

# Analysis of Vulnerability Rates in Construction Projects due to Lack of Risk Management in Pakistan

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## ABSTRACT

The aim of the research is to identify and analyse how risk management and strategies in the construction projects of Pakistan can affect (either increase or decrease) the vulnerability rates of the project. Following objectives have been established for the current study. Since the main aim of this study is to analyse the vulnerability rates in construction projects due to the lack of risk management strategies, therefore, the researcher is interested in identifying the quantifiable facts and figures that can help to test the hypotheses statements made in this research. This implies that the current research is quantitative in nature, and thus, statistical tools and techniques are used in the current study. The current study undertakes the convenience sampling technique in order to select the respondents for research purposes. The survey respondents for this study are the managers of 10 leading construction firms of Pakistan, while a sample size of 300 was the initial estimate of the population. When the survey questionnaire was distributed, 282 valid responses have been gathered. The collected data from the survey method is then analysed via a statistical software named SPSS. Correlation, regression, reliability and descriptive tests have been applied whereas, regression test allows to tests the hypotheses statements. Findings of the research revealed that there is a significant impact of lack of risk management on the vulnerability rates in the context of construction projects of Pakistan. In this way, the null hypothesis of the study is rejected and the alternative hypothesis of the study is accepted.

**Keywords:**Construction, construction projects, Pakistan, risk, risk management, risk management strategies

## 1 INTRODUCTION

### 1.1 Background

With the increase in demand for ever larger and complex works carried out at ever narrower deadlines, it has made construction companies, contractors and other construction companies want to identify, even in the phase of planning, all the risks that will be submitted to them[1]. Risk Management in the field of construction makes it possible to recognize these situations in advance which makes the manager and contractor able to make effective decisions that make use of such risks in a favourable way to the project, ensuring their success. It is important for firms in this sector to come to know as to how to deal with uncertain events, as they result in delivery delays or increase in costs which are considered as two extremely unfavourable situations for any firm involved in construction [2]. Risk Management in the field of construction assists in identifying the threats that can damage or harm the company with the help of physical analysis of environment [3]. In carrying out important projects, it is necessary to plan in advance to resolve any problems that may arise in their progress. Therefore, in project management, an extremely important area is risk management.

### 1.2 Aim and Objectives

The aim of the research is to identify and analyse how risk management and strategies in the construction projects of Pakistan can affect (either increase or decrease) the vulnerability rates of the project. Following objectives have been established for the current study.

- To determine the concepts and strategies of risk management used in Pakistani firms that are involved in the construction projects.
- To evaluate the risk management effectiveness used in the construction projects of Pakistan
- To analyse and evaluate the vulnerability rates in construction projects because of risk management lacking or ineffective application of practices of risk management
- To recommend plausible recommendations to the construction firms of Pakistan for improving the risk management practices in their projects.

### 1.3 Research Hypothesis

- H1: Effective risk management practices possess a significant impact on the reduction of vulnerabilities in construction firms
- H0: No significant impact is possessed by effective risk management practices on the reduction of vulnerabilities in construction firms

## 2 LITERATURE REVIEW

### 2.1 Risk Management in Construction Projects

Risk management is the process of identifying all risk probabilities in a project and establishing action plans to circumvent potential problems [4]. According to the sixth edition of the PMBOK Guide, the project risk management involves the processes of planning, identification, analysis, response planning, response implementation, and risk monitoring in a project. For example, if the project is building an infrastructure, one of the risks identified and analysed could be an accident on the site, such as a fall [5]. An action planned to circumvent this possible problem could be a daily inspection that would ensure that workers were properly using safety equipment. A risk in a project is an event that has some level of likelihood of happening and may impact the progress of the project. Although the name suggests they are bad things, this is not necessarily true [6]. In fact, risk can negatively (threat) or positively (opportunity) impact the project. The risk management system is a single mechanism for identifying, controlling and managing risk, its causes and possible consequences. Creating and ensuring the effective functioning of such a system should be the main task of construction organisations, including ensuring its comprehensiveness, differentiability, depending on the risk prioritization at the construction stages, reliability, updating and uniformity of the information base for making management decisions [7]. The risk management system can essentially be an internal control system, the main elements of which in the construction industry organisations can be analysis and monitoring of planned and actual indicators, market trends, analysis of financial flows management system, accounting operations, corporate relations. The key priority in risk management will always remain with the head of the decision-making body, with authority and responsibility for the result [8]. Therefore, in the line of business thinking of a leader, risk assessment in the course of making a managerial decision should be an obligatory element. The greater the number of risk-oriented managers, the more stable the enterprise.

### 2.2 Risk Management Framework

According to PMBOK, there are seven processes that should be part of risk management. They are as follows:

#### 1. Risk Management Planning

The planning of risk management, as its title says, is to plan how management will be executed, monitored and controlled [7]. This includes defining a methodology and delegating roles and responsibilities to those involved, who will be in charge of tasks related to this management. In addition, the planning should contain information related to the budget, forecast of time to be spent, etc.

#### 2. Risk Identification

The risk identification step is precisely the mapping of all risks to which your project is exposed [9]. This mapping should include details about each of them, such as their causes and effects, the activities affected, their triggers, and so on.

#### 3. Conducting Qualitative Risk Analysis

The qualitative analysis concerns a prioritization of identified risks, whether due to their probability of occurrence or the effect they may have on the project. The rating can be made on a scale where the probability can range from very high to almost zero, and the impact can range from very severe to negligible [8]. It is also possible to crosscheck this information into a probability and impact matrix to prioritize risks that are both very likely to occur and have a major impact on the project.

#### 4. Conducting Quantitative Risk Analysis

Here, a quantitative assessment is made of the impact that prioritized risks will have on the project if they become a real problem [10]. This assessment should be expressed in numbers, which can range from the money that can be lost to a delay in completing the project.

#### 5. Risk Response Planning

Here, finally, we begin to develop strategies and action plans to address the identified risks [6]. This step may be to prevent problems so they do not become a reality by investing in eliminating their causes and fixing faults or plans to manage problems if they happen. In addition, a risk manager is assigned to each risk who is responsible for circumventing the problem should it occur.

#### 6. Implementation of Risk Responses

Implementing risk responses is nothing more than putting into practice what is designed to work around the problems [6]. To do this to the best of our ability, it is important that the planning steps have been well thought out.

## 7. Risk Monitoring

This step is to follow the project through its development, noting when it is being exposed to risks and identifying the right time to implement the planned response [11]. Account must also be taken here of the new risks that may be emerging as the project progresses so that risk management becomes a continuous and cyclical process.

### 2.3 Benefits of Risk Management in Construction Projects

Flexibility is one of the biggest benefits of risk management of construction project management. It allows you to follow the strategy for the project to be completed, but if the manager finds a smarter way forward, he can take it because there are techniques and tools to deal with the changes [12]. This alone is worth the price of many small and midsize businesses adopting project management. Another advantage that the construction company has in adopting management methods, according to her, is that when stakeholders are aligned and the strategy is clear, the potential risks are evident and stand out [13]. Management provides the red flag at the right time before project execution begins, reflecting more effective resource utilization. Increasing quality is often the result of better management efficiency. By superficially assessing the size of the project, it is already possible to imagine the level of complexity of the risks involved, with the intersection of numerous processes, activities and teams from different areas that need to evolve simultaneously and linearly [14]. Undoubtedly, the builder's knowledge and expertise in Risk Management concepts, techniques and best practices is the watershed between a successful work or a venture full of flaws and inconsistencies. Risk management is an essential activity for increasing project success rates. The fact is that every project has risks that need to be managed, that is, it is necessary to know what impact each risk situation can have on the project, as well as how to act in each of these situations. Another risk management gain can be seen over the duration of the project [15]. Factors that define the term are resource estimates and activity estimates. And every estimate can actually run away from the planned data. Thus, one of the biggest risks in projects is the availability of resources in the planned time. An efficient and clear response plan would be able to greatly reduce impacts overtime should such a risk arise. Another very relevant factor and one of the biggest risks to the project term is the scope change, changing the work up and down generates rework that takes time to do [16].

### 2.4 Vulnerability Issues in Construction Projects

Risk is often interpreted as a result of the negative impact of an activity that causes a loss. Regarding construction companies, the risks faced are not always the same [3]. This is because the variety of work/projects carried out have quite unique characteristics depending on conditions in the field such as land conditions, local regulations, and so on. One of the main problems has always been and remains the problem of training specialists and their qualifications for the job. In the process of training employees, we propose not to conduct abstract theoretical lectures, but to analyse specific situations that may lead to losses; consider possible options for avoiding such situations [2].

In general, the sources of risk causes consist of 4 things, namely:

- Internal Risk, namely risks originating from within the company itself
- External Risk, namely risks originating from the environment outside the company
- Financial Risk, which is caused by economic and financial factors such as variations in currencies, interest rates, and prices
- Operational Risk, namely the risk of other factors such as humans, nature and technology.
- Risks in the Field of Management, such as ineffective planning of the costs, quality and schedules, the accuracy of the determination of the organisational structure, personnel selection accuracy, the lack of clarity of procedures and policies, and implementation.
- Risks in the Technical Field: such as the work accuracy, the efficiency in procurement of materials, the accuracy in quality and schedule of construction, the availability of manpower, experts availability, and the availability of new technology in construction.
- Risks in the Field of Contracts and Laws, such as unclear articles, payment and claims arrangements, warranty and warranty issues, licenses and patents, and force majeure.
- Risks in the Political, Social, and Economic Fields, such as market situation, tax regulations, licensing, monetary stability, environmental preservation, loan realization, to cash flow.

A construction project is a chain of activities that are interrelated for the purpose of achieving particular goals (building/construction) within a particular time, cost and quality limits [1]. In the development of construction projects, there must be unexpected factors that will hamper a job, and of course as the project leader must anticipate this by describing what are the unexpected factors and which ones can be reduced and what factors should be avoided, because the unexpected factors in a construction project if it is not reviewed first, it will lead to obstruction of a work which will later have an impact on the incorrect completion time and loss of the construction project. In an effort to avoid risks that arise, the construction company will carry out risk management [3]. This risk management is defined as the process of identifying, assessing, controlling, and minimizing the risks that might occur. The purpose of risk management in construction companies is to assist managers or company leaders in making decisions and develop strategies to manage these risks.

In the whole project life cycle (preparation, implementation, and years of project use), it is necessary to identify risks present due to the internal as well as external environment of the project [12]. Each environment has many potential risks, affecting each other on both insides as well outside of the project. Therefore, the identification of the risk needs to be done and updated regularly. Especially at the stage of project

preparation to make investment decisions, it is necessary to fully identify risks that can take place in the whole project life cycle. The implementation phase of construction investment considers risks impacting construction investment costs [8]. The project operation and exploitation phase should identify risks affecting project operation management costs, production costs,

In the project preparation phase, risks often occur related to the survey data for project calculations, the time taken for project preparation, and legal bases of the project. In the stage of investment and construction, exploitation risks occur at a complex level that arises from the environment and directly affects the input market, output market, team, organisation of production management, and maintenance of project management activities in years of operational analysis [17]. Errors made in the previous period are also the cause of risks in subsequent stages of the project.

Moreover, the risk control plan is implemented at the same time with many measures from the proactive provision of unreasonable resources to dealing with risks, proactively avoiding to share the responsibility of bearing risks, responding to respond positively and promptly when risks occur. Some measures are often applied in projects such as measures in economic contracts, insurance, construction of standard and diversified management systems [18]. In terms of services, project products, setting up a risk early warning system and handling risks.

### 3 METHODOLOGY

Since the main aim of this study is to analyse the vulnerability rates in construction projects due to the lack of risk management strategies, therefore, the researcher is interested in identifying the quantifiable facts and figures that can help to test the hypotheses statements made in this research. This implies that the current research is quantitative in nature, and thus, statistical tools and techniques are used in the current study. Moreover, as per the study, it has been identified that if the researcher is interested in identifying the objectivity of the research to address the research problem, then it is important to select the deductive approach to solve the problem [19]. It has been further stated that the deductive approach helps the researcher to adapt to a top-down approach, which allows the researcher to narrow down the findings to a specific conclusion [20]. This means that with the use of the deductive approach, the current study and its conclusion will be narrowed down and the research problem will be addressed to very much extent.

As far as the data collection methods are concerned, the following research undertakes both, primary and secondary data collection methods where the utilisation of both of these methods helps in reducing any error that may occur while using a single method. Thus, for this study, the researcher utilises survey method as the primary data collection and the data is collected first-handily. While on the other hand, secondary data has been collected via existing studies, reports, articles, newspapers, magazines and literature reviews carried out in relevance to the research topic.

The current study undertakes the convenience sampling technique in order to select the respondents for research purposes. The survey respondents for this study are the managers of 10 leading construction firms of Pakistan, while a sample size of 300 was the initial estimate of the population. When the survey questionnaire was distributed, 282 valid responses have been gathered. The collected data from the survey method is then analysed via a statistical software named SPSS. Correlation, regression, and reliability tests have been applied whereas, regression test allows to tests the hypotheses statements. The triangulation of the primary findings with the secondary findings is then carried out in the discussion section of the paper.

### 4 FINDINGS

#### 4.1 Demographics

The demographics section includes the frequency of male and female genders, their age distribution and the education levels of the respondents who were part of the survey process. The gender statistics give below reveals that out of 282 respondents, 276 of the respondents were male while the rest of the population were female. Hence, the majority of the survey respondents were males.

Reviewing the age statistics, 127 out of 282 respondents belonged to the age group of 50-59 years, while 96 of them belonged to the age bracket of 18-39 years. The statistics mentioned below further reveals that majority of the respondents of the survey were above 49 years.

When reviewing the education levels of the survey respondents, it can be seen that out of 282 respondents, 165 of them were postgraduates, 47 of them were graduates while 70 of them were PhDs. This implies that amongst all the respondents, the majority of them were having post-graduation and PhD degrees relevant to the construction.

### 4.2 Reliability Analysis

Reliability analysis has been explained as that the reliability of the survey questionnaire that can be estimated with the help of Cronbach's Alpha test which helps in determining the internal consistency and authenticity of the survey questions with respect to the research topic [21]. From the figure mentioned below, it can be seen that there were a total of 27 questions, while the internal reliability of the questionnaire has found out to be 0.88 (80%). Since this value is significantly greater than the average value, i.e. 50%, hence it can be said that the reliability of the survey questionnaire is much higher in this case.

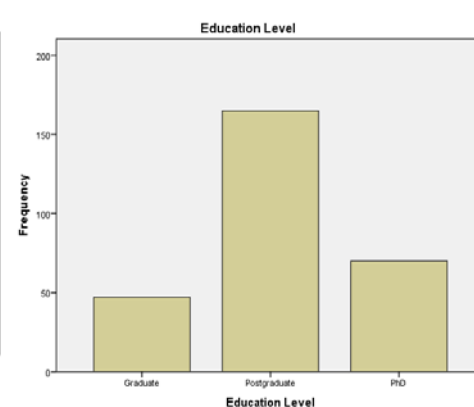
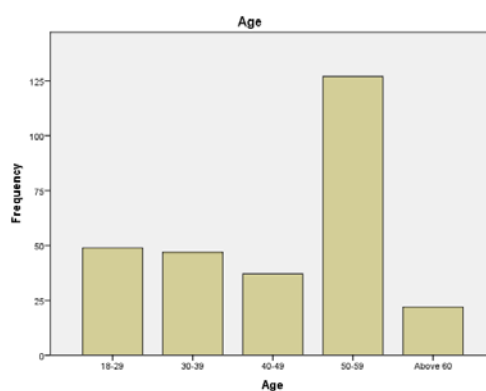
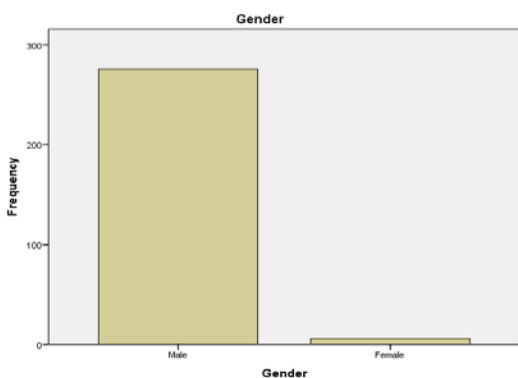
Reliability	
Cronbach's Alpha	N of Items
0.880	27

### 4.3 Correlation

According to the study, it has been identified that a correlation test is a statistical tool which is used to identify the dependency or the relationship between the dependent [22]. In the current study, there are five independent variables, construction risks how-dependent variable is the construction projects.

		Correlations					
		Vulnerability Rates	Project Scheduling risks	Skill training	Absenteeism	Material planning and resourcing	Site and Contractor management
Vulnerability Rates	Pearson Correlation	1	.640**	.334**	.539**	.811**	.569**
	n						
	Sig. (2-tailed)		0.000	0.000	0.000	0.000	0.000
N		277	277	277	277	277	277
Project Scheduling risks	Pearson Correlation	.640**	1	.129	.648**	.328**	.722**
	n						
	Sig. (2-tailed)	0.000		0.030	0.000	0.000	0.000
N		277	282	282	282	282	282
Skill training	Pearson Correlation	.334**	.129	1	.281**	.403**	.273**
	n						
	Sig. (2-tailed)	0.000	0.030		0.000	0.000	0.000
N		277	282	282	282	282	282
Absenteeism	Pearson Correlation	.539**	.648**	.281**	1	.201**	.787**
	n						
	Sig. (2-tailed)	0.000	0.000	0.000		0.001	0.000
N		277	282	282	282	282	282
Material planning and resourcing	Pearson Correlation	.811**	.328**	.403**	.201**	1	.237**
	n						
	Sig. (2-tailed)	0.000	0.000	0.000	0.001		0.000
N		277	282	282	282	282	282
Site and Contractor management	Pearson Correlation	.569**	.722**	.273**	.787**	.237**	1
	n						
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	
N		277	282	282	282	282	282

and independent variables study, there are five independent variables, construction risks how-dependent variable is the construction projects.



### Correlations

		Vulnerability Rates	Risks in Construction
Vulnerability Rates	Pearson Correlation	1	.786**
	Sig. (2-tailed)		0.000
	N	277	277
Risks in Construction	Pearson Correlation	.786**	1
	Sig. (2-tailed)	0.000	
	N	277	282

\*\* . Correlation is significant at the 0.01 level (2-tailed).

From the figure attached above, it can be noticed that there is a strong material planning and resourcing risk and positive relationship between the risk with the Pearson correlation value of 81.1%. Similarly, the relationship between absenteeism, site and contractor management and project scheduling risks with vulnerability rates is positive and moderate in nature with Pearson correlation values of 56.9% and 64% respectively.

Cumulatively, it can be seen from the figure mentioned below that overall, there is a strong and positive relationship between different risks in construction projects and the vulnerability rates in the construction with the Pearson correlation value of 78.6%.

can be noticed that there is a strong material planning and resourcing risk with the Pearson correlation value between absenteeism, site and contractor management and project scheduling risks with vulnerability rates is Pearson correlation values of 53.9%,

figure mentioned below that overall, ship between different risks in construction with the

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	118.419	5	23.684	310.686	.000 <sup>b</sup>
	Residual	20.659	271	0.076		
	Total	139.077	276			

a. Dependent Variable: Vulnerability Rates

b. Predictors: (Constant), Site and Contractor management, Material planning and resourcing, Skill

#### 4.4 Regression

Regression, in contrast to the correlation, is a statistical tool which is used in order to analyse the impact of one variable on the other [23]. In this scenario, the regression test has been applied in order to analyse the impacts of the lack of risks strategies on the vulnerability rates in the construction projects of Pakistan. The Anova table mentioned below is used to analyse the dependency intensity of the two variables. From the sig value mentioned in the table mentioned below, it has found that the dependency of the vulnerability rates is more significant on the lack of risk management and strategies in the construction projects. This is because the sig value has found to be significantly less than the standard value of 0.05. Moreover, the 0.000 sig value also shows that the regression line or model applied to this case is perfectly fit and there are not any outliers in this case.

Another yielded from test is the table, where represents or the rejection hypothesis. found out to 0.000, hence that there is impact of management bility rates in construction kistan. In null hypothesis is re-alternative the study is

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.050	0.076		0.664	0.507
	Project Scheduling risks	0.177	0.029	0.220	6.066	0.000
	Skill training	-0.039	0.021	-0.051	-1.885	0.060
	Absenteeism	0.143	0.031	0.177	4.556	0.000
	Material planning and resourcing	0.602	0.023	0.696	25.775	0.000
	Site and Contractor management	0.097	0.035	0.119	2.796	0.006

table that is the regression coefficients the sig value the acceptance of the null Since it is again be less than it can be said a significant lack of risk on the vulnerability context of projects of Pathis way, the thesis of the rejected and the hypothesis of accepted.

a. Dependent Variable: Vulnerability Rates

## 5 DISCUSSION

As the above analysis, with the construction investment projects, the assessment of economic and financial efficiency of the project should concentrate on consideration. The economic-financial efficiency of a project in Pakistan is determined on the basis of work construction investment, project operation, and exploitation and collection costs. Risks affect many aspects and directly affect these factors (price & quality, serviceability, time, purchasing power). Therefore, measuring and assessing the risk impact on project effectiveness is a complex task, generally combining qualitative methods with quantitative methods.

From the main findings of the research, it has been identified that the problem of delay in construction projects of Pakistan has to do with the choice of suppliers [24]. When choosing an appropriate option that delivers on what it promises, unforeseen events caused by outside agents become rare [8]. At the same time, it is a challenge for Pakistani contractors to find quality companies, especially those that offer specific solutions for what each work needs [25]. This often means spreading service hiring across multiple businesses, which can compromise results.

Another issue that poses intense challenges for large construction projects in Pakistan is the budget. It is designed to be the smallest and most cost-effective possible, meeting specifications required by the customer [26]. The point is that unforeseen events happen and ultimately cost more than management is willing or planning to pay. Failure, for example, can lead to wasted time and materials, impacting the budget in Pakistan. While there is usually a safety margin, it is almost always challenging to contain expenses so that no overspending occurs. At the same time, economics cannot compromise on quality as it has to do with customer demands. Thus, finding the balance that does not negatively compromise any outcome is a matter of concern for construction companies in Pakistan.

It has further been analysed that the situations of uncertainty and risk in modern realities are an integral element of the system of conditions for making managerial decisions. The need for management of Pakistani construction companies is to manage events related to uncertainty leads to an appeal to the risk management system [14]. One of the most vulnerable to the effects of subjective and objective risk factors is construction, which is due to such features of this industry as high capital intensity. Despite the existence and dissemination of various methods of preventive risk management, which consider the internal control system as an element of risk management, practice shows that resorting to risk management and developing a risk management system is quite rare for modern construction businesses in Pakistan. Today, there are few companies in the country that are engaged in the management of construction projects in their pure form - without the functions of a general designer or contractor. This is due to the fact that today it is an order of magnitude more profitable to engage in integrated turnkey construction management. Performing the functions of technical supervision and technical customer, you will not earn extra. In this case, the pricing scheme is very simple and understandable: it is one thing to take a percentage of construction and installation works (construction and installation works), and another - of actual labour costs [27].

However, when implementing turnkey construction, they always prefer to take a percentage of construction and installation works. Firstly, additional expenses can always be included in construction and installation works, especially in the case of Pakistani construction companies [28]. Secondly, the need for costs can always be explained by the application of a specific design decision. If long-term and short-term construction risks can be associated with time, then permissible or critical risks in construction are determined by the degree of admissibility, limited by the personal perception of the customer about the number of possible losses [29]. Therefore, during the design process, costing is carried out, estimates are made, technical and economic aspects of construction are analysed, which is subsequently presented to insurance institutions to determine insurance amounts as a necessary constant guaranteeing to the customer that the risks in construction, especially related to the loss of property not for his reason, will be compensated. The goal of implementing risk management is to reduce different risks associated with the chosen field at an acceptable level to the community. This can be in the form of various types of threats caused by the environment, technology, people, organisations and politics. On the other hand, the implementation of risk management involves all means available to humans, specifically, for risk management entities (human, staff, and organisations).

In its implementation, it has been identified that the risk management also requires a contract management system, which is a process to regulate all cases regarding contracts, such as bidding, insurance, and so on. It has been explained that contract management must be able to master or handle, at least 4 things, namely; manage relationships and contracts - contracts with insurance agents and brokers, prepare documents or contract bids for third party services, arrange insurance documents and certificates and provide a guarantee or guarantee a risk financing plan with a third party [30]. Moreover, one of the fundamental elements in the construction process is undoubtedly heavy machinery, which simplifies and save operating times be-



tween the activities to be carried out at the construction site. Regardless of the function, they perform (earthworks, loading and unloading, land leveling, among others), workers must receive the necessary instructions and practices through specialized training. If a company wants to obtain profitability, it must necessarily have competitive advantages in costs, for this one of the key factors will be the training of its employees that impact on productivity within each of the activities of the value chain.

Also, if a company is not able to work at full capacity, it will begin to have negative costs or cost overruns, which in the end will be reflected in the profitability of the company [31]. Even many of the investors analyse these factors before deciding where to invest. Incorporating personnel into the company, with a lack of technical knowledge for construction work, will require a learning time that is known as the experience curve; here too the costs will be affected if they are not able to reach the required levels of productivity [1]. The risk in construction is a consequence of the uncertainty and volatility of the economy in a market economy, which creates a potential danger to any organisation when conducting business. In a competitive environment, the risk management problem is significant, therefore, the process of identifying and assessing risks has become an integral part of the organisation's management [17].

The economic conditions of Pakistan have led to the emergence of new stages of the investment cycle for the construction of the real estate, changed its content with the introduction of information management technologies and led to the emergence of new forms of documentation [17]. One of the main documents of investment design is the business plan of the project, containing information on the economic attractiveness of capital investments in the project and its economic efficiency. In most cases, when developing a business plan, a low level of investment planning and justification is observed, which does not reflect the specifics of the variability of the construction market and does not guarantee investors a predicted level of profit as a result of the project.

The calculation method used in determining the economic efficiency of the project is based on the use of discount methods, which significantly reduces inflation risks and determines the level of profitability and payback period of the project quite accurately. However, these methods do not provide a sufficient guarantee of reducing the economic risk of the project, since the trends of an unstable economy are dynamically changing, and there is no accurate accounting of these changes [1]. The problem of project risk management becomes especially important when developing a business plan since the capital-intensive process of building an object continues for several years, and there is a high degree of uncertainty, which in some cases leads to loss-making projects.

Thus, the urgent problem of business planning of investment and construction projects in Pakistan is the development of risk management methods to minimize the number of critical risks and the magnitude of their impact on the result. The lack of methodological developments in this direction weakens the position of the construction business in the competition for contract contracts. Therefore, for construction organisations of Pakistan, there is an urgent need for forecasting unforeseen risk events and risk assessment already at the pre-investment stage of the life cycle of an investment construction project, especially when the risks are lack of trained personnel, absenteeism, scheduling and planning of material and resources

## 6 CONCLUSION AND RECOMMENDATION

Compared with other economic sectors, the construction industry of Pakistan is considered the subject with the most risks and uncertainties. Scientists think that risk management is the most important stage in the project management topic. At the same time, there are many changes in perceptions about risk management, instead of dealing with risks when they occur, risk management is considered in terms of forecasting and prevention. Lack of technically trained human resources is an obvious risk right from the start of the project. Therefore, project managers can actively propose solutions instead of passively as other objective risks. Risk management is not only done in a project phase but must be carried out throughout the project management process.

The speed of construction of Pakistan is increasing rapidly with higher requirements in risk management for the project. Risk management solutions, therefore, are also focused and specifically planned. For the risk management process to run smoothly, the process of communicating risks that occur in a project must be carried out smoothly as well. Because of the importance of this risk information, information management also plays a very important role in the continuity of the risk management process. Information management can be used as the basis of all textbooks about communication in organisations.

The risk management process for construction companies in Pakistan must be carried out by all parties in an organisation. However, with so many parties involved, it will be very easy for miscommunication to occur. Therefore, policy and procedure for implementing a formal risk management process is needed, which is in line with the mission or objectives of the risk management program and in line with the mission of the organisation.

In conclusion, it should be noted that no risk management technology provides a 100% guarantee that can protect a business from risks. If the risk has nevertheless been realized, then the risk-oriented manager applies pre-thought out management decisions in accordance with the emergency plan. Thanks to this, the consequences of the realized risks are minimized, and the result of the work is to draw lessons and conclusions to assess the possibility of similar situations in the future. Any experience, albeit negative, should be generalized, analysed and disseminated by all means available in the organisation, and the result will be an understanding of at what stage of risk management the work could be built more efficiently.

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