



COMMUNICATION AND THE PERFORMANCE OF AVIATION PROJECTS IN NAIROBI KENYA

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ABSTRACT

Project communication is a critical component of project implementation since it ensures the conveyance of information to all essential stakeholders. The aviation industry has been experiencing drastic growth in commercial activity all over the world which has placed more demands on the existing communication equipment to handle more complex communication and led to the increment in the number of errors. This study sought to determine the influence of communication on the performance of aviation projects in Nairobi County, Kenya. Its specific objectives include: to determine the influence of communication technology and communication plans on the performance of aviation projects in Nairobi County, Kenya. It applied a descriptive research design describing the characteristics of 181 individuals at nine projects overseen by the KCAA. The study used a questionnaire. The data was examined using the Statistical Package for Social Sciences to conduct regression analysis, descriptive analysis and inferential analysis. The results were then presented using tables. According to the study, communication plans is the strongest determinant of project performance followed by communication technology. It recommended that the aviation organisations need to invest in adequate security mechanisms such as the incorporation of a security management system in order to secure their connected technology against cyber criminals. More efforts are needed to ensure that advances in aeronautical communication technology lead to increasing network diversity within aviation organisations. Aviation organisations in the country need to lobby the legislators to provide legislative support for more current Air-To-Ground (ATG) mobile communication technology.

Keywords: Communication Technology, Communication Plans, Performance, Aviation Projects

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INTRODUCTION

Project communication is a critical component of project implementation since it ensures the conveyance of information to all essential stakeholders. The Project Management Institute (PMI) (2017) came up with the Project Management Body of Knowledge (PMBOK®) framework which identified project communications management as one of the critical elements of effective project management. Accordingly, the framework identified three components of project communications management, namely, the plan communications management, manage communications, and monitor communications. In line with this, the study identified communication skills, communication technology, communication protocols and communication plans as suitable aspects of project communications management within the aviation industry that will ensure the integration of the three components.

According to Zulch (2014), in order for projects to be implemented effectively they must incorporate appropriate communication, particularly in the areas of scope, cost, quality and time since the relaying information on these critical components of project implementation are the hallmarks of success in attaining project objectives. Setiawan, Hansen and Fujiono (2021) opined that effective communication during planning establishes a solid foundation in project execution since it ensures the buy-in by all project stakeholders and the establishment of the project requirements so as to lead to the availability of all necessities so as to avoid time and cost overruns. Chen (2021) added that project communication is moderated by managerial and technical competencies to ensure proper project performance since competent project personnel are able to articulate the project objectives appropriately and translate them into the intended outcomes.

The aviation industry is an important contributor to the Kenyan economy since it facilitates the trading of businesses of their goods and services around the world, additionally, foreign tourists spent US

\$0.8 billion while the country's exports amounted to US \$10.4 billion worth of goods and services in 2014; the passenger arrival figures indicated that in 2014, 1 million passengers arrived from Europe and 500,000 from the Middle East; and a review of the local air travel showed that 5.8 million passengers travel annually from the Jomo Kenyatta International Airport (JKIA), 950,000 from Mombasa, 310,000 from Wilson Airport, 230,000 from Kisumu, and 90,000 from Eldoret (Saxon, 2016). Communication in the aviation industry is a complex undertaking given the huge number of stakeholders affected including passengers, employees, investors, and members of the public, thus, with the advent of new technology, the choice of communication channels to convey information to all of these stakeholders is one that needs to be taken carefully bearing in mind the cost and marketing implications (Relay42, 2016).

Statement of the Problem

The aviation industry is an important contributor to the Kenyan economy since it facilitates the trading of businesses of their goods and services around the world, additionally, foreign tourists spent US \$0.8 billion while the country's exports amounted to US \$10.4 billion worth of goods and services in 2014 (Saxon, 2016). According to the Kenya Civil Aviation Authority (KCAA) (2022), there has been a decrease in aircraft movements in the Kenyan airspace from 351,825 in 2017 to 207,924 in 2021 reflecting a reduction of 41%, however, the accident rate increased from 17% to 62.5% in the same period, and the fatality rate rose from 14.2% to 33.6% in the same period. A study conducted by Njagi and Ndavula (2020) determined that players in the Kenyan aviation industry have been unable to effectively adopt digital communication technologies due to the high cost of integrating these technologies and, as such, have suffered from associated inefficiencies. A study by Samunderu (2023) underscore a persistence of challenges within Africa's aviation industry, indicating that the performance of projects, including safety measures, airport expansions, and improvements in

infrastructures, is not immune to setbacks. Despite advancements in technology and communication tools, the aviation industry continues to face challenges resulting from lapses in communication. Recent incidents highlight the critical consequences of poor communication within the industry. (Alharasees, Jazzar, Kale & Rohacs, 2023). Additionally, the COVID-19 pandemic exacerbated communication challenges in the aviation sector. As the aviation industry continues to recover, stakeholders must prioritize effective communication to ensure safety, restore passenger confidence, and navigate future challenges successfully (Chebichii, 2021). It is on this background that this study sought to establish the influence of communication on the performance of aviation projects in Nairobi County, Kenya.

Specific objectives

- To investigate the influence of communication technology on the performance of aviation projects in Nairobi County, Kenya.
- To ascertain the influence of communication plans on the performance of aviation projects in Nairobi County, Kenya.

LITERATURE REVIEW

Theoretical Review

Groupthink Theory

Golkar (2013) posited that Groupthink theory, which was first proposed by Irving Janis in 1972, supposes that the key cause of faulty decisions by groups is the pressure exerted by groups which leads to deterioration of “mental efficiency”, testing of reality and ability to make proper moral judgements and is exemplified by the group not considering alternatives and tending to make irrational decisions. Groupthink typically occurred in provocative situational contexts that involve moral dilemmas or risks of significant material losses which created heightened levels of stress in decision makers and made them more anxious and afraid of an inability to cope properly. The theory is in agreement with communication technology given that the selection of the appropriate

communication technology requires a consensus from the members of the organisation. Additionally, the theory is consistent with communication plans given that the incorporation of conflict resolution mechanisms within communication plans would help to address the key concerns of the theory. Ultimately, given that the overall objective of groupthink is to ensure greater cooperation so as to lead to improved performance, it is also consistent with the dependent variable -project performance.

Social Information Processing Theory

The Social Information Processing Theory (SIPT), which was the brainchild of Joseph Walther in 1992, proposes that provided time and opportunity to interact is available, individuals will form relationships in online environments; however, these relationships are subject to diverse cultural dimensions such as language and norms since these determine communication expectations (Olaniran, Rodriguez & Williams, 2012). Additionally, social presence and the ability of a medium to support multiple cues impacts the perception of media which is then embedded and reinforced by culture. The quality of fixed impersonal relational communication attributes in computer mediated communication (CMC) tends to be strictly restricted to initial interaction characteristics among partners who were hitherto strangers, effects which decay over time. Indeed, CMC is shaped by interpersonal communication principles which affirm that the value of nonverbal cues lies in the support that they offer to the fulfilment of communication functions by reinforcing the conveyance of subtle meaning (Sumner & Ramirez Jr, 2017). The organisational perspective demonstrates that social information processing can only add value if it leads to the attainment of enhanced performance.

Conceptual Framework

The following section will categorize and describe concepts surrounding the research variables of the study and map relationships among them. Figure 1 illustrates the independent and dependent variables as well as their underlying indicators.

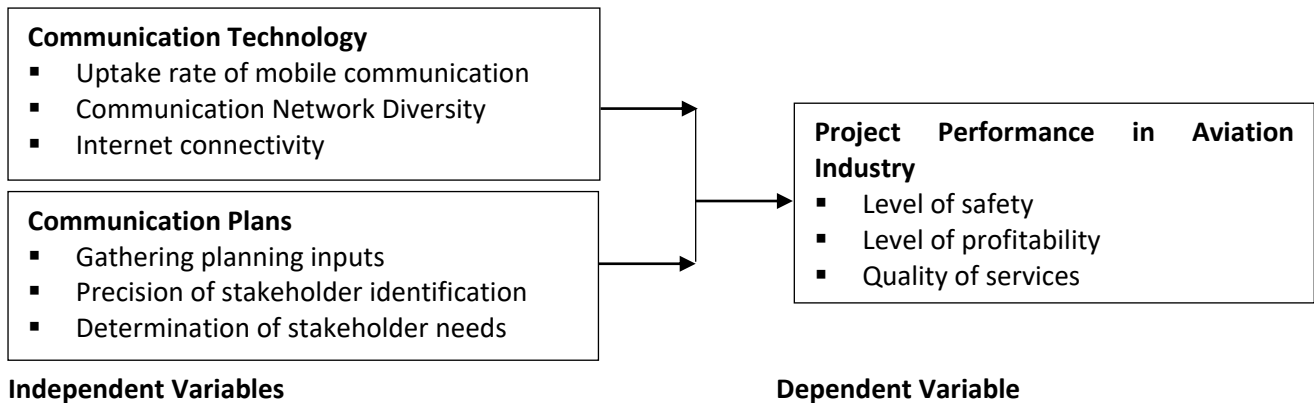


Figure 1: Conceptual Framework

Empirical Review

According to Zhang, Zhong, Wang, Zhang, Zuo, Maunder and Hanzo (2017), advances in aeronautical communication technology have led to increasing network diversity as manifested broadband communications above clouds which feature extended coverage of Air-to-Ground (A2G) networks to oceanic and remote airspace through autonomous and self-configured wireless networking for commercial passenger airplanes; larger, more variable geographical network sizes; stricter security arrangements; and more hostile transmission circumstances. Additionally, Wang, Ertürk, Liu, Ra, Sankar and Morgera (2015) posited that aeronautical communication networks (ACNs) are components of diverse multi-tier networks for wireless communication systems that seek to provide high through-put and cost effective communication networks for aeronautical applications.

As the aviation industry endeavours to fit in with the technological advancements such as the establishment of smart spaces in order to make airports and aircrafts more connected to the Internet, there is an increment in the diversity of passenger-provided computing platforms connecting to in-flight networks enabling continuous connectivity but also heightening the risk for cyber security threats for the connected systems (Seymer & Wijesekera, 2018). This mismatch between the dependence on connected technology and the aviation industry's ability to

secure it against the ever-increasing capabilities and intent of cyber criminals has had an adverse effect on consumers' trust on Internet communication platforms and may delay the benefits of such technology for industrial players (Woods, 2017).

A study by Gumbe (2016) on the influence of stakeholders' involvement on implementation of projects in the aviation industry in Kenya established that the project implementation team is normally involved in gathering communication planning inputs including the project management plan which has to be updated continuously during execution to incorporate changes to the expected activity durations, resource productivity and availability. Imbiti (2016) affirmed that in order to ensure effective development of communication plans, the project management teams engaged in active employee involvement, incorporation of the appropriate infrastructure and technology, cooperation and teamwork, adaptation to points-of-view, and integration reorganisation.

Ondeng (2021) assessed the influence of strategic stakeholder communication on customer satisfaction by focusing on Fly 540 Airline in Kenya and found that the organisation achieved increased precision of stakeholder identification by formulation the most effective stakeholder communication strategy framework founded on tailored communication and participatory stakeholder engagement. Omondi and Kimutai (2018) studied the correlation between stakeholder engagement conflicts and implementation of

expansion and modernisation projects at the Jomo Kenyatta International Airport in Kenya and determined that one of the critical determinants of stakeholder conflicts were mismatched stakeholder identification processes, thus, through conducting appropriate reviews of the processes by applying a detailed stakeholder mapping assessment.

In a study on critical success factors influencing the performance of infrastructure projects in the aviation industry in Kenya, Mwangi and Kisimbi (2020) posited that through the inclusion of competent and experienced contractors as well as the engagement of key stakeholders in decision making related to the project, the needs of stakeholders were determined appropriately. Chemutai (2021) conducted a study on Kenya Airways' image restoration strategies during the 2015/2016 financial crisis and found that the airline opted to accept culpability for management failures that led to the financial crisis following its determination of the need to cushion other stakeholders from the negative publicity through its communication strategies.

METHODOLOGY

The present investigation employed a descriptive research design as it focused on delineating the attributes of both individuals and groups involved in nine projects overseen by the KCAA. The unit of observation in this study was comprised of 181 professionals engaged in various capacities within aviation projects managed by the Kenya Civil Aviation Authority (KCAA) in Nairobi County. Additionally, the Manager of Corporate Communications was identified as a pivotal figure responsible for maintaining transparent and effective communication strategies.

In this study, the sample frame was meticulously derived from a target population comprising 181 respondents actively involved in nine distinct projects overseen by the KCAA.

The study applied a census method for determining the sample size as per the recommendations of Singh and Masuku (2014), where all the elements of

the entire population for small populations of 200 or less were used in the sample so as to eliminate sampling errors and provide data for all individuals in the population. The study used self-administered questionnaires on 181 respondents from the target population who were given two weeks to complete the questionnaires. Google forms platform was used to administer the questionnaires and respondents were given one week to complete. The data was then examined using the Statistical Package for Social Sciences to conduct regression analysis, descriptive analysis and inferential analysis. The results were then presented using graphs and tables. The analysis used a multiple regression model to capture the variables of the study as follows:

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \varepsilon$$

FINDINGS AND DISCUSSION

Response Rate

The study administered questionnaires to 181 individuals but only 115 were responded to, representing a response rate of 64% which echoed the findings of Gordon, Davidoff, Tarnow, Reidenberg and Endriss (2002).

Descriptive Statistics

Communication Technology and Project Performance

The results of the descriptive statistics of communication technology are shown in Table 1. According to the results, 74% of the respondents either agreed or strongly agreed that in response to the demand for mobile communication by its customers, the organisation has introduced the use of systems such as WiMax and Long Term Evolution (LTE) in its flights. This statement had a mean score of 3.8957 indicating a high level of affirmation by the respondents. This confirmed the findings of Zambrano *et al.* (2014). Additionally, 71.4% of the respondents either agreed or strongly agreed that the organisation's consumers' readiness to adopt mobile self-service technology has been lower than expected.

The results also showed that 49.6% of the respondents either agreed or strongly agreed, while 19.1% were neutral towards the assertion that advances in aeronautical communication technology have led to increasing network diversity within the organisation as manifested in broadband communications above clouds. This reflected only a moderate level of affirmation by the respondents which was confirmed by the mean score of 3.1913 and only partially echoed the findings of Zhang *et al.* (2017). Further, 84.3% of the respondents either agreed or strongly agreed that the organisation's aeronautical communication networks are components of diverse multi-tier networks for wireless communication systems that seek to provide high through-put and cost effective communication networks for aeronautical applications. This statement had a mean score of 3.9739 indicating that the majority of respondents were in agreement with it. This corroborated the findings of Wang *et al.* (2015).

Additionally, 92.1% of the respondents either agreed or strongly agreed that the level of connectivity in the organisation's aircraft communication systems has led to benefits such as fuel economy, Aircraft Health Monitoring (AHM), and enhanced passenger experience. This reflected a strong affirmation by the respondents which was reinforced by the high mean score of 4.1565. This was consistent with the findings of Cooper (2017). Lastly, 90.4% of the respondents either agreed or strongly agreed that the mismatch between the dependence on connected technology and the aviation industry's ability to secure it against the ever-increasing capabilities and intent of cyber criminals has had an adverse effect on the organisation's consumers' trust on Internet communication platforms. This statement had a mean of 4.2348 confirming that most the respondents were in agreement with it.

Table 1: Descriptive Statistics of Communication Technology

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Standard Deviation
In response to the demand for mobile communication by its customers, the organisation has introduced the use of systems such as WiMax and Long Term Evolution (LTE) in its flights.	0.0%	1.7%	24.3%	56.5%	17.5%	3.8957	.69300
The organisation's consumers' readiness to adopt mobile self-service technology has been lower than expected.	1.7%	5.2%	21.7%	55.7%	15.7%	3.7826	.83543
Advances in aeronautical communication technology have led to increasing network diversity within the organisation as manifested in broadband communications above clouds.	11.3%	20.0%	19.1%	37.4%	12.2%	3.1913	1.22041
The organisation's aeronautical communication networks are components of diverse multi-tier networks for wireless communication systems that seek to provide high through-put and cost effective communication networks for aeronautical applications.	0.9%	8.7%	6.1%	60.9%	23.4%	3.9739	.85287
The level of connectivity in the organisation's aircraft communication systems has led to benefits such as fuel economy, Aircraft Health Monitoring (AHM), and enhanced passenger experience.	0.9%	0.0%	7.0%	67.0%	25.1%	4.1565	.61546
The mismatch between the dependence on connected technology and the aviation industry's ability to secure it against the ever-increasing capabilities and intent of cyber criminals has had an adverse effect on the organisation's consumers' trust on Internet communication platforms	0.9%	0.9%	7.8%	54.8%	35.6%	4.2348	.70500

Communication Plans and Project Performance

The results pertaining to the descriptive statistics of communication plans are shown in Table 2. According to the results, 80% of the respondents either agreed or strongly agreed that the project implementation team is normally involved in gathering communication planning inputs including the project management plan which has to be updated continuously during execution to incorporate changes to the expected activity durations, resource productivity and availability and confirming the findings of Gumbe (2016). Additionally, 74.8% of the respondents either agreed or strongly agreed that in order to ensure effective development of communication plans, the project management teams engaged in active employee involvement, incorporation of the appropriate infrastructure and technology. This corroborated the findings of Imbiti (2016).

The results also showed that 64.3% of the respondents either agreed or strongly agreed that the organisation achieved increased precision of stakeholder identification by formulation the most effective stakeholder communication strategy framework founded on tailored communication and participatory stakeholder engagement. This was

consistent with the findings of Ondeng (2021). Further, 74% of the respondents either agreed or strongly agreed that through conducting appropriate reviews of the processes by applying a detailed stakeholder mapping assessment, the projects teams were able to come up with optimal conflict resolution mechanisms that were customised to the right stakeholders and communicated accordingly. This statement had a mean of 3.9478 indicating a strong endorsement by the respondents and confirming the findings of Omondi and Kimutai (2018).

The results further showed that 72.2% of the respondents either agreed or strongly agreed that the inclusion of competent and experienced contractors as well as the engagement of key stakeholders in decision making related to the project, led to appropriate determination of the needs of stakeholders. Lastly, 70.4% of the respondents either agreed or strongly agreed that the organisation opted to accept culpability for management failures during crises following its determination of the need to cushion other stakeholders from the negative publicity through its communication strategies. This affirmed the findings of Chemutai (2021).

Table 2: Descriptive Statistics of Communication Plans

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Standard Deviation
The project implementation team is normally involved in gathering communication planning inputs including the project management plan which has to be updated continuously during execution to incorporate changes to the expected activity durations, resource productivity and availability.	0.0%	0.0%	20.0%	58.3%	21.7%	4.0174	.64865
In order to ensure effective development of communication plans, the project management teams engaged in active employee involvement, incorporation of the appropriate infrastructure and technology	5.2%	7.0%	13.0%	60.9%	13.9%	3.7130	.97121
The organisation achieved increased precision of stakeholder identification by formulation the most effective stakeholder communication strategy framework founded on tailored communication and participatory stakeholder engagement.	3.5%	7.0%	25.2%	43.5%	20.8%	3.7130	.98911
Through conducting appropriate reviews of the processes by applying a detailed stakeholder mapping assessment, the projects teams were able to come up with optimal conflict resolution mechanisms that were customised to the right stakeholders and communicated accordingly.	0.0%	1.7%	24.3%	51.3%	22.7%	3.9478	.73560
The inclusion of competent and experienced contractors as well as the engagement of key stakeholders in decision making related to the project, led to appropriate determination of the needs of stakeholders.	0.0%	1.7%	26.1%	48.7%	23.5%	3.9391	.75262
The organisation opted to accept culpability for management failures during crises following its determination of the need to cushion other stakeholders from the negative publicity through its communication strategies.	0.0%	6.1%	23.5%	35.7%	34.7%	3.9913	.91283

Project Performance

The results relating to the descriptive statistics of project performance are shown in Table 3. According to the results, 80.9% of the respondents either agreed or strongly agreed that the organisation has established the Safety Management System which has resulted in an overall reduction in the number of fatal accidents. This was consistent with Yeun *et al.* (2014). Additionally, 98.3% of the respondents either agreed or strongly agreed that the organisation has introduced the Runway Safety Programme as a multi-disciplinary approach that has focused on collaboration in the enhancement of safety

management practices. The high mean score of 4.4435 affirmed the findings of ICAO (2013).

The results also showed that 82.6% of the respondents either agreed or strongly agreed that the organisation’s tangible assets, growth opportunities and liquidity ratios has lowered its level of profitability. Further, 54.8% of the respondents either agreed or strongly agreed that operational strategies such as the loading factor have had a significant impact on the organisation’s level of profitability; and the board’s composition, particularly the supervisory role played by non-executive directors have enhanced the efficiency of the management of the organisation and

institutionalised better governance. This statement had a mean score of 3.3304 indicating a moderate level of affirmation by the respondents and echoing the findings of Jomo *et al.* (2017).

The results further showed that 66.1% of the respondents either agreed or strongly agreed that service quality in the organisation includes the cleanliness of the inflight facilities and interiors of the airlines, the comfort of inflight seats, and

whether the employees of the airline are neat and tidy in appearance. Lastly, 95.6% of the respondents either agreed or strongly agreed that the organisation offers value for money through the provision of staff service quality, seat comfort, and food and beverage quality. This statement had a mean score of 4.4870 indicating a strong endorsement by the respondents and confirming the findings of Atalik *et al.* (2019).

Table 3: Descriptive Statistics of Project Performance

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Standard Deviation
The organisation has established the Safety Management System which has resulted in an overall reduction in the number of fatal accidents.	0.0%	0.0%	19.1%	59.1%	21.8%	4.0261	.64156
The organisation has introduced the Runway Safety Programme as a multi-disciplinary approach that has focused on collaboration in the enhancement of safety management practices.	0.0%	0.0%	1.7%	52.2%	46.1%	4.4435	.53297
The organization's tangible assets, growth opportunities and liquidity ratios has lowered its level of profitability.	0.0%	3.5%	13.9%	53.0%	29.6%	4.0870	.75586
Operational strategies such as the loading factor have had a significant impact on the organization's level of profitability; and the board's composition, particularly the supervisory role played by non-executive directors have enhanced the efficiency of the management of the organisation and institutionalized better governance.	11.3%	20.9%	13.0%	33.0%	21.8%	3.3304	1.32930
Service quality in the organisation includes the cleanliness of the inflight facilities and interiors of the airlines, the comfort of inflight seats, and whether the employees of the airline are neat and tidy in appearance	7.8%	8.7%	17.4%	47.8%	18.3%	3.6000	1.12234
The organisation offers value for money through the provision of staff service quality, seat comfort, and food and beverage quality.	0.9%	0.0%	3.5%	40.9%	54.7%	4.4870	.65380

Inferential Statistics

Multiple Regression Analysis

Table 4: Multiple Regression Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.884 ^a	.726	.596	.89767

a. Predictors: (Constant), Communication Plans, Communication Technology

The results, reported in Table 5, reveal that the model accounts for 72.6% of the variability in project performance when the independent variables are altered by 1%. This implies that the model has strong explanatory power, since it surpasses Hamilton, Ghert, and Simpson's (2015) suggested 0.7 criterion for significance of the R Square value. The R Square score indicates that the independent factors considered combined contribute significantly to explaining the variability in project performance. The Adjusted R Square of 0.596 takes the model's predictor count into account, providing a more accurate assessment of the model's goodness-of-fit. In summary, the multiple regression analysis suggests that the selected communication variables have a

meaningful impact on project performance, supporting the overall model's reliability and explanatory capacity.

Analysis of Variance

The results indicate that the ANOVA F-test score, calculated value F_{cal} at 5% level of significance is equivalent to 5.909, which is greater than the F critical value (F_{crit}) of 2.45 indicating that there is a significant relationship between all the independent variables and the dependent variable of enterprise growth. The p-value of 0.029 is less than 0.05 indicating that there is a statistically significant relationship between each of the independent variables and project performance which is in line with Kao and Green (2008). This demonstrates the goodness of fit of the model.

Table 5: Analysis of Variance

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	19.047	2	9.524	12.033	.029 ^b
Residual	88.640	112	.791		
1 Total	107.687	114			

a. Dependent Variable: Project Performance

b. Predictors: (Constant), Communication Plans, Communication Technology

Beta Coefficient Analysis

Beta Coefficients refer to unknown constants that reflect the extent of change in the dependent variable that can be attributed to a unit change in an independent variable whenever other independent variables are held constant (Peterson & Brown, 2005). The results of the Beta Coefficients of the study variables are shown in Table 6. The values of the constants and coefficients enabled the generation of the following multiple regression model:

$$\begin{aligned}
 Y &= \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \epsilon \\
 &= 1.845 + 0.098X_1 + 0.296X_2 + 0.683
 \end{aligned}$$

According to the equation, taking all the independent variables to be zero, Project Performance will be a constant equivalent to 1.845. A review of the findings also shows that a unit increase in Communication Technology will lead to a 0.098 increase in Project Performance when all other independent variables are held constant. Further, a unit increase in Communication Plans will lead to a 0.296 increase in Project Performance when all other independent variables are held constant. Lastly, the p-values for the variables are below 0.05, which indicates that they are all statistically significant.

Table 6: Beta Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	T	Sig.
(Constant)	1.845	.683		2.699	.008
Communication Technology	.098	.120	.093	.817	.016
1 Communication Plans	.296	.131	.216	2.261	.026

CONCLUSIONS

There are supporting mechanisms for communication technologies in the aviation industry which feature a requirements-driven approach that assesses air-ground and air-air data and voice ATS and AOC communications, especially the safety and frequency of flight communications. The aviation organisations have been hampered by the lack of local regulation for more current Air-To-Ground (ATG) mobile communication technology. In order to secure the integrity of communication systems, organisations apply encryption using an asymmetric key system that ensure secure communication with a symmetric session key so as to provide the assurance that information cannot be modified or duplicated.

The project implementation teams are normally involved in gathering communication planning inputs including the project management plan which have to be updated continuously during execution to incorporate changes to the expected activity durations, resource productivity and availability. In order to ensure effective development of communication plans, the project management teams engaged in active employee involvement, incorporation of the appropriate

infrastructure and technology. The organisations offer value for money through the provision of staff service quality, seat comfort, and food and beverage quality. The organisations have established the Safety Management System which has resulted in an overall reduction in the number of fatal accidents.

RECOMMENDATIONS

The aviation organisations need to invest in adequate security mechanisms such as the incorporation of a security management system (SeSM) of operating principles and guidance in order to secure their connected technology against cyber criminals. More efforts are needed to ensure that advances in aeronautical communication technology lead to increasing network diversity within aviation organisations as manifested in broadband communications above clouds. This may include the determination of the best choice between a point-to-point network and a hub-and-spoke network on a case by case basis. Aviation organisations in the country need to lobby the legislators to provide legislative support for more current Air-To-Ground (ATG) mobile communication technology.

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