

Chapter 4: Results and Discussion

Introduction

This chapter summarises the results of analysis of empirical evidence collected through questionnaire data. The analysis is based on SPSS output and each results has been discussed within the context of past results in order to check consistency between this study and past literature. Each statement in the questionnaire and relevant ratings have been discussed and finally the chapter ends with regression results that shows relationship between spare parts inventory management and performance of Qatar Airways and the impact of the former on latter.

Frequency Results and Discussion

The researcher asked Qatar Airways employees to score statement below. Spare parts inventory management is aimed to ensure that demand for spare parts from maintenance department and processes are managed properly. The questionnaire revealed that 15.71% of the Qatar Airways employees ticked strongly disagree, 5.71% of the Qatar Airways employees opted disagree, 8.57% of the Qatar Airways employees opted neutral, 30% of the Qatar Airways employees rated agree, and 40% of the Qatar Airways employees opted strongly agree.

Spare parts inventory management is aimed to ensure that demand for spare parts from maintenance department and processes is managed properly

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	11	15.7	15.7	15.7
	Disagree	4	5.7	5.7	21.4
	Neutral	6	8.6	8.6	30.0
	Agree	21	30.0	30.0	60.0
	Strongly Agree	28	40.0	40.0	100.0
Total		70	100.0	100.0	

There is significant research that relates spare parts inventory with demand management in any firm. Within the context of airlines, Gu, Zhang, and Li, (2015) showed that spare parts inventory management has significant impact on operations of airlines in terms of aircraft down time and smooth flight management. From this this study infers that Qatar Airways must focus on spare parts inventory as an important element of maintenance department strategy.

The Qatar Airways employees were asked in the questionnaire to provide rating for the statement that. Spare parts inventory management is focused on reducing cost of procurement process and maintain minimum inventory of spare parts. Following trends were observed in responses. 10% of the Qatar Airways employees ticked strongly disagree, 11.42% of the Qatar Airways employees ticked disagree, 5.71% of the Qatar Airways employees opted neutral, 38.57% of the Qatar Airways employees rated agree, and 34.28% of Qatar Airways employees ticked strongly agree.

Spare parts inventory management is aimed to ensure that demand for spare parts from maintenance department and processes is managed properly

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	11	15.7	15.7	15.7
	Disagree	4	5.7	5.7	21.4
	Neutral	6	8.6	8.6	30.0
	Agree	21	30.0	30.0	60.0
	Strongly Agree	28	40.0	40.0	100.0
	Total	70	100.0	100.0	

The results indicate that Qatar Airways must focus on the strategy for spare parts inventory on managing the demand for spare parts from the maintenance department. Similar conclusions have been provided by Nurcahyo and Malik, (2017) who argued that spare parts management is a difficult task for airlines because of uncertainty in the maintenance

requirements of aircraft and the uncertainty about lead time of spare parts. Thus, demand management of spare is critical for smooth and efficient maintenance operations.

The survey inquired Qatar Airways employees to score statement below. Spare parts inventory management is focused on ensuring that there are no disturbances in flight schedules. The responses to questionnaire indicated that 10% of the Qatar Airways employees ticked strongly disagree, 14.28% of the Qatar Airways employees ticked disagree, 4.28% of the Qatar Airways employees ticked neutral, 38.57% of Qatar Airways employees rated agree, and 32.85% of the Qatar Airways employees ticked strongly agree.

Spare parts inventory management is focused on ensuring that there are no disturbances in flight schedules

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	7	10.0	10.0	10.0
	Disagree	10	14.3	14.3	24.3
	Neutral	3	4.3	4.3	28.6
	Agree	27	38.6	38.6	67.1
	Strongly Agree	23	32.9	32.9	100.0
	Total	70	100.0	100.0	

According to Costantino, et al. (2018) flight schedules are critical for customer satisfaction of airlines industry. In order deliver timely flights the schedule must be maintained. The flight schedule can only be maintained by ensuring that there is effective maintenance and aircrafts are ready for operations when the flight is due. Thus it can be inferred that spare parts inventory management is also linked with flight schedules and thus affects the operations and performance of airlines.

The Qatar Airways employees were asked to select rating about following. Spare parts inventory management helps to maintain productivity and performance of the fleet. The

questionnaire results indicated that 5.71% of the Qatar Airways employees ticked strongly disagree, 11.42% of the Qatar Airways employees opted disagree, 14.28% of the Qatar Airways employees rated neutral, 34.28% of the Qatar Airways employees opted agree, and 34.28% of the Qatar Airways employees opted strongly agree.

Spare parts inventory management helps to maintain productivity and performance of the fleet

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	4	5.7	5.7	5.7
	Disagree	8	11.4	11.4	17.1
	Neutral	10	14.3	14.3	31.4
	Agree	24	34.3	34.3	65.7
	Strongly Agree	24	34.3	34.3	100.0
Total		70	100.0	100.0	

According to Cai, Li, and Chen, (2017) maintenance of aircrafts has significant impact on the productive life. Furthermore, maintenance process is an important factor of performance of aircrafts of any airline. Since maintenance process is dependent upon availability of spare parts that need replacement and repair, thus it can be inferred that spare parts inventory is likely to have significant impact n productivity and performance of aircrafts individually and its fleet.

The Qatar Airways employees were inquired to provide rating for the statement that spare parts inventory management helps to reduce capital tied in inventory levels. It was observed in the survey that 10% of the Qatar Airways employees opted strongly disagree, 11.42% of the Qatar Airways employees ticked disagree, 7.14% of the Qatar Airways employees rated neutral, 35.71% of the Qatar Airways employees ticked agree, and 35.71% of the Qatar Airways employees rated strongly agree.

Spare parts inventory management helps to reduce capital tied in inventory levels

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	7	10.0	10.0	10.0
Disagree	8	11.4	11.4	21.4
Neutral	5	7.1	7.1	28.6
Agree	25	35.7	35.7	64.3
Strongly Agree	25	35.7	35.7	100.0
Total	70	100.0	100.0	

Many researchers such as Silva, et al. (2017) have reported that airlines industry across the globe is struggling to minimise the capital investment made in spare parts. The purpose of minimising the tied up capital is to improve return on investment of inventory as well as liquidity of the entire firm by freeing up financial resources. Achieving this supports the firm to achieve higher performance in terms of financial indicators and cash management.

The Qatar Airways employees were inquired to provide rating for the statement that. Spare parts inventory management must be focused on maintaining the lead time of spare parts and improve relationship with suppliers and vendors. The survey results indicated that 7.14% of Qatar Airways employees opted strongly disagree, 18.57% of the Qatar Airways employees rated disagree, 4.28% of the Qatar Airways employees opted neutral, 31.42% of the Qatar Airways employees rated agree, and 38.57% of the Qatar Airways employees rated strongly agree.

Spare parts inventory management must be focused on maintaining the lead time of spare parts and improve relationship with suppliers and vendors

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	5	7.1	7.1	7.1
Disagree	13	18.6	18.6	25.7
Neutral	3	4.3	4.3	30.0
Agree	22	31.4	31.4	61.4
Strongly Agree	27	38.6	38.6	100.0
Total	70	100.0	100.0	

Sirichakwal and Conner, (2016) made similar conclusions and identified lead time of spare parts as one of the constraints in efficient operations of maintenance department in airlines. The study concluded that airlines must have effective strategies to have adequate number of spare parts at required time. Since demand for spare parts is uncertain therefore, having right spare parts at the right time becomes increasingly difficult.

The researcher asked Qatar Airways employees to provide rating for the statement that. Spare parts inventory management must be tailored to ensure that aircraft attributes such as comfort and convenience for customer is maintained. It was observed in the study that 10% of the Qatar Airways employees ticked strongly disagree, 12.85% of the Qatar Airways employees ticked disagree, 7.14% of the Qatar Airways employees rated neutral, 35.71% of the Qatar Airways employees rated agree, and 34.28% of Qatar Airways employees ticked strongly agree.

Spare parts inventory management must be tailored to ensure that aircraft attributes such as comfort and convenience for customer is maintained

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	7	10.0	10.0	10.0
Disagree	9	12.9	12.9	22.9
Neutral	5	7.1	7.1	30.0
Agree	25	35.7	35.7	65.7
Strongly Agree	24	34.3	34.3	100.0
Total	70	100.0	100.0	

Kauhanen, (2017) concluded that aircraft comfort and convenience is one of the most important features of service of airlines. This feature is also dependent upon the maintenance process. Since customer satisfaction is also dependent upon the comfort and convenience of aircraft, therefore it is but natural for airlines to ensure that all promised features and offers are delivered properly.

The Qatar Airways employees were asked in the questionnaire to provide rating for the statement that. Qatar Airways must have an excellent inventory management system in accordance with strategic objectives integrated with latest technologies. It was observed in the questionnaire results that 5.71% of the Qatar Airways employees ticked strongly disagree, 17.14% of the Qatar Airways employees rated disagree, 5.71% of Qatar Airways employees opted neutral, 41.42% of Qatar Airways employees opted agree, and 30% of the Qatar Airways employees ticked strongly agree.

Qatar Airways must have an excellent inventory management system in accordance with strategic objectives integrated with latest technologies

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	4	5.7	5.7	5.7
	Disagree	12	17.1	17.1	22.9
	Neutral	4	5.7	5.7	28.6
	Agree	29	41.4	41.4	70.0
	Strongly Agree	21	30.0	30.0	100.0
	Total	70	100.0	100.0	

Ayu Nariswari, Bamford, and Dehe, (2019) highlighted the role of technology in inventory management and procurement process. The study pointed out that information and communication technologies are critical for collaboration and coordination between airline procurement managers, suppliers, and vendors. Furthermore, warehousing systems and processes have also seen significant integration of modern technologies, particularly software such as Enterprise Resource Planning (ERPs). The fundamental purpose of integrating these technologies is to increase cost efficiency and time management of inventory and procurement management.

The Qatar Airways employees were inquired to select rating about following. Spare parts inventory management system helps to reduce direct and indirect costs of inventory and labour.

It was shown by the questionnaire results that 10% of the Qatar Airways employees ticked strongly disagree, 11.42% of the Qatar Airways employees opted disagree, 0.05% of the Qatar Airways employees ticked neutral, 35.71% of the Qatar Airways employees ticked agree, and 37.14% of the Qatar Airways employees ticked strongly agree.

Spare parts inventory management system helps to reduce direct and indirect costs of inventory and labour

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	7	10.0	10.0	10.0
	Disagree	8	11.4	11.4	21.4
	Neutral	4	5.7	5.7	27.1
	Agree	25	35.7	35.7	62.9
	Strongly Agree	26	37.1	37.1	100.0
	Total	70	100.0	100.0	

The results indicate that spare parts inventory management also helps to reduce direct and indirect cost such as cost of labour. Cardós, Guijarro, and Babiloni, (2016) also showed that inventory management involves significant amount of financial and human resources and efficiency of the process is determined by the technological updates in the process. Introduction of effective technologies help the firm to reduce human element in operations which in turn reduce human errors. Ultimately it can be inferred that inventory management elements such as technologies help to enhance efficiency.

The researcher asked Qatar Airways employees to provide rating for the statement that. Spare parts inventory management system helps to improve reliability and consistency in entire airline service delivery. The frequency analysis of survey results indicated that 8.57% of Qatar Airways employees rated strongly disagree, 14.285% of the Qatar Airways employees opted disagree, 8.57% of the Qatar Airways employees ticked neutral, 28.57% of Qatar Airways employees opted agree, and 40% of the Qatar Airways employees opted strongly agree.

Spare parts inventory management system helps to improve reliability and consistency in entire airline service delivery

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	6	8.6	8.6	8.6
	Disagree	10	14.3	14.3	22.9
	Neutral	6	8.6	8.6	31.4
	Agree	20	28.6	28.6	60.0
	Strongly Agree	28	40.0	40.0	100.0
Total		70	100.0	100.0	

Tronje and Gan, (2018) identified factors that affect the consistency and reliability of airline services. The study reported a large number of factors which included maintenance department as a critical factor. It was argued by the authors that maintenance of aircrafts has significant impact on performance and operations of aircraft and the performance of aircraft is one of the most important elements of airline service. It is directly linked with firm performance and customer satisfaction which are critical competitive advantages.

The questionnaire inquired Qatar Airways employees to provide rating for the statement that. Spare parts inventory management ensure smooth operations of maintenance process which in turn reduces down time and increase performance. It was observed in the frequency analysis that 5.71% of Qatar Airways employees rated strongly disagree, 12.85% of the Qatar Airways employees rated disagree, 7.14% of the Qatar Airways employees rated neutral, 44.28% of the Qatar Airways employees opted agree, and 30% of the Qatar Airways employees rated strongly agree.

Spare parts inventory management ensure smooth operations of maintenance process which in turn reduces down time and increase performance

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	4	5.7	5.7	5.7
	Disagree	9	12.9	12.9	18.6
	Neutral	5	7.1	7.1	25.7
	Agree	31	44.3	44.3	70.0
	Strongly Agree	21	30.0	30.0	100.0
	Total	70	100.0	100.0	

The result above indicates that airline performance can be increased through management of spare parts because the latter reduce down time of aircrafts. Since the down time of aircraft might increase due to non-availability of spare parts, therefore it is but natural to link availability of spare parts with down time and thus with firm performance as well (Wongmongkolrit, Rassameethes, and Laohakul, 2016).

The survey inquired Qatar Airways employees to provide rating for the statement that. Spare parts inventory management improves operating cost by minimising cost of procurement and thus improves performance. The survey observed that 10% of Qatar Airways employees ticked strongly disagree, 11.42% of the Qatar Airways employees rated disagree, 7.14% of the Qatar Airways employees rated neutral, 42.85% of the Qatar Airways employees rated agree, and 28.57% of the Qatar Airways employees rated strongly agree.

Spare parts inventory management improves operating cost by minimising cost of procurement and thus improves performance

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	7	10.0	10.0	10.0
	Disagree	8	11.4	11.4	21.4
	Neutral	5	7.1	7.1	28.6
	Agree	30	42.9	42.9	71.4
	Strongly Agree	20	28.6	28.6	100.0
	Total	70	100.0	100.0	

Furthermore, within the context of airline performance, Vaez-Alaei, et al (2018) concluded that cost of procurement is an important account of overall operating cost of airline. It requires airlines to invest significant amount of financial resources. Therefore optimisation of inventory levels of spare parts has significant impact on operational costs and ultimately translates into better firm performance.

The questionnaire inquired to provide rating for the statement that. Spare parts inventory management supports flight schedules and thus help Qatar Airways to maintain service delivery. Following trends were observed in responses. 7.14% of the Qatar Airways employees opted strongly disagree, 15.71% of the Qatar Airways employees ticked disagree, 5.71% of the Qatar Airways employees opted neutral, 30% of the Qatar Airways employees opted agree, and 41.42% of Qatar Airways employees rated strongly agree.

Spare parts inventory management supports flight schedules and thus help Qatar Airways to maintain service delivery

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	5	7.1	7.1	7.1
Disagree	11	15.7	15.7	22.9
Neutral	4	5.7	5.7	28.6
Agree	21	30.0	30.0	58.6
Strongly Agree	29	41.4	41.4	100.0
Total	70	100.0	100.0	

Yongquan, et al. (2016) argued that majority of the researchers agree that flight schedules are critical element of service delivery of airlines. A delay in flights due to maintenance reasons has direct adverse impact on customer satisfaction and airline image and brand. It is also important to manage demand from customers. Thus flight schedules affect revenues also. Therefore, flight schedule adherence is related to both tangible and non-tangible assets of airlines.

The Qatar Airways employees were inquired in the questionnaire to provide rating for the statement that. Spare parts inventory management improves fleet productivity and helps Qatar Airways to maximise fleet performance. It was shown by the frequency analysis that 4.28% of the Qatar Airways employees ticked strongly disagree, 18.57% of the Qatar Airways employees ticked disagree, 4.28% of the Qatar Airways employees rated neutral, 42.85% of the Qatar Airways employees rated agree, and 30% of the Qatar Airways employees rated strongly agree.

Spare parts inventory management improves fleet productivity and helps Qatar Airways to maximise fleet performance

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	3	4.3	4.3	4.3
Disagree	13	18.6	18.6	22.9
Neutral	3	4.3	4.3	27.1
Agree	30	42.9	42.9	70.0
Strongly Agree	21	30.0	30.0	100.0
Total	70	100.0	100.0	

According to Mo, Tseng, and Wang, (2016) one of the main factors of airline performance and profitability is the productivity of its fleet. The fleet productivity is dependent on the degree of maintenance the aircrafts receive. Better maintenance increase productivity in terms of efficiency and performance. Therefore it is credible to relate spare parts inventory with aircraft productivity and performance because spare parts influence the maintenance level of the fleet.

The Qatar Airways employees were inquired to select rating about following. Spare parts inventory management enhances return on investment of Qatar Airways by minimising capital invested in inventories. It was shown by survey results that 8.57% of the Qatar Airways employees opted strongly disagree, 10% of the Qatar Airways employees opted disagree, 11.42% of the Qatar Airways employees rated neutral, 30% of the Qatar Airways employees rated agree, and 40% of the Qatar Airways employees ticked strongly agree.

Spare parts inventory management enhances return on investment of Qatar Airways by minimising capital invested in inventories

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	6	8.6	8.6	8.6
Disagree	7	10.0	10.0	18.6
Neutral	8	11.4	11.4	30.0
Agree	21	30.0	30.0	60.0
Strongly Agree	28	40.0	40.0	100.0
Total	70	100.0	100.0	

According to Babajanivalashedi, et al. (2018) the return on investment is an important indicator of profitability of any firm including airlines. The return on investment in inventories has been an issue that received much debate in the airline industry in recent past because of it high capital requirements. The experts recommend that airlines must find ways to reduce inventory level in a way that they manage demand on the one hand while also minimise capital required on the other hand.

The survey inquired Qatar Airways employees to provide rating for the statement that. Spare parts inventory management improves relationship with suppliers and vendors which is considered to be an important competitive advantage. It was observed in the questionnaire that 7.14% of the Qatar Airways employees opted strongly disagree, 18.57% of Qatar Airways employees ticked disagree, 4.28% of Qatar Airways employees rated neutral, 28.57% of the Qatar Airways employees opted agree, and 41.43% of the Qatar Airways employees opted strongly agree.

Spare parts inventory management improves relationship with suppliers and vendors which is considered to be an important competitive advantage

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	5	7.1	7.1	7.1
	Disagree	13	18.6	18.6	25.7
	Neutral	3	4.3	4.3	30.0
	Agree	20	28.6	28.6	58.6
	Strongly Agree	29	41.4	41.4	100.0
	Total	70	100.0	100.0	

Dinis and Barbosa-Póvoa, (2015) suppliers and vendors have been recognised as strategic partners of airlines, as they have significant impact on airline performance. Therefore there has been a changed in the supplier relationship management in past couple of decades. An improvement in supplier relationship leads to an improvement in supply chain and supply chain improvement has significant positive impact on airline performance.

The researcher asked to provide rating for the statement that. Spare parts inventory management helps to enhance customer satisfaction by improving comfort and convenience features. The frequency analysis revealed that 5.71% of the Qatar Airways employees ticked strongly disagree, 10% of Qatar Airways employees ticked disagree, 12.85% of the Qatar Airways employees rated neutral, 27.14% of the Qatar Airways employees rated agree, and 44.28% of the Qatar Airways employees ticked strongly agree.

Spare parts inventory management helps to enhance customer satisfaction by improving comfort and convenience features

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	4	5.7	5.7	5.7
	Disagree	7	10.0	10.0	15.7
	Neutral	9	12.9	12.9	28.6
	Agree	19	27.1	27.1	55.7
	Strongly Agree	31	44.3	44.3	100.0
	Total	70	100.0	100.0	

The results above provide support to previous results. Since customer comfort and convenience are critical aspect of customer satisfaction and customer satisfaction is a critical element of competitive advantage of airlines, therefore spare parts management can be linked with airline performance due to their impact on customer satisfaction. It is also important to note that spare parts management also affects customer satisfaction by affecting flight schedules and productivity and performance of the fleet.

The Qatar Airways employees were asked to provide rating for the statement that. Qatar Airways can enhance performance by adopting latest technologies in inventory management system and achieve higher efficiency. The frequency distribution results indicated that 8.57% of the Qatar Airways employees rated strongly disagree, 12.857% of the Qatar Airways employees ticked disagree, 8.57% of the Qatar Airways employees opted neutral, 22.85% of Qatar Airways employees rated agree, and 47.14% of Qatar Airways employees opted strongly agree.

Qatar Airways can enhance performance by adopting latest technologies in inventory management system and achieve higher efficiency

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	6	8.6	8.6	8.6
	Disagree	9	12.9	12.9	21.4
	Neutral	6	8.6	8.6	30.0
	Agree	16	22.9	22.9	52.9
	Strongly Agree	33	47.1	47.1	100.0
	Total	70	100.0	100.0	

The results above are consistent with the findings of Rezaei, et al., (2018) who recommended that airlines must adopt and integrate latest technologies that help them to improve overall productivity of the service delivery process. Modern consumers in general and travellers in particular are technology savvy because technology enhances their convenience and expenses. Therefore adopting latest technology in spare parts management can lead to improvement in firm performance.

The Qatar Airways employees were inquired to provide rating for the statement that. Qatar Airways can improve its profitability by linking spare parts management system with cost of inventory and labour. The responses to survey indicated that 5.71% of the Qatar Airways employees opted strongly disagree, 15.71% of the Qatar Airways employees opted disagree, 7.14% of Qatar Airways employees ticked neutral, 31.42% of Qatar Airways employees opted agree, and 40% of the Qatar Airways employees rated strongly agree.

Qatar Airways can improve its profitability by linking spare parts management system with cost of inventory and labour

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	4	5.7	5.7	5.7
	Disagree	11	15.7	15.7	21.4
	Neutral	5	7.1	7.1	28.6
	Agree	22	31.4	31.4	60.0
	Strongly Agree	28	40.0	40.0	100.0
Total		70	100.0	100.0	

According to Hu, Li, and Cai, (2016) the profitability of the airline sector has been under pressure because of the increase in cost and expenses incurred by airlines in terms of operations and marketing strategies. Therefore, it is critical for airlines to seek cost efficiency in every business process and function. Within this context, it can be inferred that airlines must focus on improving performance based on improvement in cost efficiency of spare parts.

The researcher asked Qatar Airways employees to score statement below. An increase in reliability and consistency of airline service leads to an improvement in customer service and satisfaction and thus in firm performance. It was shown by the questionnaire results that 10% of Qatar Airways employees ticked strongly disagree, 12.85% of the Qatar Airways employees rated disagree, 5.71% of the Qatar Airways employees ticked neutral, 35.71% of the Qatar Airways employees ticked agree, and 35.71% of Qatar Airways employees rated strongly agree.

An increase in reliability and consistency of airline service leads to an improvement in customer service and satisfaction and thus in firm performance

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	7	10.0	10.0	10.0
	Disagree	9	12.9	12.9	22.9
	Neutral	4	5.7	5.7	28.6
	Agree	25	35.7	35.7	64.3
	Strongly Agree	25	35.7	35.7	100.0
	Total	70	100.0	100.0	

Finally the survey results emphasise that reliability and consistency of airlines have significant impact on firm performance. Since it has been established that spare parts management has significant impact on reliability and consistency of airlines therefore it can be concluded that firm performance is related to spare parts inventory management.

Regression

The regression model is commonly used among social researchers to understand and explore the relationship between two variables. The regression model gauges the impact of independent variable on dependent variable and reflects the importance of one variable for another. The coefficient of determination is the indicator of degree to which independent variables explains the degree of change or variability in the dependent variable. Furthermore, the beta coefficient gauges the impact of change in the dependent variable due to a unit change in independent variable. Following tables summarise the results of regression analysis between spare parts inventory management and firm performance in case of Qatar Airways.

The coefficient of determination is R square .918 or 91.8% which reflects that the degree of variability explained by the spare parts inventory management in the performance of Qatar Airways. The statistical significance is depicted by ANOVA table which shows that significance value is less than 0.05. Finally the beta coefficient between spare parts inventory management

and performance of Qatar Airways is .915 which indicates that if there is a unit increase in spare parts inventory management system of Qatar Airways, assuming all other factors that affect performance of Qatar Airways remain constant, there is likely to be a .915 unit increase in performance of Qatar Airways.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.958 ^a	.918	.917	.31634

a. Predictors: (Constant), Spare Parts Inventory Management

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	76.630	1	76.630	765.781	.000 ^b
	Residual	6.805	68	.100		
	Total	83.435	69			

a. Dependent Variable: Impact on Performance

b. Predictors: (Constant), Spare Parts Inventory Management

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.378	.130		2.918	.005
	Spare Parts Inventory Management	.915	.033	.958	27.673	.000

a. Dependent Variable: Impact on Performance