the customer's comments and the ratings on that website.
- **Step 4** - They will look for the type of car he requires.

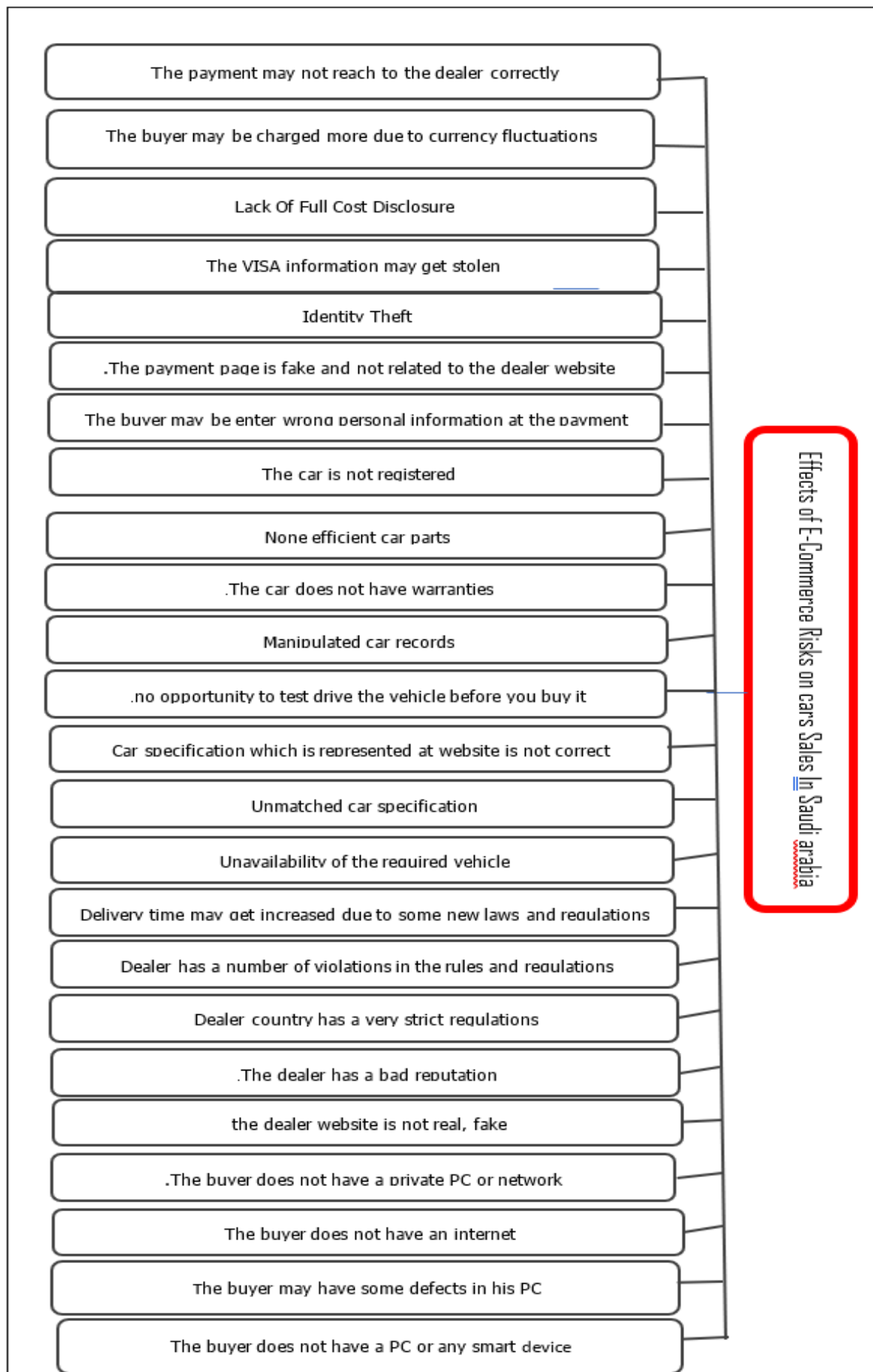
- **Step 5** - If it is matched, he must look for the specifications of it.
- **Step 6** - If the buyer agrees on the price view, he will proceed for payment.
- **Step 7** - The buyer needs to fill the payment page with his VISA card information.
- **Step 8** - If his payment is approved, he will receive a notification with the date he will receive his car.
- **Step 9**- The dealer needs to ship the car to the buyer, on the agreed date for delivery.
- **Step 10**- The car will be transport usually through a third party.
- **Step 11**- The buyer will receive his car with all registration papers.

After identifying the events we need to define all possible risks according to the events that take place in the EC process then we need to create a risk break down structure (RBS). RBS is a critical tool for risk management because it may help you understand how risk is distributed within a company or on a project. You can do the following using RBS:

- Risks should be presented in a systematic, easy-to-understand manner.
- Write a summary of the risk management procedure.
- Determine which elements of the project have a higher chance of failure.
- Identify areas that require more attention.
- Check to see if there are any repeating danger themes.
- Calculate your project's total risk exposure.

RBS Structure for the Study:

Figure 8 RBS for study



After the RBS is established, we need to use a tool which is called IF..... Then.....statement, to present situations and their possible outcomes and to know the impacts that will affect the enterprise objectives, in order to eliminate it.

Risks	IF	THEN
Risk 1	He doesn't have enough money.	Can't order his car.
Risk 2	Low maintenance to his PC.	Pc doesn't work.
Risk 3	The Internet service provider didn't provide service for the area.	Can't order his car.
Risk 4	He is sharing it with the building he's living in.	His information isn't private.
Risk 5	The buyer didn't check the website with the official authorities.	His money may get stolen.
Risk 6	The buyer didn't check the dealer with the official authorities.	His money may get stolen.
Risk 7	The buyer didn't check the dealer's country regulations.	May cause extra fees - his product may not be delivered.
Risk 8	The buyer didn't check the dealer with the official authorities.	His money may get stolen.
Risk 9	The buyer has bought for unstable country.	The delivery time may get increased.
Risk 10	The buyer chooses a very rare specification.	He may not find it.
Risk 11	The dealer doesn't have all the car Models	Car may not be available at the moment.
Risk 12	The buyer didn't visit the website location by himself.	Received car doesn't meet the wanted specifications.
Risk 13	The buyer didn't visit the website location by himself.	Received car have many malfunctions.
Risk 14	The buyer didn't check the car records	Received car may not meet the provided info.
Risk 15	The buyer didn't inquire about the warranties.	Received car doesn't have warranties.
Risk 16	The buyer didn't check the car prior to the purchase.	Received car doesn't work properly.
Risk 17	The buyer didn't check the car records	Received car may not be registered.
Risk 18	The buyer didn't check the filled spaces again.	payment will not go through.
Risk 19	The buyer didn't check the dealer's website records.	Buyer's money will be stolen.
Risk 20	The buyer shared his identity with the wrong website.	His identity may get stolen.
Risk 21	The buyer didn't check the website records	All Buyer's money will be stolen.
Risk 22	The buyer didn't confirm the final payment with the dealer.	Extra fees.
Risk 23	The buyer didn't agree with the dealer on a fixed price	Extra fees.
Risk 24	The buyer transferred the money to another person.	Money may get stolen.

After the evaluation of the probability and the impacts for each risk element, they need to be represented in a probability and impact matrix.

Table 2 Probability and impact table

Risks	Risk Event	Probability	Impact	Risk Level
Risk 1	The buyer does not have a PC or any smart device.	Low	Very High	Moderate
Risk 2	The buyer may have some defects in his PC.	Low	High	Moderate
Risk 3	The buyer does not have an internet.	Moderate	Very High	High
Risk 4	The buyer does not have a private PC or network.	Low	Medium	Low
Risk 5	The dealer website is not real, fake.	Low	Very High	Moderate
Risk 6	The dealer has a bad reputation.	Very Low	Very High	Moderate
Risk 7	Dealer country has a very strict regulations	Low	Very High	Moderate
Risk 8	Dealer has a number of violations in the rules and regulations.	Moderate	Very Low	Low
Risk 9	Delivery time may get increased due to some new laws and regulations.	Very Low	Medium	Low
Risk 10	Unavailability of the required vehicle	High	High	High
Risk 11	Unmatched car specification	Low	Low	Low
Risk 12	Car specification which is represented at website is not correct	Low	High	Moderate
Risk 13	no opportunity to test drive the vehicle before you buy it.	Low	High	Moderate
Risk 14	Manipulated car records	Low	Medium	Low
Risk 15	The car does not have warranties.	Low	Medium	Low
Risk 16	None efficient car parts	Moderate	Medium	Moderate
Risk 17	The car is not registered	Low	Very High	Moderate
Risk 18	The buyer may be entering wrong personal information at the payment page.	Low	Very Low	Low
Risk 19	The payment page is fake and not related to the dealer website.	Moderate	Very High	High
Risk 20	Identity Theft	Low	High	Moderate
Risk 21	The VISA information may get stolen	High	Very High	High
Risk 22	Lack Of Full Cost Disclosure	Moderate	Medium	Moderate
Risk 23	The buyer may be charged more due to currency fluctuations.	Moderate	Medium	Moderate
Risk 24	The payment may not reach to the dealer correctly.	Moderate	Very High	High

Table 3 Probability and impact matrix

Probability	Very High					
	High				10	21
	Moderate	8		16,22,23		3,19,24
	Low	18	11	4,14,15	2,12,13,20	1,5,7,17
	Very Low			9		6
	None	Very Low	Low	Medium	High	Very High
	Impact					

Risk Level	
High	
Moderate	
Low	

Findings and Results:

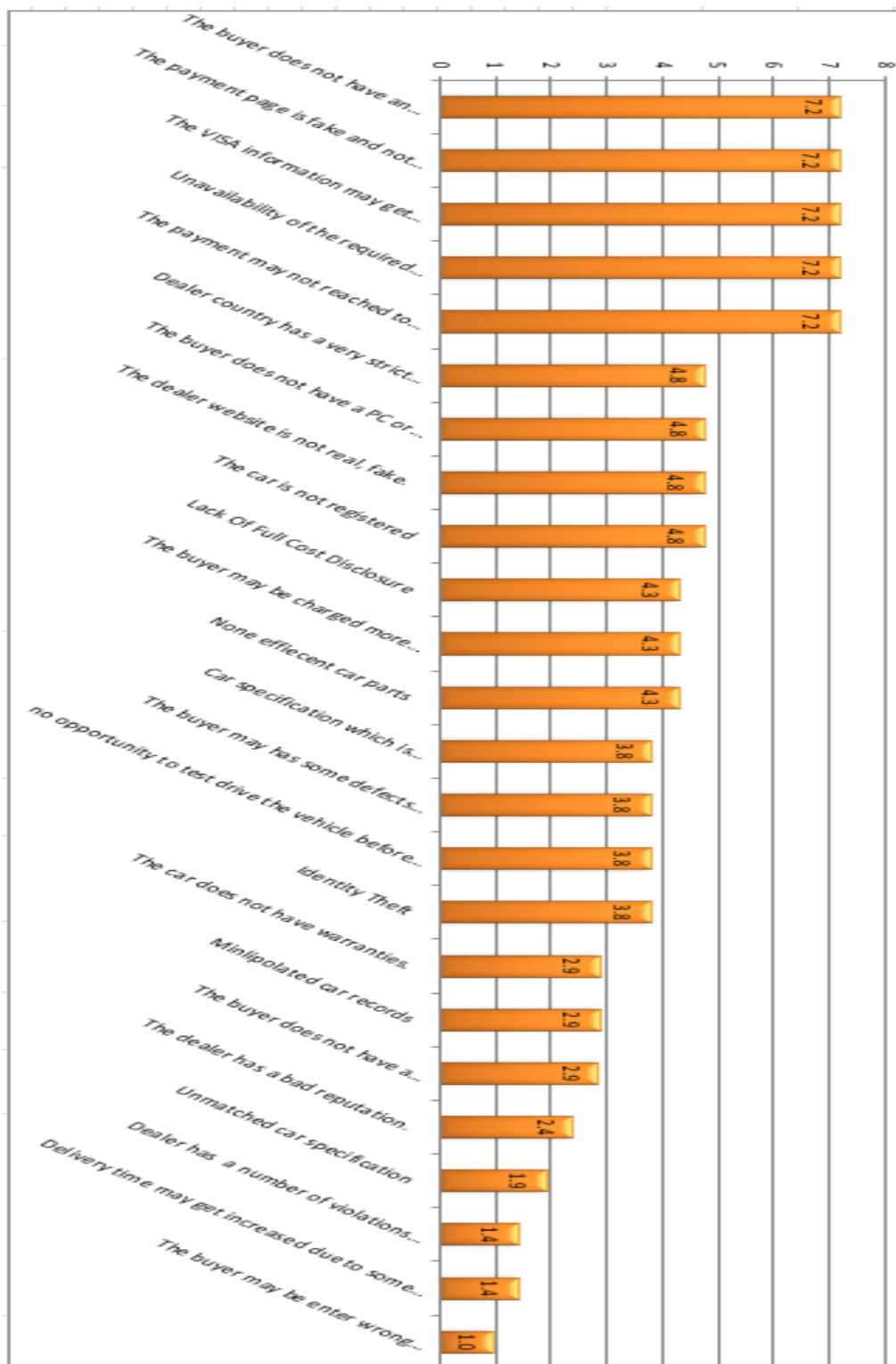
After analyzing and preparing the risk probability matrix, document the enterprise risk assessment process (along with this study) following a specific standard and list its important features. The combined results from all the processes mentioned previously makes the risk register which shows the statement, probability, impact, and rank for each risk element.

RBS #	Status	Risk Category	Risk Event	Cause	Effect	Threat or Opportunity	Primary Objective	Probability	Impact	Response Strategy	Response Actions	Responsible	Internal or Milestone Check	Status Date and Review Comment	Relative Risk Value	Rank
1	Active	External	The buyer does not have a PC or any smart device.	He doesn't have enough money	Can't order his car	Threat	Cost Minimize	Low	Very High	Avoid	Buy PC to avoid unsuitability of website access	Buyer/agent	One of a Time	2 weeks before Deal	4.19	7
2	Active	External	The buyer may get some defects in his PC.	low maintenance in his pc	PC doesn't work	Threat	Cost Minimize	Low	High	Avoid	Do regular maintenance	Buyer/agent	Quarterly		3.81	14
3	Active	External	The buyer does not have an internet.	The internet service provider don't provide service for the area	Can't order his car	Threat	Scope	Moderate	Very High	Avoid	Provide the service to the area	The internet service providers (ISP)	One of a Time		7.22	1
4	Active	External	The buyer does not have a private PC or network.	He is sharing it with the building he's living in	his information isn't private	Threat	Scope	Low	Medium	Mitigate	Buy a private pc	Buyer/agent	One of a Time		2.88	19
5	Active	External	The dealer website is not real like official sites	the buyer don't check the website with the official sites	his money may get stolen	Threat	Scope	Low	Very High	Mitigate	check with the official sites	Buyer/agent	One of a Time		4.78	8
6	Active	External	The dealer has a bad reputation.	the buyer don't check the dealer with the official sites	his money may get stolen	Threat	Scope	Very Low	Very High	Avoid	check with the official sites	Buyer/agent	One of a Time		2.40	20
7	Active	External	Dealer country has a very strict regulations	the buyer don't check the dealer's country regulations	may cause extra fees - his product may not be delivered	Threat	Scope	Low	High	Transfer	He is an insurance company	insurance company	One of a Time		4.19	6
8	Active	External	Dealer has a number of violations in the rules and regulations.	the buyer don't check the dealer with the official sites	the money may get stolen	Threat	Scope	Moderate	Very Low	Avoid	check with the official sites	Buyer/agent	One of a Time		1.43	22
9	Active	External	Delivery time may get increased due to some new laws and regulations.	the buyer has bought for unstable country	the delivery time may get increased	Threat	Time Minimize	Very Low	Medium	Accept	the buyer should wait his delivery	Buyer/agent	One of a Time		1.43	23
10	Active	External	Unreliability of the required vehicle	the buyer choose a very rare specifications	he may not find it	Threat	Scope Creep	Moderate	Very High	Avoid	Choose an available car	Buyer/agent	One of a Time		7.19	4
11	Active	External	Unmatched car specification	the dealer doesn't have all the car models available at the moment	car may not be available at the moment	Threat	Time Minimize	Low	Low	Accept	Look for another Dealer	Buyer/agent	One of a Time		1.92	21
12	Active	External	Car specification which is represented at website is not correct	the buyer don't visit the website location by him self	Received car doesn't meet the wanted specifications	Threat	Quality	Low	High	Transfer	He is an agent to check the car for you	Buyer/agent	One of a Time		3.83	13
13	Active	External	no opportunity to test drive the vehicle before you buy it.	the buyer don't visit the website location by him self	received car have many malfunctions.	Threat	Quality	Low	High	Transfer	He is an agent to check the car for you	Buyer/agent	One of a Time		3.81	15
14	Active	External	Multiplicated car records	the buyer don't check the car records	Received car may not meet the provided info	Threat	Quality	Low	Medium	Transfer	He is an agent to check the car for you	Buyer/agent	One of a Time		2.87	18
15	Active	External	The car does not have warranties.	the buyer don't inquire about the warranties	Received car doesn't have warranties	Threat	Quality	Low	Medium	Avoid	Check the car records	Buyer/agent	One of a Time		2.87	17
16	Active	External	None efficient car parts	the buyer don't check the car prior to the purchase	Received car doesn't work properly	Threat	Quality	Moderate	Medium	Transfer	He is an agent to check the car	Buyer/agent	One of a Time		4.29	12
17	Active	External	The car is not registered	the buyer don't check the car records	Received car may not be registered	Threat	Quality	Low	Very High	Avoid	Check the car records	Buyer/agent	One of a Time		4.78	9
18	Active	External	The buyer may be entering wrong personal information at the payment page.	the buyer don't check the filed spaces again	payment will not go through	Threat	Time Minimize	Low	Very Low	Accept	the buyer should check the filed when fill it	Buyer/agent	One of a Time		0.96	24
19	Active	External	The payment page is fake and not related to the dealer website.	the buyer don't check the dealer's website records	Buyer's money will be stolen	Threat	Time Minimize	Moderate	Very High	Avoid	check the website records	Buyer/agent	One of a Time		7.21	2
20	Active	External	Identity Theft	the buyer shared his identity with the wrong website	his identity may get stolen	Threat	Cost Minimize	Low	High	Avoid	check the website records	Buyer/agent	One of a Time		3.81	16
21	Active	External	The TUSA information may get stolen	the buyer don't check the website records	all Buyer's money will be stolen	Threat	Cost Minimize	Moderate	Very High	Avoid	the buyer should check the website records	Buyer/agent	One of a Time		7.20	3
22	Active	External	Lack Of Full Cost Disclosure	the buyer don't confirm the final payment with the dealer	extra fees	Threat	Cost Minimize	Moderate	Medium	Avoid	the buyer should confirm the payments with the dealer	Buyer/agent	One of a Time		4.30	10
23	Active	External	The buyer may be charged more due to currency fluctuations.	the buyer don't agree with the dealer on a fixed price	extra fees	Threat	Cost Minimize	Moderate	Medium	Avoid	the buyer should agree on a fixed price with the dealer prior to the deal	Buyer/agent	One of a Time		4.30	11
24	Active	External	The payment may not reached to the dealer correctly.	the buyer transferred the money to other person	money may get stolen	Threat	Cost Minimize	Moderate	Very High	Avoid	the buyer should check the transaction file of the buyer	Buyer/agent	One of a Time		7.19	5

Table 4 Risk Register

The next Figure shows the most important risk to pay attention to:

Risk Importance9 Figure



How the problem is solved:

Buying a car online is not an easy task to do. Many issues can arise while buying a car, like the lack of information, hidden issues with the car's condition, and buyers being scammed. The key to solving these problems is a transparent platform where buyers can see all the used cars, their features, and their condition (Puteri and Safitri, 2020). This is why only trusted platforms are recommended for buying used cars online. These problems will be solved by providing an accessible platform that offers transparency, trustworthiness, and ease in finding cars.

Solution 1: An independent third party must inspect the car before purchase. In a market that is saturated with vehicles, it is important to make sure that a buyer is purchasing a reliable and safe one. In the past, the whole process was quite complicated. To avoid any potential trouble later, people had to pay for an inspection from a third party. However, it might be time-consuming and expensive. Inspecting a vehicle is the only thing the buyer should do to ensure their safety and well-being (Saldamli et al., 2020). The car must also be inspected during regular maintenance and for any other repairs that may be needed. Car inspection is one of the most crucial steps for people who want to buy a new car. It's important to do it before a buyer buys the car because if something is wrong with the car, a buyer might need to spend more money buying it from a dealer or another person.

The car must not be bought without getting it inspected by an independent third party to ensure safe use. In a nutshell, a third-party inspection ensures that the automobile is free from any defects and does not have any safety issues. A car must be inspected by an independent third party before purchase to ensure its safety and value. This is the case for all vehicles, not just cars. Like buying a house, a buyer needs to inspect before signing the buyer's property contract. There are two types of inspectors, one that inspects cars mechanically and another that inspects them visually or at least visually detect defects with cameras or lasers. Some organizations even use both types of inspectors to ensure that they meet all their required standards.

Solution 2: A warranty must be provided so that customers know they will be taken care of in the case of an issue with the car. A warranty must be provided so that customers know they will be taken care of in the case of an issue with the car. Some companies give discounts or incentives like loaner cars or rental cars for customers who purchase warranties (Yoo and Ahn, 2021). A warranty is a guarantee that the company will provide customer support for a specified period. Companies can provide their customers with this warranty in several ways, such as giving them price breaks on their next car purchase if they buy a warranty or giving them special privileges like loaner cars or rental cars if they have to return their vehicle following an issue.

One of the most important parts of a car sales contract is the warranty. When a customer buys a car, they need to know what will happen if something goes wrong. The customer should know that they will be taken care of if anything goes wrong with the purchase. The automobile industry is growing faster than ever before, but some problems still arise when purchasing a new vehicle. There are several ways to ensure customers are taken care of in an issue with their new vehicle through warranties.

The warranties are important because it protects both the customer and the brand. When someone buys a new car, they are investing in something new, and there is always a chance for something to go wrong with it. When this happens, the customer wants their manufacturer to provide them with an affordable solution. The warranty ensures that even if things go wrong, customers will be taken care of by their brand, and it is important to provide a warranty on the car to let the customers know that they will be taken care of in case of any issue. This helps reduce the risk of losing customers and make sure that they are happy with their purchases. Finally, a warranty is an assurance given by one company to another, usually exchanging a promise of payment or service. A warranty can take different forms, but it typically covers repairs or replacement parts if something goes wrong with the item during its lifetime.

Conclusion and Recommendation:

In conclusion, this study suggests that online car dealerships have a better advantage than traditional brick-and-mortar car dealerships because of the lack of overhead costs and the ability to offer inventory from other sellers. E-commerce Car Dealers will have a better competitive advantage over traditional brick-and-mortar stores because of the lack of overhead costs and their ability to offer inventory from other sellers. However, e-commerce car dealerships should be careful with how they price their inventory. They cannot rely on discounts and sales as much as traditional car dealers do because their business model is different. The study reveals the challenges faced by dealerships on the web. With an increase in demand for cars, it's becoming increasingly difficult for traditional dealers to compete online. The internet has had a profound effect on the automobile industry. E-commerce car dealerships offer new car prices online with many options to choose from, including vehicle warranties and extended service agreements.

There are many advantages of buying a car online. One is convenience, which means buyers don't have to go through all the trouble or hassle of dealing with an actual dealership or dealership with old cars. Another is price, which makes it easier for buyers to find the best deals. Another advantage is that buyers can compare prices among different dealerships to get better deals on the purchase. Some disadvantages are not being able to touch and feel the vehicle before the buyer buys it. Still, most people don't mind this inconvenience because they know what they are getting into beforehand.

It is recommended that consumers consider purchasing a used car from an e-commerce car dealer. Researching and buying a used car online is not without risks. It can be difficult to get the right information, and the buyer might get ripped off if the buyer doesn't pay attention to the details. With this in mind, buyers decided to create an article that would detail

everything about buying a used car online, from researching the vehicle's history, conducting research on e-commerce dealerships, and negotiating with sellers.

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Effect of E-commerce risks on cars sales in saudi arabia

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