

## **The Effect of Outsourcing on Risk Factors in Red Meat Industry of Pakistan**

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### **Abstract**

*The aim of the study is to determine how outsourcing along with other factors impact risk in red meat industry of Pakistan. The factors chosen for this study were outsourcing, product variety, cost reduction, supply chain performance and product quality. Data is collected from 50 respondents through survey questionnaire in Karachi, Pakistan. From the results, it is evident that among all the independent variables, only outsourcing, cost reduction and supply chain performance significantly impact the risk in red meat industry of Pakistan. Furthermore, supply chain and cost reduction positively impact the risk while outsourcing negatively impact the risk. It is recommended to improve the efficiency of supply chain by focusing on quality control procedures such as Kaizen or Six-Sigma in order to enhance supply chain efficiency positively mitigating the risk factor in this particular industry.*

**Key words:** Outsourcing, risk factors, supply chain, red meat industry

## **1. INTRODUCTION**

### ***1.1 Background of the study***

With the advancement of technology and globalization, firms have started adopting means of reducing their production costs

so that it can be invested elsewhere. Many existing studies had revealed that businesses have integrated the concept of outsourcing as part of their mainstay process. The extent to which firms have started relying on it reveals that outsourcing acts as a beneficial way of attaining competitive advantage. In the light of the study conducted by Wang (2014) it was found that outsourcing affects the productivity level of firms and helps them to boost their performance. However, despite of this, it was critiqued by Kedia and Lahiri (2007, p.25) that outsourcing of products often results in risks from suppliers and product quality because the exposure of business in assessing the product quality becomes minimal.

The effect of outsourcing on risk of red meat industry of Pakistan is increasing because in order to meet the international guidelines of meat processing and exports, the outsourced agencies are well aware of the requirements. However, the statistics show that the trend is declining and with the increase of outsourcing of exports of red meat, the industry has dropped down sharply facing certain risks (Zuberi, 2017). This has been observed because the industry is still in its introductory stage and all options have not been assessed as an alternative to outsourcing. This decline has mainly been seen due to the inefficiency of supply chain, lack of trust in suppliers and increased cost of production which tends to increase the risk involved in outsourcing.

The decision of outsourcing products often depends on the existing supply chain alternatives available for the business or whether a company intends to access world-class advanced technology or not (Williamson, 2008). In the following study, the focus has been towards the red meat industry particularly of Pakistan and the factors that affect risk in red meat industry. The meat and poultry industry are considered to be economic backbones of the country. Livestock also remains the important segment in contributing to the GDP of Pakistan. However, it has been observed that the demand for meat has

increased due to various reasons such as increase in number of population, urbanization and changing lifestyle and preferences (Sohaib and Jamil, 2017). Therefore, Pakistan's red meat is not limited for the local users but it is also exported many Gulf countries too in bulk amount.

According to the study conducted by Mahmood (2017) it was found that export of livestock products contribute US\$303.468 during 2015 to 2016. Despite of the fact that cattle production has also been encouraged by agricultural sector still, it has been observed that different slaughter houses are involved in outsourcing red meat in order to export them in international market. However, what lacks in this scenario is the lack of support that is extended to the slaughter houses or businesses involved in exporting red meat internationally. Slaughter houses which are involved in extending own supply chain and logistics through freeing up their capital from non-core activities and investing more to lower production costs (Tirmizi, 2011). The main reason red meat industry do not outsource might be because of lack of trust between the supplier and the firm owner as this might be due to poor product quality or breach of data and confidentiality that has aroused due to outsourcing (Aghazadeh, 2004). Moreover, the firm can lose control of the departments that are outsourced and thus, controlling these departments is now beyond the firm's authority. However, the trend of outsourcing is growing because of lower operational costs and exporting the best quality product to the Gulf countries to reach out to the world market.

### ***1.2 Research Problem***

Despite of the fact that outsourcing is an effective method for the industries of Pakistan to reach out to the global market and compete but at the same time it was also found that outsourcing also leads to certain risks along with other factors. The government of Pakistan has largely ignored the

contribution it makes to the trade sector and can be beneficial for balance of payments still, infrastructure problems, and diseases, unhygienic conditions, limited resources, less training of butchers and limited awareness are the major reasons confronting risk in this industry.

Australia, Brazil and India are the major competitors for Pakistan in terms of red meat industry and being closer to Middle East, it can strategically enter other potential markets (Tirmizi, 2011). However, the problem that arise in outsourcing can be resolved and this can also affect the sales of the industry. Mahmood (2017) has identified that the meat exports of Pakistan has declined to \$140.345 million from \$188.345 million whereas international red meat exports has sharply increased by 16% and reached to \$700 billion which is due to risk of inefficient supply chain. Therefore from the aforementioned discussion, it can be stated that for mitigating the risk from red meat industry, it is considerable to take into account certain factors that can decrease the element of risk within red meat industry for the business to be successful.

### ***1.3 Aims and objectives***

The aim of the study was to determine the effect of outsourcing and other factors on risk in red meat industry of Pakistan. Following are the set of objectives designed for this study:

- To understand the concept of outsourcing in red meat industry of Pakistan
- To determine the factors that can impact the risk in red meat industry of Pakistan
- To provide strategic recommendations for the red meat industry of Pakistan to mitigate risk and foster supply chain of red meat.

### ***1.4 Research Questions***

The research question designed for this study is given below which is further broken down into sub-questions:

*"What is the effect of outsourcing and other factors on risk in red meat industry of Pakistan?"*

- What is outsourcing and how it effect risk?
- What are the other factors effecting risk of red meat industry in Pakistan?
- What is the impact of outsourcing and other factors on risk in red meat industry of Pakistan?

### ***1.5 Significance***

The significance of this study is determined on the basis of the effectiveness of outsourcing in of red meat of Pakistan in international market along with the problems and challenges faced by firms when outsourcing. It was found from the study conducted by Arifeen (2012) that risk in red meat of Pakistan has increased since past few years because of increasing demand but at the same time it was found that deteriorating quality of products and other issues such as hygiene, diseases and risks to health has made the risk stagnant. Therefore, the switch towards outsourcing of red meat exports has become a trend for the slaughter houses. Keeping this into consideration, the following study holds significance as it has shed light on the emerging challenge faced by Pakistan's red meat industry, problems of outsourcing and the risk factor arising from outsourcing that can be mitigated.

With the help of this study, the researcher was able to understand the importance of outsourcing for businesses and how it helps to reduce risk along with other factors. The study is limited to the findings from Pakistan but other studies are also taken into consideration for understanding the conceptual backgrounds. The major issue faced by Pakistan's red meat industry is low quality and unhygienic slaughter houses because of which it is difficult to attract internal divisions hence; the analysis of this study was based on determining the effects of outsourcing and other factors on risk in red meat in Pakistan.

### ***1.6 Rationale***

Businesses that have emerged in this industry recently find outsourcing as more beneficial for reducing risk, investing in core activities and reaching out to the global markets. Therefore, the following study has focused on determining the effects of outsourcing and other factors on risk in red meat in Pakistan. This study is also beneficial for other industries who wish to understand how the mechanism of outsourcing works and how it can affect other industries too. This is because the red meat industry in Pakistan is still on its introductory stage and there is much more room for development for the firms and overall industry while other industries such as textile, steel, cement, FMCG industries are on the maturity stage or growth stage and therefore, the outsourcing of functions might differ due to availability of suppliers, customers and the targeted audience. This study is also useful for the red meat industry of Pakistan to know the loopholes in their process and how they can improve their quality to reach out to the global markets to mitigate risks.

### ***1.7 Outline of the study***

The research study was divided into 5 major sections mainly introduction, literature review, methodology, findings and conclusion. The first section of the study provides objectives, research gap and rationale of the study. Conceptual Framework highlights the existing studies that are published by different researchers and describes the variables of the study it is followed by the analysis of red meat industry in Pakistan. The methodology section identifies the data collection methods, techniques and procedure to carry out the research in a systematic manner. Findings section analyses all the findings of the study and compares them with the objectives of the study. And at last, conclusion provides brief summary of findings, implications and recommendations for future studies.

## **2. CONCEPTUAL FRAMEWORK**

The concept of outsourcing of products has gained immense popularity and support from the industries because of the advantages that it has on the business activities (Oshri, Kotlarsky and Willcocks, 2015). Despite of the fact that there are several studies available which has strongly critiqued companies to use outsourcing for manufacturing their products still, particularly, the red meat industry of Pakistan finds it as a potential way of reaching out to the global market.

The following literature review has been designed in order to understand the theoretical background of the concept of outsourcing in view of the existing literature.

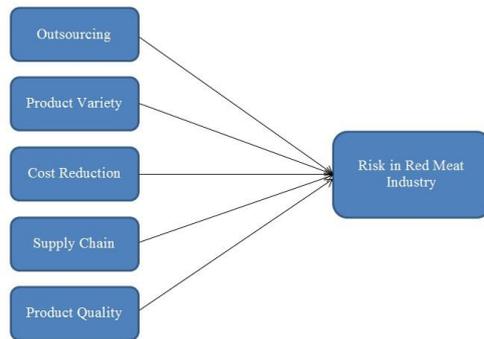
In the light of the study conducted by Bertrand (2011) it was found that outsourcing is a technique, process or method where businesses hire a third party for carrying out business activities in order to gain competitive advantage and reduce operational costs. Many studies had revealed that businesses that are able to manufacture their own range of products are mostly multinational/large companies which adopt vertical integration as their process to reach out to the international markets more easily (Zuberi, 2017). The opposite of vertical integration is outsourcing which can be achieved through efficient supply chain process.

Some of the studies that are conducted in this domain have revealed that outsourcing is also done when businesses are not able to manufacture the optimum quality of products that are required for exports hence; it involves the business to save their own costs and reaches out to the global market (Gotzamani, Longinidis and Vouzas, 2010). Furthermore, it was determined that effect of outsourcing on the businesses performance reveals the chances for the business to continue using this method of supply chain or not. Outsourcing has been adopted widely by different industries ensuring competitive advantage and to increase international market presence. One

of the major advantages of outsourcing is the increase in trade activities. According to the study conducted by Fernandes and Tang (2012) it was analysed that export activities are increased if the international market is aware that outsourced products are manufactured by a certain company for sales. This not only impacts the economy but it also plays a vital role to stabilise balance of payments.

Still, many studies (Ghafoor et al., 2010; Mukhtar, Khan and Khan, 2012; Hussain et al., 2007; Farouk, 2013) have revealed that in comparison with other countries, Pakistan is not completely involved in outsourcing meat control and management and has to rely on conventional methods and techniques. The process of distribution and marketing of red meat remains a challenge for the industry because it still lacks formal storage and transportation facility for delivering the meat of desired quality. On the other hand, many businesses have emerged in red meat industry which is involved in exporting high quality red meat to Gulf countries (Farouk et al., 2014). These businesses are also responsible for ensuring quality, variety, risks factors and efficient supply chain of products so that the desired results can be achieved with the involvement of minimum risk. Since, the existing red meat industry of Pakistan is not aware about outsourcing agencies therefore, there are limited numbers of firms which are involved in this process.

The conceptual framework is designed in order to show the relationship between independent and dependent variables. The independent variable in this study was outsourcing, product variety, cost reduction, supply chain management and product quality whereas the dependent variable was risk factor in red meat in Pakistan. The research topic of the study is associated with identifying the impact therefore; the conceptual framework is designed in accordance with showing the relationship between both the variables.



The major factors that are discussed below are: product quality, product variety, costs reduction, outsourcing, supply chain and risk.

Product variety is the most significant factor when it comes to export products because in order to meet the international requirements and guidelines, it is necessary that the product should be available in variety and should be able to easily flow in the international market. The red meat industry is particularly restricted in terms of variety (ElMaraghy et al., 2013). However, it can still offer customers with red meat of different cattle breeds. If the red meat industry of Pakistan is successful in offering variety in their products so, it can show lesser impact on risk.

Cost reduction is associated with reducing the overall variable costs that is linked with the production and manufacturing of products. During the process of outsourcing, the aim of every business is to reduce their costs and to ensure that it do not affect their overall performance. The risk of increased cost is alarming because if the business is incurring large amount of cost for outsourcing products and are left with little amount to make investments for core products. In case of red meat, the cost of maintenance, cattle rearing, breeding, hygienic conditions and others resources are becoming expensive due to increasing demand therefore the costs is also increasing which is becoming a risk for the industry.

Another factor which is taken under close consideration is the supply chain process. Supply chain has remained one of the biggest challenges. Lack of proper warehouses, storage, transportation and delivery methods are one of the key demands of superior quality products. In the red meat industry of Pakistan, the transportation of meat to and from the slaughter houses is not according to the desired hygiene standards due to which risk is increased.

Another factor which is affecting risk is product quality. It is not necessarily associated with red meat but it includes all those products which are exported to the international market and do not follow the guidelines. Particularly, in the red meat industry of Pakistan, the quality of meat is not in accordance with the health and safety regulations which are risky for firms to sustain in the long run. However, firms which have recently entered this industry are trying to incorporate the element of hygiene and safety in order to ensure quality product.

Element of risks is one of the biggest factor that is part of every business. Risks factor is the one which shows that there are chances for the business performance to decline (Gebauer, Gustafsson and Witell, 2011). However, risks factor in supply chain processes specifically in the red meat industry of Pakistan reveals that the risks associated with outsourcing products and services has higher level of risks hence, it is necessary that risks factor has to be minimized from the process so that efficiency can be increased. One of the major issues that are faced as challenge is the quality failure of red meat when exported to global market of red meat. Therefore in order to eliminate risks from export products, the businesses have to ensure that quality is control and managed through each step of activities.

### ***2.1 Hypothesis:***

- Outsourcing has a significant impact on risk in red meat industry of Pakistan

- Product variety has a significant impact on risk in red meat industry of Pakistan
- Cost reduction has a significant impact on risk in red meat industry of Pakistan
- Supply chain performance has a significant impact on risk in red meat industry of Pakistan
- Product quality has a significant impact on risk in red meat industry of Pakistan

### **3. RED MEAT INDUSTRY IN PAKISTAN**

The livestock sector plays a vital role in the agricultural industry of Pakistan. The economy of Pakistan is largely dependent on agriculture for their contribution and the fact that it provides raw materials to run major industries also increases its importance (Adzitey and Huda, 2012). Considering meat, it is one of the important product from livestock which is consumed locally and internationally too. However, growth of meat industry in Pakistan is mainly dominated by income level, change in lifestyle and preferences and increase in demand.

The per capita consumption of Pakistan of meat was 11.7 kg in 2000 whereas it has reached up to 14.7 kg in 2009. From the different forms of meat that are available such as beef, poultry, mutton and goat which are consumed locally by people expose some kinds of threats to the healthy lifestyle (Sohaib and Jamil, 2017). Therefore, the industry has been involved in processing red meat specifically to increase its consumption locally as well as can be exported internationally. Due to the availability of pasture for the year around, extensive farming activities, favourable climatic conditions and cattle breeding; red meat has become the mainstay of Pakistani people. However, the risk factor is always there for loss due to certain factors such as outsourcing, product quality, product variety and inefficient supply chain performance.

However, some of the restrictions that the red meat industry of Pakistan has to face are coming directly from unhealthy animals, husbandry practices, feeding problems and non-availability of resources to set formal, large farms for cattle breeding in a systematic manner. Still, the trends show that meat production has increased to 3.873 million tons in 2016 from 3.696 in 2015 (Farouk et al., 2014).

#### **4. RESEARCH METHODOLOGY**

The following study has collected primary data from respondents that are currently employed in the red meat industry to determine the impact of outsourcing and other factors on risk in red meat industry of Pakistan. Moreover, the data collection instrument selected by the researcher is survey questionnaire. This is due to the characteristic of survey questionnaire being cost-effective and can help in collecting data from a large number of respondents in a short span of time. Therefore, the data for this study has been collected through survey questionnaire.

##### ***4.1 Population***

The population for this study is the employees and employers in the red meat industry of Pakistan. The red meat industry in Pakistan is still in its development phase as the export of meat from Pakistan is not as per the size of economy and thus, exporting is risky. For this purpose, the researcher intends to collect data from people employed in the red meat industry in order to achieve the primary aim of study.

##### ***4.2 Research Sample, Sample Size and Sampling Technique***

For the purpose of this study, the research sample is the employees in the red meat industry of Karachi which is a metropolitan city of Pakistan and thus, formulates an adequate

part of sample size. The sample size for this study is 50 respondents that are employed in the red meat industry of Karachi and provide information regarding the impact of outsourcing and other factors on risk in of red meat. The sampling method that has been selected for this study is non-probability sampling because the population size is unknown and therefore, the non-probability sampling seems more appropriate choice. The sampling technique chosen from the non-probability sampling is convenience sampling so that the researcher can easily access the responses from the data and can collect data accordingly.

#### ***4.3 Data Analysis Tool***

As this study is related to the quantitative nature, therefore, the data analysis technique used in this study is statistical tool known as Statistical Package for Social Sciences (SPSS). The specific techniques to be applied are reliability analysis through Cronbach's Alpha, correlation analysis and regression analysis. The techniques are used to accept or reject the hypothesis based upon results.

### **5. FINDINGS AND ANALYSIS**

#### ***5.1 Introduction***

The following study has been conducted to determine the factors that impact risk in red meat industry of Pakistan. For this purpose, the primary data through survey questionnaire has been collected from 50 employees in the red meat industry of Pakistan. The data has been analysed through SPSS applying the reliability analysis, correlation analysis and regression analysis. The demographic profile of data has also been analysed through SPSS where the tables are presented and interpreted. It has been anticipated from the analysis that the impact of outsourcing and other factors on risk in red meat industry of Pakistan is significant which shows that

outsourcing of operations in the supply chain management leads to lesser risk in the industry thus ultimately increasing the profitability of country. The data analysis and findings have been supported through literature from this study.

### **5.2 Reliability Test**

The reliability analysis is conducted to test the internal consistency of data in order to measure that whether the results produced are consistent over time or not. The technique applied for this test is Cronbach's Alpha which is the test for internal consistency. The test is applied through SPSS. For this purpose, the following table represents the results conducted through SPSS.

**Case Processing Summary**

		N	%
Cases	Valid	50	100.0
	Excluded <sup>a</sup>	0	.0
	Total	50	100.0

a. Listwise deletion based on all variables in the procedure.

**Reliability Statistics**

Cronbach's Alpha	N of Items
.924	24

The above table of case processing summary presents the number of valid cases that represents the sample size. This shows that none of the response was missing from the data set and therefore, the valid cases are 100%. The second table of reliability statistics shows the value of Cronbach's Alpha and N of items. The Cronbach's Alpha reflects the reliability of instrument whereas N shows the number of items in the instrument. A value of greater than 0.70 in reliability analysis is considered appropriate and instrument is said to be reliable (Heo, Kim and Faith, 2015). There were 24 total items in the questionnaire as depicted in the table above. On the other

hand, the Cronbach's Alpha value is 0.924 which shows that value is greater than 0.7 showing that instrument is valid and reliable for analysis.

### **5.3 Demographic Profile of Respondents**

The demographic profile of respondents depicts the social characteristics of respondents with respect to the age and gender of respondents. The following table and chart shows the demographics of participants that were part of this study.

**Statistics**

		What is your age?	What is your gender?
N	Valid	50	50
	Missing	0	0

The above table depicts that the valid cases in this context were 50 whereas none of the case was missing indicating that data has been correctly input into the software.

**What is your age?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	33	66.0	66.0	66.0
	Female	17	34.0	34.0	100.0
Total		50	100.0	100.0	

The above table represent the gender of respondents that participated in the study. From the table, it has been illustrated that among 50 respondents, 33 males participated in the study while 17 females were part of study. The proportion of participation was 67% as males while 33% were females in the study.

**What is your gender?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 20 years	1	2.0	2.0	2.0
	21-26 years	11	22.0	22.0	24.0
	27-32 years	14	28.0	28.0	52.0
	33-38 years	10	20.0	20.0	72.0
	More than 38 years	14	28.0	28.0	100.0
	Total	50	100.0	100.0	

The above table depicts the age of respondents that participated in the industry. From the frequency analysis conducted above, it has been determined that only 1 participant was less than 20 years of age, 11 were 21 to 26 years of age, 14 were 27 to 32 years of age, 10 were 33 to 38 years of age and 14 were more than 38 years of age. The highest proportion was between two groups that were 27 to 32 years and more than 38 years of age. This shows that the experienced individuals are mostly required in the industry as the industry is at a growing stage and requires experienced professionals for sustainable growth.

#### **5.4 Correlation Analysis**

The correlation analysis is a statistical measure that is used to determine the relationship between two or more than two variables of a study (Cohen, West and Aikem, 2014). For the following study, the variables that have been studied include product variety, cost reduction, risk factor, supply chain, product quality and outsourcing. The relationship between all the variables is illustrated in the table below.

Syed Shahrukh Munawar, Danish Ahmed Siddiqui- **The Effect of Outsourcing on Risk Factors in Red Meat Industry of Pakistan**

		Correlations					
		Product_Variety	Cost_Reduction	Risik_Factor	Supply_Chain	Product_Quality	Outsourcing
Product_Variety	Pearson Correlation	1	.389	.370	.334	.300	.248
	Sig. (2-tailed)		.005	.008	.018	.034	.083
	N	50	50	50	50	50	50
Cost_Reduction	Pearson Correlation	.389	1	.813	.720	.539	.649
	Sig. (2-tailed)	.005		.000	.000	.000	.000
	N	50	50	50	50	50	50
Risik_Factor	Pearson Correlation	.370	.813	1	.755	.696	.723
	Sig. (2-tailed)	.008	.000		.000	.000	.000
	N	50	50	50	50	50	50
Supply_Chain	Pearson Correlation	.334	.720	.755	1	.596	.748
	Sig. (2-tailed)	.018	.000	.000		.000	.000
	N	50	50	50	50	50	50
Product_Quality	Pearson Correlation	.300	.539	.696	.596	1	.714
	Sig. (2-tailed)	.034	.000	.000	.000		.000
	N	50	50	50	50	50	50
Outsourcing	Pearson Correlation	.248	.649	.723	.748	.714	1
	Sig. (2-tailed)	.083	.000	.000	.000	.000	
	N	50	50	50	50	50	50

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

\* Correlation is significant at the 0.05 level (2-tailed).

The above table illustrates the correlation analysis conducted through SPSS. The variables mentioned previously in the study are tested for their association. Outsourcing is considered as the independent variable while all other variables are considered independent variables. The significance of relationship is assessed through the sig value which should ideally be less than 5% of 0.05 in order to signify the relationship between the two variables. The other value that is important is Pearson correlation coefficient that denotes the strength and magnitude of relationship. The strength of relationship is bifurcated into different categories. A value from 0 to 0.3 indicates weak relationship. A value from 0.31 to 0.7 denotes moderate relationship and a value of 0.71 onwards depicts strong relationship. Moreover, the sign associated with the coefficient depicts the direction of relationship either direct or inverse.

In the above illustrated correlation table, it has been determined that outsourcing has a significant and positive relationship with cost reduction, risk factors, supply chain and product quality because there is no sign with the coefficient indicating that there is a direct relationship between the variables and the significance value is less than 0.05 that is 0.000 indicating that the relationship between the variables is significant. However, the relationship of outsourcing with product variety is insignificant because the significance value is 0.08 which is higher than 0.05 alpha acceptable values and

thus, it can be inferred that there is an insignificant relationship between product variety and outsourcing. The relationship of risk factors, supply chain and product quality is said to have a strong relationship with outsourcing as the Pearson correlation coefficient is more than 0.7 indicating a strong relationship.

Overall from the correlation analysis, it has been found that when the outsourcing by a business increases, the cost reduction increases which means that the cost of operations for a business increases. Moreover, a negative factor is related to risk factors which show that increase in outsourcing also increases the risk factors of a business as the trust on outsourced parties is less. Furthermore, supply chain performance increases with the outsourcing in business as the supply chain operations become efficient when the operations are outsourced to expert individuals or firms in the industry and also save cost and time. Lastly, the product quality also improves with outsourcing because the outsourced parties have certain experience in their field and with this, the firm can adopt measures to ensure quality product so that the customers get the best output.

### ***5.5 Regression Analysis***

The regression analysis is another statistical measure that is used to determine the cause and effect relationship between two or more variables (Darlington and Hayes, 2016). The regression analysis has been conducted in this study to depict the impact of outsourcing, product variety, cost reduction, supply chain, and product quality on risk in red meat industry of Pakistan. The below presented tables indicate the regression analysis.

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.873 <sup>a</sup>	.866	.848	.10265

a. Predictors: (Constant), Outsourcing, Product\_Quality, Supply\_Chain, Cost\_Reduction

The first table above shows the model summary including R, R-Square and adjusted R-square. The R shows the relationship between the two variables, R-square depicts the variation in dependent variable due to independent variable and adjusted r-square shows the actual variation in dependent variable caused by independent variable excluding the error. The R shows a relationship of 87.3% which means that there is moderate relationship between the variables. R-square shows that all the independent variable cause 0.866 or 86.6% variation in the dependent variable of risk and adjusted r-square shows that all the independent variable cause 0.848 or 84.8% variation in the dependent variable of risk.

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	47.754	4	11.938	533.002	.000 <sup>b</sup>
	Residual	.580	55	.011		
	Total	48.333	59			

a. Dependent Variable: Risk

b. Predictors: (Constant), Outsourcing, Product\_Quality, Supply\_Chain, Cost\_Reduction

The second table is of ANOVA which determines the fitness of model. The model fitness is determined by F-statistics and the significance value. The F-statistics has no threshold but higher value shows excellent model fitness. F-value in this case is 533.002 while the significance value is 0.000 which is less than 0.05 showing that the model is fit.

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

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.053	.051		-1.025	.310
	Product_Variety	.028	.020	.028	1.398	.168
	Cost_Reduction	.333	.070	.353	4.786	.000
	Supply_Chain	.899	.069	.854	13.043	.000
	Product_Quality	-.030	.015	-.033	-1.998	.051
	Outsourcing	-.217	.074	-.217	-2.943	.005

a. Dependent Variable: Risk

The third table is coefficient table which determines the impact of independent variable on the dependent variable. The significance value shows the significance of impact independent variable on the dependent variable while the beta value shows the magnitude of impact. From the above presented table, it is important to note that out of all the variables tested that are product variety, cost reduction, supply chain, outsourcing, and product quality, product variety has an insignificant impact as the significance value is greater than 0.05 being 0.168. However, product quality is significant at 10% significance level being 0.51. On the other hand, cost reduction, supply chain and outsourcing have a significant impact at 1% significance level as all the variables are less than 0.05 in terms of sig value.

In context of magnitude, cost reduction and supply chain have a weak and strong impact respect yet both impact risks positively. However, outsourcing has a negative and weak impact on risk showing that increasing outsourcing will reduce the risk and vice versa. The following table illustrates the hypothesis summary. However Product variety, cost reduction and supply chain activities are increasing the risk, the value of the last two being significant.

<b>Hypothesis</b>	<b>Sig Value</b>	<b>Results</b>
1. Outsourcing has a significant impact on risk in red meat industry of Pakistan	0.005	Accepted
2. Product variety has a significant impact on risk in red meat industry of Pakistan	0.168	Rejected
3. Cost reduction has a significant impact on risk in red meat industry of Pakistan	0.000	Accepted
4. Supply chain has a significant impact on risk in red meat industry of Pakistan	0.000	Accepted
5. Product quality has a significant impact on risk in red meat industry of Pakistan	0.051	Rejected

### ***5.6 Discussion***

The findings of the study have been illustrated, presented and interpreted above. With regards to findings, this sector triangulates the findings of study with the previous literature

in order to fortify the findings and to confirm the findings to previous findings of study which can help in asserting that the main aim of study has been achieved. All the factors that are listed and tested above are cost reduction, outsourcing, supply chain, and product quality which are the factors that affect risk in red meat industry of Pakistan. With regards to cost reduction, this study shows that outsourcing has a negative and significant impact on cost reduction which shows that reducing the operational cost of business increases the risk of business. This might be due to the use of outdated technologies and processes that lacks economies of scale, on further reducing cost in this environment would make business more risk. The study found that outsourcing also has a significant and negative impact on risk factors which is in line with the study of Gebauer, Gustafsson and Witell (2011) indicating that outsourcing leads to lower risk. The results are also in line with the study conducted by Farouk et al. (2014) which showed that outsourcing leads to efficient supply chain and thus, risk is reduced along with increasing exports especially in the Middle Eastern markets.

The study also found that product quality also negatively effect risk in the red meat industry of Pakistan indicating that superior product quality greatly reduces risk. However product variety and supply chain activities increases risk in red meat industry maybe due to the fact that these activities are relatively new to industries and not time tested, hence considered risky by industry participants.

## **6. CONCLUSION AND RECOMMENDATION**

### ***6.1 Conclusion***

The main aim of the study was to assess the impact of outsourcing and other variables on risk in the red meat industry of Pakistan. The study concluded that there is a significant impact of outsourcing, cost reduction and supply

chain on risk in red meat industry of Pakistan. The variables that affect the risk in red meat industry were product quality, outsourcing, product variety, cost reduction and supply chain. From the analysis, it has been revealed that outsourcing, cost reduction and supply chain significantly impact the risk factors in red meat industry of Pakistan. From the analysis, it has been revealed that if the firms operating in red meat industry are involved in outsourcing, they tend to reduce their risk. Moreover, improved product quality also decreases risk. However, cost of operations, supply chain factors seems to increase risk. Moreover, product variety does not seem to affect risk significantly in red meat industry was indicating that the suppliers in Pakistan in red meat industry are very few and thus, their power to bargain are high. Conclusively, it can be stated that the primary aim of study has been achieved and thus, the outsourcing can lead to mitigating risk from the point of view of red meat industry in Pakistan.

## ***6.2 Recommendations***

With regards to the achievement of study, the researcher has presented the following set of recommendations for mitigating the risk in red meat industry of Pakistan and operating the supply chain efficiently and smoothly.

- Firstly, it is recommended to the firms operating in red meat industry to identify and try to mitigate the risk factors in terms of outsourcing because outsourcing leads to decreased risk factors.
- Secondly, it is recommended to improve the efficiency of supply chain by focusing on quality control procedures such as Kaizen or Six-Sigma in order to enhance supply chain efficiency positively mitigating the risk factor in this particular industry.

### **6.3 Research Limitations**

Every research faces some sort of limitation to some extent. However, it is important to address the limitations as the scope of study is hindered through these limitations. Firstly, the study is limited by sample size and due to limited time, the sample size included in study was small and thus, increased sample size can provide more valid and generalizable results for the study. Moreover, the study is conducted in red meat industry of Pakistan and thus, the results are only applicable to Pakistan. Furthermore, the study has used mono-method to conduct study that is only used quantitative analysis. Additionally, the study has only focused on the red meat industry and the risk possessed by it.

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## Appendix A: Survey Questionnaire

This questionnaire is specifically prepared for an academic research to determine the impact of outsourcing and other factors on the risk in red meat industry of Pakistan. Kindly give your responses by (✓) an appropriate option for each of following question:

Name \_\_\_\_\_

Contact Number \_\_\_\_\_

Age: less than 20 years       21 – 26 years     27 – 32 years     33 – 38 years  more than 33 years

Gender: Male  Female

Please rate your responses by ✓ the value that you think is more appropriate:

<b>Strongly Agree</b>	<b>Agree</b>	<b>Neutral</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
0	1	2	3	4

<b>Product Variety</b>	0	1	2	3	4
Product variety is an important factor for client's satisfaction in red meat industry.					
Product variety also helps in finding the best possible product at best price.					
There is a wide range of product available in the red meat industry which makes it easy for customers to choose from					
<b>Cost Reduction</b>					
Cost reduction helps the business to expand its operations					
Outsourcing of business departments not only helps in saving cost but also increases the profitability of business					
Efficient supply chain performance helps in reducing cost of business					
<b>Risk Factors</b>					
Consideration of risk factors for any type of business, specifically in red meat industry, is significant.					
The risk factors hinder the success of business and are necessary to be mitigated.					
Identification of risk factors is a vital task for businesses that should necessarily be considered					
<b>Supply Chain</b>					
The supply chain department is one of the most important departments in the red meat industry.					
The logistics department of a firm is required to be efficient and effective in order for the firm to be successful.					
Procurement is a vital component of supply chain function and is to be dealt efficiently.					
<b>Product Quality</b>					

Syed Shahrukh Munawar, Danish Ahmed Siddiqui- **The Effect of Outsourcing on Risk Factors in Red Meat Industry of Pakistan**

Product quality is an integral component that ensures the success of a firm in red meat industry.					
The client's satisfaction in the red meat industry is the result of product quality provided.					
Improving the product's quality helps in enhancing the exports of a firm, thereby improving the financial performance					
<b><i>Outsourcing</i></b>					
Outsourcing helps in accessing variety of products so that different options are available to buyers to make purchase decision.					
Firms involved in outsourcing tend to significantly cut costs as compared to firms not involved in outsourcing.					
Firms involved in outsourcing are more exposed to risk as compared to firms not involved in outsourcing					
Outsourcing the departments makes the supply chain operations of firm efficient.					
Outsourcing helps in enhancing the product quality which ultimately leads to client's satisfaction.					