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THE UNDERLYING FACTORS AFFECTING AND SHAPING THE FUTURE DEVELOPMENT OF THE AIR CARGO SECTOR IN KARACHI, PAKISTAN

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Abstract

The economy of any country is significantly shaped by air cargo transportation. Various motivational factors influence the efficiency of air cargo services. These factors can be both internal and external. The internal elements of air cargo services in Karachi Cargo Airport are the main subject of this study. These elements include sophisticated IT software, thorough work training, and a positive organizational culture. Although the creative environment was thought to be a possible catalyst, statistical research showed that the relationship between the independent and dependent variables is not strengthened by it. On the other hand, a direct and positive association was found between the independent and dependent variables. This study aims to determine the role of resources, employee empowerment, and organizational culture in the quality of air cargo service. Upon conducting a thorough literature analysis and perusing multiple studies, a considerable amount of research has been conducted on the impact of job training, organizational culture, and resources on organizational commitment. However, more studies are needed to examine the relationship between these constructs and the quality of air cargo services. This study underscores the need for further research in this field, as it can provide a deeper understanding of the factors influencing air cargo service quality and pave the way for future studies. Although Karachi is the nation's economic center, this study highlights its potential to become a regional center as well, provided corporate governance and air cargo industry standards are given careful consideration. Therefore, this research study aims to analyze the mediating impact of an organization's creative environment on the relationship between job training, organization culture, information technology, and Air cargo service quality. Cronbach's alpha, Reliability, discriminant validity, SD. The analysis is used for analysis. The result shows that job training, information technology and organization culture have a significant positive impact on air cargo service quality. At the same time, the result also shows that the organization's creative environment does not moderate the relationships between constructs.

Keywords: Air Cargo Sector**,** Organization Culture**,** Job Training, Creative Environment, Information Technology.

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Introduction

Air cargo is the fastest mode of air transportation for goods. Air cargo can also be defined as anything other than persons or passenger baggage uplifted by aircraft. It is also the fastest mode of transportation compared to ocean freight, cargo trains, and by-road vehicles. Air cargo is a major contributor to the world's economy, transporting express and high-value goods. (Popescu, 2010). Air cargo is an efficient means of transporting perishable products to long-distance markets, which cannot be served by ocean freight, trains or by road. These high-value perishable products include cut flowers, fruits, vegetables, dairy products, seafood and frozen meat. (Thompson, 2004). Air cargo has an essential role in the region and the country's economic development. (Kasarda, 1991). According to the IATA International Air Traffic Association Forecast, the demand for air cargo is continuously growing. Asia Pacific is a major participant in the air cargo service market. (360 Research Report, 2024). Air transport is a highly competitive market in modes of transportation because legacy airlines are cargo service providers, and new airlines have made the industry more competitive. These include.

- Sun Country Airlines Holdings, Inc
- China Airlines
- Lufthansa Cargo
- Etihad Airways
- cargo-partner
- American Airlines, Inc.
- DHL International GmbH
- Korean Air Cargo
- Air India Cargo
- UPS Air Cargo
- Ethiopian Airlines
- ACS Transport
- United Airlines
- Delta Air Lines
- Farrow
- Japan Airlines

Airlines are engaging in cargo operations to fulfill the region's demand and ensure profitability margins. Cargo is the driving force for airlines' sustainability.

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Volume 4, Issue 1, Page 105-136, June 30, 2024

Cargo operations not only enhance aircraft utilization but also support revenue inflows during the low season for passengers (Paethrangsi, 2021).

Air cargo contributes to airline profitability and the economic wealth of the region. Like any other business, it also faces various challenges that need to be strategically responded to. (Reis, 2016). To face the global competitive environment, airlines should develop systematic strategic plans. (Cento, 2008).

Each state's aviation industry must be running smoothly, and countries can prosper if cargo transportation increases their trade rate because the relation between trade and a country's economy is positive (the Direct, indirect, catalytic, and induced impact of air transportation on the economy shows us how air transportation can increase employment rate).

Companies like FedEx, DHL, Leopard, etc., parcel products from one place to another. From the moment our order is placed to the point where we receive it, we can easily see the progress throughout the process on the Internet, and things are going to be more manageable in the future.

Karachi has a strong strategic position in Asia Pacific. This strategic location as a major port city comes with many advantages, but according to Fluent Cargo ranking, Jinnah International Airport is ranked 321st in terms of its direct global connectivity. (Fluent Cargo, 2024). Karachi Jinnah International Airport may be the busiest national airport, with an annual uplift of 169,124 metric tonnes of cargo. (Top 7 Largest International Airports in Pakistan, 2023). There is still space for improvement to elevate its global position in the Air Cargo sector and explore regional and international opportunities. These untapped opportunities for Karachi Cargo Airport mainly include its ability to become a regional air cargo hub connecting Asia, the Middle East, and Africa. There is a critical need for a regional hub that can reduce transit time and optimize cargo traffic. The cargo industry benchmarks are Dubai and Singapore airports, which have efficient regulatory environments, advanced infrastructure, and technological integration.

Key strategic initiatives can be undertaken to use this hub, Karachi Jinnah International Airport, to its full potential. These initiatives include infrastructure development, technological advancement, regulatory reforms, workforce development, strategic partnerships, sustainability initiatives and a customer-centric approach. A supportive organizational culture and diversified workforce are required to implement and practice these strategies. (Ahmed, 2014). Some key factors that contribute to this issue are a lack of empowerment and rigid hierarchies. (Bhatti, 2020), resistance to change (Ahmed, 2014), inadequate training and development (Raza, 2013), poor communication (Bakhsh Magsi, 2018), lack of innovation (Bhatti, 2020) and organizational environment. The organizational environment is a set of internal and external forces that surround the organization and affect its performance. These internal and external factors majorly affecting Pakistani organizations are inconsistent leadership, economic instability and regulatory environment. (Hassan, 2021).

Rationale of Study

This study focuses on the role of the organizational environment in the air cargo sector, emphasizing how cultural values, norms, and practices influence employee behavior, performance, and innovation. While many studies link information technology with human resource development, the air cargo industry needs more specific guidance on the frequency and effectiveness of training programs. These programs are vital for maximizing employee skills and minimizing errors, which is crucial in an industry where errors can lead to severe consequences, including loss of life and capital (Zhao & Droge, 2001).

Problem Statement

Despite the importance of organizational culture, job training and information technology in understanding air cargo service quality, not much research has been done on the relationship between organizational culture, information technology, organization culture and job training in the context of the air cargo sector in Karachi, Pakistan. The main aim of this paper is a theoretical evaluation of the literature on the relationship between organizational culture, job training, information technology and air cargo service quality. Therefore, the paper seeks to explore how the culture of the organization's environment affects the relationship to the performance of the air cargo sector.

Strategic decisions include the advancement of information technology that helps an organization in better data management and customer satisfaction. (Zhao M. D., 2001). Training to polish the skills of employees for maximum profit and fewer errors (Donald S. Metscher, 2009), norms and procedures applied to ensure positive verbal and physical communication to make constructive culture enhance the environment, which, as explained above, helps in building a proficient environment (Etienne Minvielle MD, 2004).

Factors that lead to the success or failure of an organization's services/products. In this research, air cargo services are the focal point. Information technology plays a significant role in structuring an organization’s flow of information effectively, and in theory, this area is neglected. There are IT systems for tracking cargo packages/shipments. (Schwarz, 2005), but the link between IT and air cargo carriers in the organizational environment is not discussed thoroughly.

The efficiency level of an organization includes the culture followed in an organization. (Esra Aktaú, 2011) This research discusses the role of organizational culture and the moderating role of the organizational environment. However, the focus on air cargo carriers still needs to be addressed. Therefore, this research focuses on the relationship between organizational culture as a factor and the moderating role of organizational environment on air cargo service quality. We are focusing on air cargo services because of the increasing importance of e-commerce and air cargo transportation. IATA stats show a strong link between trading and air cargo transportation.

ISSN (Print): 2959-099X ISSN (Online): 2959-1007
Volume 4, Issue 1, Page 105-136, June 30, 2024

Research Questions

1. Does the implementation of information technology enhance the air cargo service quality in Karachi?

2. Does the job training program for employees in the air cargo sector in Karachi benefit and contribute to overall service quality and operational efficiency?

3. Does the organizational culture within air cargo carriers in Karachi impact the quality of air cargo services?

4. Does the organizational environment within air cargo operators in Karachi influence organizational culture, and what is its impact on employee performance and innovation?

Research Objectives

- To assess the impact of information technology implementation on operational efficiency, accuracy, and decision-making among air cargo workers in Karachi.

- To evaluate the effectiveness of job training programs in the air cargo sector in Karachi, focusing on skill development, employee engagement, and service quality enhancement.

- To examine the relationship between organizational culture within air cargo carriers in Karachi and the quality of air cargo services, identifying key cultural attributes that drive performance and customer satisfaction.

- To investigate how the organizational environment within air cargo operators in Karachi shapes organizational culture and to analyze its influence on employee performance and innovation.

Theoretical Framework

Ludwig von Bertalanffy developed the open system theory, and many companies vastly adopted it. This theory states that the environment has a strong effect on the organization. Open systems theory includes both the internal and external environment of an organization. The internal environment of an organization focuses on the raw materials used in processing and employees' capabilities to process the resources. Things that are entered into a firm for processing and the mechanism through which work is done are referred to as an internal environment. (WILEY, 1969). Multi-cephalous is a term used to explain open systems theory, which means more than one head of a creature. In the context of this research, the creature is the organization's environment, including both internal and external factors. Still, these factors are significant in number, so we will only focus on the internal environment.

Human relation theory, presented by Adebayo (2019), involves creative conflict-solving behaviors, focuses on building strong workplace relations, and includes skills like.

- Interpersonal communications

- Leadership
- Project management
- Team management

All these skills create an environment of creativity in an organization.

Conceptual Framework

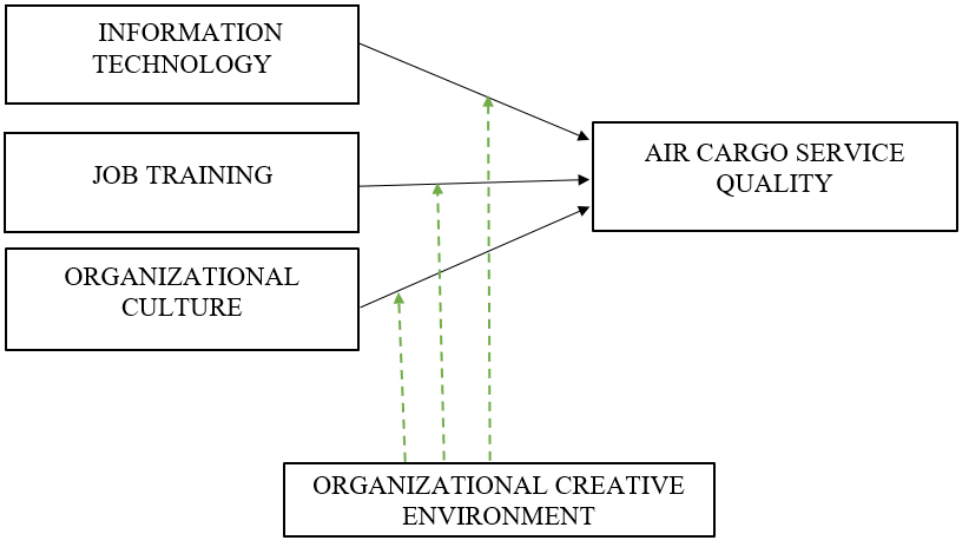


Figure 1: Conceptual Framework

The research highlights the importance of organizational culture in fostering a productive environment, as emphasized by Xiaoming and Junchen (2012). Understanding these factors is key to improving air cargo service quality and generating high revenue streams. This study aims to provide air cargo carriers and airport operators with a framework to enhance their organizational environment, ultimately improving performance and efficiency.

Literature Review

In the modern world, human factors and ergonomics play a crucial role in a firm's performance. Organizations like air cargo service providers should introduce technological resources to support the operational process, reduce errors and operational time, and increase efficiency. Technological updating increases a firm's performance, but it is not elaborated that proper training is needed for staff to eliminate inefficiencies. (Jorge Ulises, 2024). This study will aid in understanding the importance of job training in eliminating human errors.

Culture is the most important intangible factor for any organization, and it is also not mentioned how an organization's culture makes or breaks the overall firm's performance. This research gives an in-depth understanding of organizational culture

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Volume 4, Issue 1, Page 105-136, June 30, 2024

by discussing theories like “Theory of Culture by Eldridge and Crombie” and “Deal and Kennedy's cultural framework.”

Information Technology

The Technology Organization Environment (TOE) framework was proposed to understand technological innovations and their application in organizations and to enhance the organizational environment. (Fleischer’s, 1990). As the name implies in this theory, there are three focal points: technology, organization, and the environment. Technologies are adopted while focusing on these three focal points. Technology in terms of the systems used by an organization in order to work efficiently and manage the flow of data/information in an appropriate manner which works in favor of a company and organization in terms of the practices followed by employees and employers to get maximum work done in a right bracket of time by managing the size of a workplace and resources needed to manage the whole process from the start till end, and environment in terms of the area where product or service will be provided to sustain in any market there is a strong need to keep competitors at bay. Here, we can see the strong relationship between technology and the environment, which explains the necessity of choosing the environment as a moderator between technology and air cargo services. The reason behind adopting TOE specifically to advocate IT in this research is that originally, TOE was used to assess different innovations. (Bang-Ning Hwang, 2016). TOE framework was adopted by (Yu-Min Wang, 2010) To find out the usability of Radio Frequency Identification (RFID) in supply chain networks, it was concluded that RFID adaptation has a negative impact on the manufacturing industry. (Kevin Zhu, 2005) Adopted TOE framework to find out the value of E-Business in an organization.

The Air Cargo sector is too capital intensive and requires an efficient capex investment in technology upgradation. This is comparable to how this industry requires much capital, and returns are low; therefore, cost management is the utmost requirement. Hence, much stress must be paid to the upgradation of technology as it reduces process time, reduces errors and requires less workforce. The theory of Resource-Based View supports the above argument. This theory gives the concept that for organizations to achieve a competitive advantage, their resources and capabilities play a critical role. In the Air Cargo sector, where there is zero tolerance for errors and safety standards are high, automation and advanced technology can enhance air cargo service quality (ICAO, 2015).

It plays an important role in transferring relevant data interdepartmentally, and it also plays a key role in communication between customers and the organization. The smooth flow of information is also an integral part of supply chain management. This flow is visible between the supplier, manufacturer, trader, and end customer. Incorrect information or insufficient information can destroy the whole process, which leads to disruption in the environment of a workplace, and that further leads to a low level of product/services. The technological view of TOE theory includes both present innovations that can be in the form of software that is not fully utilized to gain maximum benefit and innovations that are available in the market. Still, it has not been purchased yet, and adaptability is yet to be tested so that organizational practices can be modernized. Gerry’s Dnata uses Damarelit and SITA software for real-time data collection.

SITA is an organization for airlines around the world that helps with communication. Business solutions are provided by SITA to airlines and airports that are effective and connect them to

In the GDS system, most of the communication in the aviation industry is done through SITA.

With information technology comes information security, which is based on four main components listed below.

- Authentication, which checks the identity of an individual trying to access information, such as using an RSA SecurID token.
- Access Control to make sure that the user is accessing appropriate information resources.
- With encryption, proper authentication, and access control, there is still the possibility of data leakage. To avoid this, encryption is done, which is the encoding of data so data can be accessible to only an authorized person.
- Backup: Data can be deleted, but to protect it, it is backed up, and corporate servers and individual computers should be backed up. The frequency of backing up the data depends on its importance.

Air cargo tracking is part of the track-and-trace system in air transportation. Customs requires a cargo tracking note (CTN) for transported cargo, which provides official cargo information. Tracking cargo is simple nowadays. Just visit the airline's cargo tracking page and enter the airway bill number.(Kenton, 2022). Many tracking systems help airlines and users track cargo locations. However, there are still cases of lost cargo, and this always results in customer dissatisfaction, which is a nightmare for any airline, so IATA resolution 753 was approved in 2013. It was implemented on 1st June 2018. This resolution is a part of the IATA end-to-end baggage program to ensure the proper handling operations of air cargo. This resolution states that airlines must track baggage at four critical points in the journey, i.e.

1. Check-in
2. Load
3. Transfer
4. Arrival

Tracking and tracing in air transportation plays a vital role, and the more sound the system is, the more satisfied the customer will be, and the trust of customers in any business will be the most important thing. Systems like RTLS, contracts like CTN and AWB, electromagnetic chips like RFID (electromagnetic chips), and SITA baggage management as per IATA resolution 753 are helping big time to attain the goal of safe and secure cargo transportation, and it will keep growing in the future.

H_1: Information technology has a positive relationship with air cargo service quality.

ISSN (Print): 2959-099X ISSN (Online): 2959-1007
Volume 4, Issue 1, Page 105-136, June 30, 2024

Job Training

The world is changing drastically. Many factors lead to these drastic changes, such as innovation, digitalization and technical advancements. These result in abrupt and disruptive changes to society. To respond to these changes, individuals also need to adapt their behaviors to survive in this evolving world. (Jiang, 2017). With shifts in social dynamics and technological advancement, individuals should have a temperament of behavioral adaptability. This can be done through skill development. Job training is effective in developing skilled individuals (Timsal, 2016).

Job training is very crucial in the Karachi Air Cargo sector to enhance service quality and innovation. Job training also empowers the workforce by giving staff members the tools they need, building their self-esteem, and encouraging a culture of lifelong learning. (Hanaysha, 2016). Job training should focus on imparting both soft and hard skills. A contemporary employer requires an employee who has both types of skills to meet organizational commitment. Hard skills refer to practical abilities such as technical knowledge and operational knowledge. On the other hand, soft skills are considered interpersonal skills, such as communication, teamwork, and problem-solving. Much research has been done on the importance of job training in various other sectors of Pakistan. Still, research has yet to be found that can encompass how and why job training plays an important role for the economic generator of Pakistan, that is, Karachi, especially targeting its Air Cargo sector. Job training is crucial for the air cargo industry in Karachi to improve operational effectiveness, service quality, and regulatory compliance. Air cargo businesses may make sure their staff is qualified, driven, and ready to satisfy industry needs by investing in extensive training programs.

Behavioural Learning theory, also known as behaviorism, also provides a strong link between behaviors and the environment because behaviors are constructed in accordance with the environment, and the better the environment, the better behaviors are observed. (Western Governs University, 2020). According to behavioral learning theory, employees of a firm work according to the interaction they have with other employees, which creates a constructive or destructive environment. So, here, we can see the positive relationship between training and the environment of an organization, which further enhances the air cargo services. (Avelino, 2021).

Skinner's theory states that tasks leading to pleasant consequences are more likely to be repeated, indicating that reward-based training leads to the repetition of dedication and hard work in performing tasks and participating in other training programs (McLeod, 2018).

Constructive Learning theory states that rather than giving theoretical lessons to a person, we should focus on providing practical training because people are not passive learners; they are active learners, which indicates that they will most likely learn from their seniors, mentors, and trainers rather than gaining theoretical knowledge about it. (Avelino, 2021). With the implementation of constructivist learning practices, many positive changes have been noticed; some of them are mentioned below.

- Individuals appreciate it when they can do things according to their mindset, so in this type of learning process, learners enjoy learning because they are relating it to

their prior knowledge. They do not feel like they are in an entirely new environment.

- They find the authenticity of their training because they practically implement the given set of instructions.
- In this environment, learners feel it is easier to communicate their thoughts and are encouraged to participate, especially people who like social settings and enjoy it more.

In a blog, it was stated how constructivism can help in corporate training (Lawless, 2019).

Role Play Activities

Rather than making people listen to a mundane set of rules, constructivism encourages practicality-based training in a business that is customer-centric. Trainers can make groups of people and ask them to do a specific task at the given time and then let them do their job while guiding them if there should be any changes in the process and explaining to them how it should be done so they can learn actively. People relate the present moment with something that happened prior in their life, and this helps them to describe their experiences, and they find different methods to solve customers' issues.

Collaborative Problem Solving

Idea generation and problem-solving are the two main goals of any training. Employees are brought together to find out the solutions to problems faced by the company at that time, or it can be a problem that might occur in the future. With corrective measures, the problem can be avoided altogether. A question can be posted, and employees are asked to come up with the best possible solutions. Sometimes, some groupings help employees ask questions about the derived solution, and it can be brought to perfection. When employees give solutions and are working on their solutions, there is little to no space for error because explaining to someone the solution you think is right is more easily comprehended than their perception of a solution might be.

It is a good use of qualifications if knowledge is practiced. Practicing your skills and learning requires proper training. (Schmidt, 1992). Training is a continuous process. Organizations that keep training employees of each level notice a sound environment. Training is also reward-based, and it is a known fact that if you reward someone at the end of training completion, that person will perform more enthusiastically in future training/tasks. In this research, we will focus on the job training of employees that takes place during their jobs because there is no place for errors and mistakes in the aviation industry. (Persada, 2023).

H_2: Job training has a positive relationship with air cargo service quality.

ISSN (Print): 2959-099X ISSN (Online): 2959-1007
Volume 4, Issue 1, Page 105-136, June 30, 2024

Organizational Culture

Eldridge and Crombie's theory of culture states that different cultures determine an organization's individuality. Over time, culture can change according to the market structure. (Yvan Allaire, 1984). Culture is a collection of norms, beliefs, and behavior, and it forms a mechanism for people in a group to work in a particular manner. Organizational culture refers to the pattern in any organization that people follow to complete their tasks. In some cases, culture is formed by top management, and it is formed by the authoritative figures who people follow, and they give any organization a particular shape. These practices are passed on to new employees, and this is why it is said that people need time to adjust to a new organization; every organization's environment is unique.

It is also said to be in motion, which means that culture keeps changing. (Culture As Eldridge And Crombie Commerce Essay, 2018), not drastically, but when personal beliefs evolve, significant changes are seen in the overall organization's environment. Drastic changes happen when organizations face a sudden setback, and to sustain themselves, they change their old patterns to survive. In some cases, organizations fail to sustain themselves after making dramatic changes in the environment, and in some cases, organizations become more vigorous. There is a process comprising four steps through which culture is charged.

1. Recruitment policies are amended, people are selected on different sets of principles as before, and promotions policies are also changed.

2. Significant changes are made in an organization's current workforce, and those who are truly dedicated are placed in positions of influence and authority.

3. New policies are communicated through different channels. The most effective is the one-on-one method, where employees are briefed.

4. Rewards and evaluation criteria are also changed to improve an individual's performance; as mentioned above, people are active learners, not passive learners.

Deal and Kennedy's framework consists of six elements: history, values and beliefs, rituals and ceremonies, stories, heroic figures, and cultural network. (team).

- History includes past practices, achieved and unachieved goals, and people who worked in an organization and helped shape the culture.

- A system of shared values is utterly essential for any business because it aligns individuals' goals into a collective belief system.

- In culture, the small things employees do to interact with each other to form a sense of belonging, like gathering on the weekend for lunch, are known as rituals.

- Employee experiences during their tenure, in the form of stories, help others understand the system of a workplace and inform people outside of an organization about the internal culture.

- Essential figures who did something in the past that benefited the organization and are now key personnel are said to be heroic figures.

- A network within an organization through which messages and ideas are communicated among employees is a cultural network (Bell).

The top management generally shapes an organization's culture and is then followed by employees. The way employees behave, the destructive or constructive practices of the organization, and the belief system of the people working in a firm shape the culture. As mentioned above, culture gives individuality to the organization, and uniqueness also offers a competitive edge to firms.

Another theory that provides further backing for the idea of organizational culture and its relation to organizational performance is Institutional Theory. This theory gives a concept of how social norms and regulations influence organizational processes. The factors that affect service quality and operational efficiency can be addressed by implementing the framework of Institutional Theory. The application of institutional Theory is further illustrated below:

Key Concepts of Institutional Theory

1. Legitimacy:

- Organizations adhere to the standards, expectations, and conventions of their institutional context to obtain legitimacy (Robert J. David, 2019).

- Establishing confidence and trust in the air freight industry entails following global norms and laws.

2. Isomorphism:

- As organizations acquire standards and best practices from their institutional context, they eventually start to resemble one another (Nakanishi, 2020).

- For Karachi's air cargo industry, this entails implementing international best practices in security, cargo handling, and customer service.

3. Institutional Logics:

- These are the philosophies and methods that direct organizational behavior in a certain field (Adiloğlu-Yalçınkaya, 2023).

- For example, in the air cargo industry, institutional logic includes those practices that encompass effectiveness, security, and client satisfaction.

- Implementation in Karachi's Air Cargo Sector

1. Adherence to International Standards:

Action: Ensures compliance with international air cargo norms and standards defined by organizations like IATA and ICAO (Abeyratne, 2018).

ISSN (Print): 2959-099X ISSN (Online): 2959-1007
Volume 4, Issue 1, Page 105-136, June 30, 2024

Impact: Increases legitimacy and trust among international partners and customers.

2. **Adoption of Best Practices**

Action: Bring into practice the best security, logistics, and cargo handling techniques from the top international air cargo hubs (Fulzele, 2022).

Impact: Boosts service quality and operational effectiveness, increasing Karachi's competitiveness as an air freight center.

3. **Regulatory Reforms**

Action: Collaborate with government agencies to minimize red tape and expedite customs processes (Ministry of Communications, 2020)

Impact: Lowers wait times and boosts the general effectiveness of freight operations.

4. **Cultural Adaptation**

Action: Encourage innovation and a culture of constant development in air cargo companies (Lobo, 1999).

Impact: Promotes staff adoption of new procedures and technology, improving the quality of services.

5. **Collaboration and Partnerships**

Action: To get funds and improve operations, work with regional businesses, governmental organizations, and foreign partners (Vargas, 2018).

Impact: Strengthens the capacities and infrastructure of Karachi's air freight industry.

Using institutional theory, the air cargo industry in Karachi can achieve alignment with global standards, adopt best practices, and promote a culture of continuous improvement. By taking these actions, service quality, operational effectiveness, and global competitiveness will all improve.

H_3: Organizational culture has a positive relationship with air cargo service quality.

Organizational Creative Environment

An organization can only promote creativity and productivity if it has a creative working environment. The following are some essential components of such an environment:

Autonomy: Giving workers the freedom to arrange their work in any way they see fit might stimulate their creative talent. This involves the flexibility to decide whether to work alone or in groups. (Derecskei, 2017).

Training possibilities: Providing possibilities for professional growth, such as advanced training or certifications, enables staff members to increase their abilities and maintain their motivation (Derecskei, 2017).

Interesting assignments: Giving workers assignments that play to their talents and interests can produce more creative results (Derecskei, 2017).

In addition to structural adjustments, an organization's culture must be altered to foster creativity in the workplace. Promoting a culture that embraces innovation and encourages taking risks is essential (Dennett, 2022).

Training Opportunities: Providing employees with opportunities for professional growth, such as advanced courses or certifications, helps them develop their skills and maintain motivation (Derecskei, 2017).

Interesting Projects: Assigning projects that complement employees' interests and strengths can produce more creative results (Derecskei, 2017).

Not only must physical modifications be made, but organizational culture must also change to foster creativity. It is essential to promote a culture that embraces innovation and encourages taking risks (Dennett, 2022).

Several studies have been conducted to explore the impact of an organization's creative environment on operational areas. As the air cargo sector is majorly comprised of operations, it is necessary to explore whether the concept of an organizational, creative environment is equally enhancing the capabilities of operational areas, as the air cargo sector around the world has strict operational SOPs. Following are some studies that studied the role of an organization's creative environment on operational areas:

Organizational Creative Capabilities: The significance of considering creativity as a strategic capability is emphasized by this study. It emphasizes how important organizational routines, procedures, and management tools are for promoting creativity. The study proposes that to address difficult challenges and spur innovation, creativity should be incorporated into organizational structure. (Iranmanesh, 2021).

Organizational Culture and Creativity: This study explores the relationship between organizational culture and creativity. It outlines several frameworks that can be utilized to better understand and foster creativity inside a company, including the Competing Values Framework and Hofstede's cultural dimensions. The study emphasizes how crucial a supportive culture is to encouraging innovation and creativity. (Maliakkal, 2023).

Organizational Structure's Effect on Operational Performance: This study investigates the relationship between innovation capacity and operational performance in terms of organizational structure. It implies that the relationship between organizational structure and performance can be moderated by an inventive culture, suggesting that a creative atmosphere might improve operational efficiency. (Maliakkal, 2023).

Physical Environment and Creativity: Studies have indicated that the physical environment significantly supports organizational creativity. Elements, including

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Volume 4, Issue 1, Page 105-136, June 30, 2024

workstation layout, resource accessibility, and general atmosphere, can influence the creative atmosphere of an organization. (Vithayathawornwong, 2003)

All these studies point to the need for a combination of strategic management, a supportive organizational culture, the right organizational structure, and physically suitable places to develop a creative atmosphere. More research may be needed on organizational and creative culture and its function in air freight operations. To comprehend its possible significance, we can, nevertheless, take cues from adjacent disciplines and broad organizational, creative concepts.

The air freight industry in Karachi is confronted with various obstacles that may hinder the development of a creative environment. These mainly include infrastructural restrictions, economic instability, regulatory challenges, technological adoption and disruption to the global supply chain. Despite advancements, Karachi's air freight infrastructure still has several restrictions. Although the Karachi airport is undergoing investments to increase its capacity for handling cargo, its current infrastructure can occasionally impede effective operations (Pakistan, 2024). Pakistan's economic circumstances, which include volatile exchange rates and inflation, can make the business environment unstable. It is challenging for businesses to plan long-term and make investments in cutting-edge technologies because of this instability (Osum, 2024). Bureaucratic roadblocks and inconsistent policies might slow down operations and innovation. Fostering a creative environment requires streamlining rules and making sure that policies are consistent (Osum, 2024). Although there is a drive for new technologies to be adopted, there are often financial and human resource shortages that cause the pace to be slow. Adopting technology is crucial to increasing productivity and stimulating creativity (Osum, 2024). The COVID-19 epidemic and geopolitical tensions have caused disruptions to global supply networks, which have an impact on air cargo operations. These interruptions call for agility and imaginative problem-solving (Vasarhelyi, 2024).

Despite the challenges, Karachi's air freight industry is brimming with potential to cultivate a creative environment. This can be realized through strategic investments in training, collaboration, and technology. By empowering the workforce with training opportunities, we can nurture a more creative and skilled team. Encouraging collaboration among diverse stakeholders, including governmental bodies, commercial enterprises, and international partners, can lead to innovative solutions. Furthermore, embracing cutting-edge technologies like automation and artificial intelligence can revolutionize operations and spark new avenues for creativity.

According to the componential model of individual creativity developed by (Amabile, 1988), talents, education, cognitive skills, patterns, and personality work together and result in the creative behavior of an individual. There are three components of this model. Domain-relevant skills, creativity-relevant skills, and task motivation. Creativity-relevant skills include the attributes of an individual to find a new perspective for solving a problem. This model also states that even if an individual has domain-relevant skills but needs more creativity, his work will be acceptable but not extraordinary. According to (Amabile, 1988), there are nine qualities of the environment that promote the creative process. These qualities include freedom,

project management, sufficient resources, encouragement, organization characteristics, recognition, time, challenge, and pressure.

There are two types of environments: The first is the internal environment of an organization, which tells us about the practices of employees within the organization, and the second is an external environment, which is outside the organization, like the market's environment. We will focus on the environment of air cargo carriers, and we will dive into the creative side of the employees to bring out the innovations needed in air cargo carriers. SWOT analysis of an organization can easily be defined through the environment of an organization because it tells us the opportunities and threats. The environment of an organization can be determined through Information technology, job training, and culture. An organizational, creative environment strengthens the relationship between these independent variables. So, here it is, serving as a moderator.

H_4: The moderating effect of the organizational, creative environment is strengthening the relationship of information technology with air cargo service quality.

H_5: The moderating effect of the organizational and creative environment strengthens the relationship between job training and air cargo service quality.

H_6: The moderating effect of the organizational, creative environment is strengthening the relationship of organizational culture with air cargo service quality.

Air Cargo Service Quality

The Karachi Airport's air cargo sector needs to meet the industry standards of air cargo service quality. The quality of service is due to many issues faced by Karachi Airport. Here are a few important points to think about:

Although Karachi Airport's infrastructure is getting better, it still needs help to handle the growing amount of air cargo. Modern cargo handling facilities and technology are required to meet demand (Vasarhelyi, 2024). Regulatory and bureaucratic obstacles might cause cargo processing to lag due to inconsistent policies and bureaucratic hold-ups. Efficient operations need streamlining regulations and enhancing collaboration amongst multiple stakeholders (Soufiane Daher, 2021). Adoption of New Technologies could be faster. Due to budgetary limitations and a need for more trained labor, the adoption of new technologies, such as automated cargo handling systems and sophisticated tracking solutions, may go slowly (Soufiane Daher, 2021). A corporate climate characterized by uncertainty is created by economic instability, which includes inflation and shifting exchange rates. This unpredictability may make it more difficult to make long-term plans and invest in creative solutions (Air et al. Pakistan to Worldwide, 2021). The COVID-19 epidemic and geopolitical tensions have caused disruptions to global supply networks, which have an impact on air cargo operations. These interruptions call for agility and imaginative problem-solving (Vasarhelyi, 2024). The International Air Cargo Association (TIACA) has developed the Cargo Service Quality (CSQ) instrument, which addresses several topics related to air cargo processing, such as technology, facilities, physical and document handling, and general airport infrastructure. By using such technologies, service quality can be improved, and problem areas can be identified (CSQ, International Air

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Volume 4, Issue 1, Page 105-136, June 30, 2024

Cargo, 2024). These challenges can be overcome by responding to calls for amendments and modifications at Karachi Air Cargo airport.

Presented by Burns and Stalker presented the mechanistic and organic structure theory, which states that in the mechanistic approach, top management gives orders and employees work according to the instructions; in the organic approach, managers take responsibility, and interdepartmental coordination is encouraged, which enhances performance (Stalker, 1961).

According to J.D. Kasarda (2005), whenever the aviation industry faces a disaster, like 9/11 or COVID, the air cargo industry tends to recover faster than passenger flow. This indicates that air cargo service is the most reliable mode of transportation, even in horrendous disasters. This research also highlights that air cargo transportation leads to trade and growth per capita, which makes the air cargo industry the most important sector.

Sullivan (2006) Stated that air cargo not only facilitates trade but is also the mechanism that creates trade. When air cargo transportation started, nobody knew that air cargo cold chain management would be a thing. Most people did not have access to most medicines and treatments because transportation of time-sensitive goods was not even a concept back then. Still, this sector of air cargo services has helped people in a worldwide pandemic, COVID-19, and without these services, it would have been a disaster to survive. Another example of air cargo creating opportunities is a case. (Group.) It is stated that in China, electronics manufacturing requires 40% of the cargo transportation of the entire international air cargo industry, which shows how air cargo service enables other industries.

Many products are temperature sensitive; they need specific temperatures, or they could be better. Transportation of such products needs special assistance and required temperature throughout the journey, and cold chain management is the whole process of safe and sound transportation of such products.

The emergence of E-commerce Propels Demand for Air Freight Services; despite being a costlier mode of transportation, the increasing demand for perishables, chemicals, and valuables, as well as the rising demand for just-in-time production of goods, has created a massive demand for air freight services. Presently, air freight is being impacted by the rise of e-commerce from both B2B and B2C perspectives. Evolving e-commerce has put pressure on sales channels for faster delivery and an optimum supply chain. This scenario brings opportunities for third-party logistics and warehousing services to integrate with the air e-commerce channel. In addition, owing to the continued growth in online shopping, many third-party logistics (3PLs) are offering more multi-modal services, which include air cargo service as a critical mode of transportation.

Furthermore, the growth in overall cross-border e-commerce is anticipated to boost the demand for the air cargo industry. The major e-commerce players in the industry are disrupting the traditional logistics supply chain with some innovative measures to become independent. Amazon is leading this race by following a different strategy. With Amazon Flex, Seller Flex, or the Amazon Prime Air program, the retail giant is trying to dominate the supply chain for its services. As a result, it can reduce

costs and become independent of its current logistics service providers. As per the technical sources, the company is also offering shipping services to third parties that need to be represented on its website. Since North America is the fastest-growing air cargo market and Asia-Pacific accounts for the largest share, according to current statistical sources, North America registered significant growth rates in 2018. In terms of freight-ton-kilometer (FTK), North America grew by 6.4% in 2018, when compared to 2017, followed by Latin America (5.9%), which is significantly higher than the global average (3.5%). Airlines based in North America were the strongest performers in January 2019. A robust performance from the US economy, which supported job growth and consumer spending, has been an essential contributor to the recent cargo market outcomes for carriers in this region. With the growing e-commerce trends, the demand for air cargo services is increasing significantly, and more cargo is moving across North American borders and other regions. The recovering economies of the Latin American countries, like Brazil and Argentina, boost air cargo trade between the two areas. According to industry analysts, the incoming cargo in Argentina soared with 30.9% growth, which was propelled primarily due to a significant increase in volumes from North America.

However, the Asia-Pacific region accounted for a significant market share. It is a critical region for the air e-commerce market, with a growth rate of 7.8% in 2017 compared to 2016. China holds a significant market share in the area, followed by Japan. The improving Japanese economy, as well as the rising global demand for electronics and automotive parts, is boosting the growth of the air freight market.

Like any other organization, air cargo carriers respond positively when appropriate information technology is applied, adequate training is provided, and positive reinforcement of culture is provided. With enhanced firm performance, air cargo carriers can prosper.

Methodology

Research Philosophy and Approach

This statement describes the first layer of the research onion. The research philosophy being employed in this study is positivism, which means that the research is dependent on collecting and analyzing objectives. Empirical data is taken from airport employees. The goal of this study is to gather objective, broadly applicable knowledge regarding the experiences of cargo airport personnel using quantitative methodologies for data analysis. The research approach used in this study is the deductive approach. This approach tests theories, whether they are relevant or not, by deducting the false theories. This approach allows the researcher to observe the subject and to explain the problem of an area. A deductive approach is used where the relationship between the factors discussed in the study can be represented by using numerical analysis.

Research Design and Data Collection

For survey research, questionnaires with variables were designed to complete survey research. By using a questionnaire as a data collection instrument, the study will have quantitative data, which are based on a five Likert scale: strongly disagree,

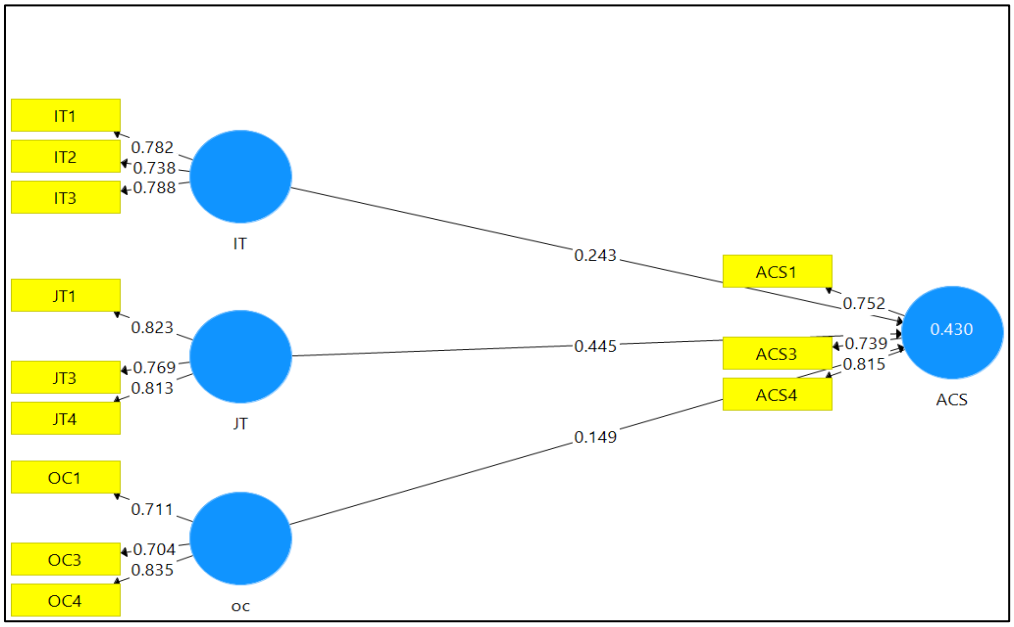
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Volume 4, Issue 1, Page 105-136, June 30, 2024

disagree, neutral, agree and strongly agree. However, the questionnaire allowed for the collection of data from many participants in a short time. A research study was conducted using a questionnaire (Seyanont, 2011; Schaufeli, 2006) distributed through social media platforms such as WhatsApp, Facebook, and Instagram. The study targeted a population of Karachi Air Cargo employees, which include airport operator employees, agents working at the airport, airline employees, customs employees and all other agency employees working at the Karachi Air Cargo complex located in the Sindh province of Pakistan (it was limited to the city of Karachi). The sample size is estimated to be 385 people (following Krejcie and Morgan's table). The margin of error was 5%, while the confidence level was 95%.

Data Analysis and Interpretation

This study employed a quantitative approach to investigate the structural correlations between measurement items. Path analysis and hypothesis testing were used in combination to analyze the links among variables within a structural model. The validity of the model was tested by either accepting or rejecting the hypotheses based on the results. The variables were analyzed through STDEV and AVE to know the significance and error in the construct. Cronbach alpha, which measures the internal consistency of a set of items and indicates the strength of their interrelation, was used to assess the reliability of the measurement items. Correlation statistical technique that shows how strongly two variables are related to each other or the degree of association between the two. The variation of the data was tested by dispersion validity.

Measurement Analysis



Performing measurement analysis is important to determine the validity or invalidity of data, which will determine whether the hypothesis is rejected or accepted. So, the accuracy of measurement analysis is of the utmost importance. Measurement analysis is calculated using rho-A, Composite reliability (CR) and average variance extracted (AVE).

Construct Reliability and Validity

Table 01: Construct Reliability and Validity				
	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
ACS	0.655	0.661	0.813	0.592
IT	0.656	0.659	0.813	0.592
JT	0.725	0.737	0.844	0.643
OC	0.623	0.645	0.795	0.566

Cronbach's Alpha is considered acceptable if it falls within the range of 0.6 to 0.7, indicating an acceptable level of internal consistency for a measurement scale. For Rho-A, values above 0.8 are deemed good, whereas values below 0.7 are generally not accepted, as they suggest inadequate reliability. Composite reliability, like Cronbach's Alpha, should ideally be between 0.6 and 0.7 for acceptability; values above 0.9 may indicate redundancy in the measured items, suggesting they are too similar. The Average Variance Extracted (AVE) should ideally be above 0.7 to indicate a high level of convergent validity, though values below 0.5 can still be considered acceptable in certain cases.

Outer Loadings

Table 02: Outer Loadings				
	ACS	IT	JT	OC
ACS1	0.752			
ACS3	0.739			
ACS4	0.815			
IT1		0.782		
IT2		0.738		
IT3		0.788		
JT1			0.823	
JT3			0.769	
JT4			0.813	
OC1				0.711
OC3				0.704
OC4				0.835

This table presents the outer loadings of each indicator for the constructs in the study. The values show how well each indicator correlates with its respective latent variable, with values closer to 1 indicating stronger relationships. For the Air Cargo Services (ACS) construct, the indicators ACS1, ACS3, and ACS4 have loadings of 0.752, 0.739, and 0.815, respectively, indicating good measurement reliability. For Information Technology (IT), the indicators IT1, IT2, and IT3 show loadings of 0.782, 0.738, and 0.788, respectively. Job Training (JT) is represented by JT1, JT3, and JT4, with loadings of 0.823, 0.769, and 0.813, respectively. Finally, the Organizational Culture (OC) indicators OC1, OC3, and OC4 have loadings of 0.711, 0.704, and 0.835, respectively, indicating a consistent measurement across these items.

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Volume 4, Issue 1, Page 105-136, June 30, 2024

Discriminant Validity

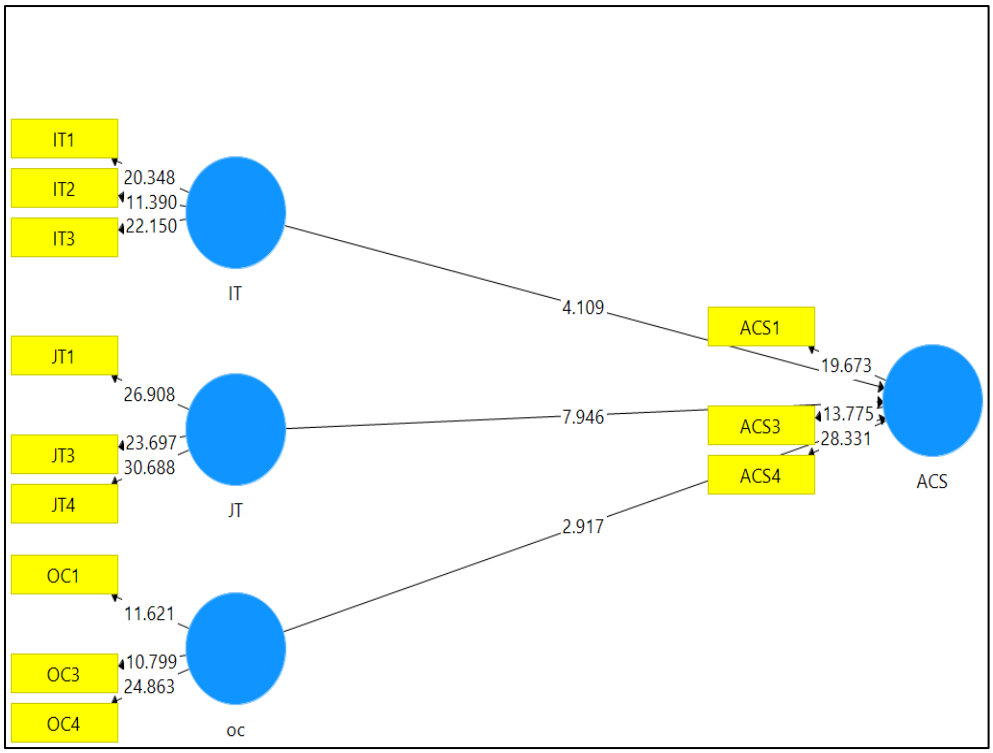
Table 03: Fornell and Larcker				
	ACS	IT	JT	OC
ACS	0.77			
IT	0.437	0.769		
JT	0.591	0.343	0.802	
OC	0.403	0.276	0.42	0.752

This table provides the Fornell and Larcker criterion values, which are used to assess discriminant validity. The diagonal values represent the square roots of the Average Variance Extracted (AVE) for each construct, while the off-diagonal values represent the correlations between constructs. For adequate discriminant validity, the diagonal values should be higher than the off-diagonal values in their respective rows and columns. For example, the AVE square root for ACS is 0.77, which is higher than its correlations with IT (0.437), JT (0.591), and OC (0.403), indicating good discriminant validity. Similar observations can be made for IT (0.769), JT (0.802), and OC (0.752), confirming that each construct is distinct from the others.

Table 04: Heterotrait-Monotrait Ratio (HTMT)				
	ACS	IT	JT	OC
ACS				
IT	0.65			
JT	0.851	0.493		
OC	0.603	0.417	0.6	

The HTMT table assesses discriminant validity by examining the ratio of between-construct correlations to within-construct correlations. The values should generally be below 0.85 to confirm discriminant validity. The HTMT value between ACS and IT is 0.65, indicating a clear distinction between these constructs. Similarly, the values between JT and ACS (0.851), JT and IT (0.493), and JT and OC (0.6) show that the constructs are distinct, although the JT and ACS value is slightly above the commonly accepted threshold of 0.85. The remaining values, such as between OC and ACS (0.603) and OC and IT (0.417), are within acceptable limits, further supporting the discriminant validity of the constructs.

Structural Model



According to (Hair, 2013) The mentioned measurements are required to calculate the structural model.

To assess the structural model, R^2, Beta coefficients, and corresponding t-values are crucial indicators. A sample size of 5000 is required to calculate the structural model through the bootstrapping process. According to Hair's recommendation, predictive relevance (Q^2) should also be included. The direct relationships between variables reveal that information technology significantly and positively affects air cargo services, as evidenced by a t-value of 4.109 and a p-value of 0.000. Similarly, job training positively influences air cargo services, with a t-value of 7.946 and a p-value of 0.000. Organizational culture also has a positive impact on air cargo services, indicated by a t-value of 2.917 and a p-value of 0.004. These positive relationships between the independent variables (IVs) and the dependent variable (DV) confirm the acceptance of hypotheses H_1, H_2, and H_3.

Table 04: Direct Relation Analysis Between IVS and DV

Hypothesis	Path Coefficient	Beta	T Statistics (|O/STDEV|)	P Values
H_1	IT -> ACS	0.243	4.109	0.000
H_2	JT -> ACS	0.445	7.946	0.000
H_3	OC -> ACS	0.149	2.917	0.004

This table presents the direct relationship between the independent variables (IVs)—Information Technology (IT), Job Training (JT), and Organizational Culture (OC)—and the dependent variable (DV), Air Cargo Services (ACS). The path

ISSN (Print): 2959-099X ISSN (Online): 2959-1007
Volume 4, Issue 1, Page 105-136, June 30, 2024

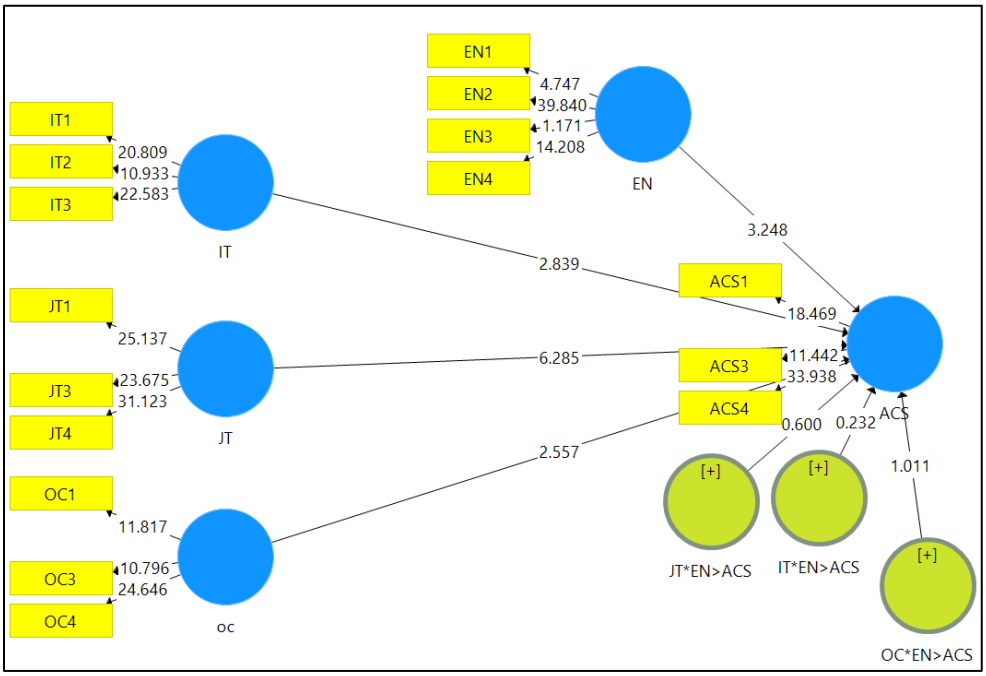
coefficient indicates the strength and direction of these relationships. The Beta values show the standardized impact of each IV on ACS. For hypothesis H1, the path coefficient is 0.243 with a T-statistic of 4.109 and a P-value of 0.000, indicating a significant positive relationship between IT and ACS. For H2, JT has a path coefficient of 0.445, a T-statistic of 7.946, and a P-value of 0.000, also indicating a significant positive impact on ACS. For H3, OC shows a path coefficient of 0.149, a T-statistic of 2.917, and a P-value of 0.004, demonstrating a significant positive relationship with ACS. In this analysis, a T-value above 1.96 and a P-value below 0.005 are considered significant, confirming that all three IVs positively and significantly affect the DV.

Table 05: R^2 AND Q^2

Variable	R square	Q square
ACS	0.425	0.243

This table provides the R^2 and Q^2 values for the dependent variable, ACS. The R^2 value of 0.425 indicates that approximately 42.5% of the variance in ACS can be explained by the combined effect of IT, JT, and OC, suggesting a moderate level of explanatory power according to Hair (2013), who categorizes R^2 values of 0.75, 0.50, or 0.25 as substantial, moderate, or weak, respectively. The Q^2 value, which measures the model's predictive relevance, is 0.243. A Q^2 value greater than 0 indicates that the model has predictive relevance, which is confirmed in this case. This suggests that the model not only explains but also predicts the outcomes of the dependent variable to a certain extent.

Moderation Analysis



The table shows that the moderation effects of an organizational, creative environment (EN) on the direct relationships between the independent variables

(IVs)—Information Technology (IT), Job Training (JT), and Organizational Culture (OC)—and the dependent variable (DV), Air Cargo Services (ACS), are not statistically significant. The path coefficients for the interactions (ITEN, JTEN, OC*EN) with ACS have low T statistics (0.232, 0.6, 1.011) and high P values (0.817, 0.549, 0.312), indicating no significant moderation effect. Therefore, the hypotheses H4, H5, and H6, which proposed that the creative environment would enhance the relationships between the IVs and ACS, are rejected. This suggests that the organizational, creative environment does not strengthen the impact of IT, job training, and organizational culture on air cargo services.

Study Findings

Measurement Analysis In this comprehensive measurement analysis, we rigorously evaluate the reliability and validity of the measurement instrument used in our study, encompassing five key constructs: Information Technology (IT), Job Training (JT), Organization Culture (OC), Organization Creative Environment (EN), and Air Cargo Service Quality (ACS). Our assessment is founded upon three pivotal metrics: Cronbach's alpha, Composite Reliability, and Average Variance Extracted (AVE). Cronbach's alpha, a cornerstone of internal consistency reliability assessment, signifies the degree to which the items within each construct consistently measure the underlying concept. The results reveal commendable internal consistency across all constructs, as reflected by Cronbach's alpha values exceeding the established threshold of 0.6. This internal consistency underscores the reliability of our measurement instrument. Composite Reliability, a crucial indicator of reliability, underscores the constructs' stability and consistency. Our analysis yields impressive Composite Reliability values for all constructs, surpassing the recommended threshold of 0.7. These robust Composite Reliability values further substantiate the measurement instrument's reliability. Average Variance Extracted (AVE), a pivotal measure of construct validity, evaluates the extent to which our constructs capture more variance than measurement error. All constructs consistently exceed the recommended AVE threshold of 0.50, confirming their strong construct validity. These results affirm that our measurement model effectively captures the underlying constructs, minimizing measurement error.

The discriminant Validity Table offers insights into the strength and direction of linear relationships between pairs of variables. Discriminant validity, typically ranging from -1 to +1, is a key indicator in our analysis. Within this context, the correlation coefficients are particularly noteworthy when examining each variable against itself. The perfect positive correlations are observed, exemplified by the values of 0.77 for ACS, 0.769 for IT, 0.802 for JI, 0.752 for OC, and 0.800 for EN. These correlations signify a strong linear association between each variable and itself, indicating their internal consistency. Additionally, the correlation coefficient of 0.421 to 0.6 between constructs reveals a moderate positive correlation between these distinct variables, suggesting a noteworthy degree of linear relationship between them.

The comprehensive structural analysis is cast off to delve into the relationships between various constructs, guided by the provided Beta values, T-statistics, and P-values. First and foremost, the hypothesis positing that Information Technology (IT) significantly influences Air Cargo Service Quality (ACR) garners strong support, with a remarkably significant T-statistic of 4.109 and a P-value of 0.000, signifying a

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Volume 4, Issue 1, Page 105-136, June 30, 2024

substantial and positive relationship. Similarly, the hypothesis pertaining to the impact of Job Training (JT) positively affected air cargo services (ACS) where the T-value is 7.946 and the P-value is 0.000). Organizational culture positively affected air cargo services with a T-value of 2.917 and a P-value of 0.004. Hence, the Positive relation between IVs and DV indicates that H_1, H_2 and H_3 are accepted.

The role of the moderator is also measured through path coefficient analysis. Here, the creative environment is a moderator, and according to the data collected, the moderator does not enhance the relationship between IVs and DVs. IVs used here are Information Technology, Job Training and Organizational Culture. The tests conclude that H4, H5, and H6 are rejected.

Discussion

According to open systems theory, organizations are significantly influenced by their environment. In this study, the hypothesis posited that an organizational, creative environment would serve as a moderator; however, this was rejected, indicating that such an environment does not significantly moderate the relationships in this context. If a creative environment were applied in an organization focused on marketing, the results might differ, as innovations are typically encouraged in such settings.

There was a positive relationship between the independent variables—information technology, job training, and organizational culture—and the dependent variable, air cargo services. This indicates that the quality of air cargo services improves with the proper implementation of these factors. Despite this, the organizational environment as a moderator did not have a significant effect.

Better IT systems and software facilitate the efficient flow of data and information, crucial for air cargo operations. According to constructivist learning theory, individuals are active learners, making job training essential for employee development; the research findings supported this hypothesis. Eldridge and Crombie's concept that organizational culture develops over time and defines an organization’s identity is relevant here, as the study found a significant direct relationship between organizational culture and air cargo services. Additionally, according to the International Air Transport Association (IATA), air cargo transportation is closely linked with global trade, emphasizing the importance of effective management practices in this sector.

Conclusion

The study extensively analyzed the reliability and validity of the measurement instruments used to assess the key constructs: Information Technology (IT), Job Training (JT), Organizational Culture (OC), Organizational Creative Environment (EN), and Air Cargo Service Quality (ACS). The reliability of these constructs was affirmed through high Cronbach's alpha values, demonstrating internal consistency and robust Composite Reliability scores, indicating stable and consistent measurement. Moreover, the Average Variance Extracted (AVE) values confirmed the constructs' validity, ensuring that they captured more variance than measurement error.

The discriminant validity analysis showed strong correlations within constructs and moderate correlations between different constructs, reinforcing the distinctiveness of each variable. The structural analysis confirmed positive relationships between IT, JT, OC, and ACS, with significant T-values and P-values, validating the hypotheses H_1, H_2, and H_3. However, the study found that the organizational, creative environment needed to moderate the relationships between these independent variables and air cargo services, leading to the rejection of hypotheses H_4, H_5, and H_6.

The research indicates that the implementation of IT, job training, and a strong organizational culture positively impact the quality of air cargo services. While an organizational, creative environment did not function as a significant moderator in this study, it suggests that its influence may vary in different contexts, such as in organizations where innovation is more central. The findings underscore the importance of effective IT systems, comprehensive job training, and supportive organizational culture in enhancing air cargo service quality, which is crucial for operational efficiency and global trade.

Recommendations

Several recommendations emerge to enhance organizational effectiveness and performance. First, organizations should prioritize the development and implementation of robust statistical modeling techniques for data analysis. This approach will enable better decision-making and more accurate forecasting. Additionally, fostering a collaborative business model within the freight industry could significantly improve operational efficiency and inter-organizational cooperation. It is also crucial for businesses to address the physical environment's role in supporting creativity, which can drive innovation and productivity. Furthermore, the adoption of RFID technology in manufacturing should be encouraged, as it offers significant benefits in terms of efficiency and accuracy. Finally, organizations must continuously evaluate and enhance their logistics capabilities, focusing on both customer-centered and information-focused strategies, to achieve superior firm performance. Implementing these recommendations will contribute to achieving long-term success and competitive advantage.

Implication of Study

This research might help managers incorporate practices that are beneficial for employees because employee satisfaction is reflected in the services they are giving. This is not only about employee satisfaction. It is also in the top management's best interest to have employees who know how to perform their duties. The best way to do this is through gaining appropriate training, as mentioned in the discussions of variables that show how culture contributes to attaining the goals. It has also proved how positively organizational culture reflects on air cargo service quality. Cargo carriers can implement information technology with the resources available.

Future Research Suggestion

For future research, researchers can apply another moderator and test the results. Other moderators can be motivation, supply chain, etc.

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Volume 4, Issue 1, Page 105-136, June 30, 2024

About Motivation

There are many studies about motivation and the impact it creates in any organization. In our daily lives, we find it hard to complete tasks when our motivation is down; we search for things to lift our spirits and carry out our tasks. Motivational psychology is a topic of interest for managers because they can use this tool efficiently to motivate employees. Maslow's hierarchy of needs is the most common theory for understanding employees. Then comes Herzberg's theory that an employee's level of satisfaction is based on motivational triggers, and by understanding them, management can control employees. (Krupp Prof. Dr. Michael) (Link & K-P., 2012).

About Supply Chain

The communication channel of the supply chain consists of three steps.

- Supplier
- Production
- Customer

This flow is also known as basic and primary flow; in other words, we can understand supply chain as the transfer of raw material, feedstock, unprocessed material or primary commodity to warehousing, and inventory management to production that is also known as work in process and progress to finishing goods/materials. Sometimes, it adds feedback from the customer, and in some scenarios, if the customer response is not satisfactory, products are sent back for amendments. This process is known as reverse logistics. Customer response is the most important thing for any organization. Including this response in the supply chain process is more important and valuable than any data the company receives or forecasts because it gives us the correct/direct perception of the product.

The supply chain also involves material and information flow; material flow is interdepartmental, and information is transferred throughout it.

Logistics plays an important role in transferring goods. Now, companies outsource third-party logistics to save money and time handling goods; third-party logistics charge less and provide up-to-the-mark services, including efficiency (Fernando, 2022).

Limitations

Although the research offers insightful information about the dynamics of the airport operator, it has significant limits that need to be recognized to fully appreciate its relevance and breadth. First, using a positivist research methodology philosophy may restrict our ability to fully comprehend the complex and subjective elements of passenger experiences, even while it is helpful for gathering and analyzing empirical data. Rich, qualitative insights that could be gained from more open-ended, exploratory methods may not be captured by the study's quantitative design, which mostly relies on structured questionnaires. Second, the deductive research approach may limit the finding of new insights or unexpected patterns in passenger behavior and preferences

because it concentrates on evaluating pre-existing beliefs. Although this method guarantees an organized and hypothesis-driven study, it might ignore emerging occurrences that do not conform to the established theoretical paradigm. Potential biases are introduced by the research design, which is based on a survey that is disseminated over social media sites. Despite its size, the sample is taken from a particular geographic location (the city of Karachi), which can restrict how broadly the results can be applied to other situations or cultural backgrounds. The sample may be skewed towards a more technologically connected demographic due to the distribution strategy's dependence on social media, which could obscure the viewpoints of older or less tech employees. In addition, the tools used for quantitative data analysis, like route analysis and hypothesis testing, offer a strong foundation for comprehending the structural relationships between variables. However, these approaches might need to adequately take into consideration the complexity and diversity of human encounters and actions in airport environments. Although Cronbach's alpha is a commonly used metric to evaluate internal consistency, its use fails to ensure that the measurement items have a valid construct, and correlation techniques may only partially account for causality problems. Finally, response bias may be introduced by the study's use of a five-point Likert scale since participants may be more likely to provide neutral or acceptable answers. This scale constraint may make it more difficult to understand employee attitudes and views in detail.

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