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The Impact of Job Stress of the Cabin Crew on the Service Quality During COVID-19 era

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Abstract

Purpose: This research aims to explore the ramifications of job stress on cabin crews within the air service distribution sector, specifically examining its impact on service quality through mediating variables such as job satisfaction and engagement during the pandemic era. **Research design, data and methodology:** The study is based on a sample size of 312 individuals, exclusively comprising cabin crews employed in the airline industry. Methodologically, Confirmatory Factor Analysis (CFA) and Structural Equation Modeling (SEM) were employed for statistical analysis. **Results:** The findings reveal that both performance evaluation and job responsibility exerted a significant impact on both job satisfaction and job engagement. Furthermore, job engagement demonstrated a substantial influence on service quality. However, in contrast, factors like unstable employment and the working environment showed no significant impact on either job satisfaction or engagement. Additionally, job satisfaction did not exert a significant influence on service quality. **Conclusions:** These insights will offer the valuable guidance to the airline industry in preparing for unforeseen external environments that may affect the industry. As the aviation sector navigates the challenges posed by the pandemic, understanding and addressing the intricate relationships among job stress, satisfaction, engagement, and service quality will be crucial for effective industry resilience and adaptation.

Keywords: Job Stress Factors, Unstable Employment, Performance Evaluation, Job Responsibility, Working Environment, Service Distribution, Job Satisfaction, Job Engagement, Service Quality

JEL Classification Code: C83, J28, L83, M52, O15, R48

1. Introduction

The airline industry, a critical component of service distribution, has experienced sustained long-term growth in demand for air services (O'Connell, 2018). Nevertheless, since 2020, COVID-19, due to its rapid spread around the world, has caused severe negative effects (Maneenop & Kotcharin, 2020). COVID-19 resulted in airlines' demands falling dramatically and employees leaving the airline industry (Gössling et al., 2020). Human resource managers within the realm of service distribution were faced with an increasingly complicated and challenging environment as a result of the pandemic, as they needed to come up with innovative solutions to sustain their businesses and help

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their employees cope with this unprecedented situation (Hamouche, 2021). There was a reduction in employment hours and salaries in the airline industry as a result of the pandemic, according to Fernandes (Fernandes, 2020). Consequently, airline cabin crews within the service distribution sector have become anxious about the future of their employment because of these oppressive conditions (Shin et al., 2021).

Cabin crews within the service distribution sector are experiencing unprecedented job stress due to the new work environment (Kang et al., 2021). According to Montani and Staglianò (2022), employees of hospitality services within the service distribution field are anxious, stressed, and psychologically affected by the COVID-19 pandemic. Job stress significantly affects employees' ability to accomplish tasks; in particular, a lack of motivation leads to poor job performance and unusual errors (Jun et al., 2020; Wolor et al., 2020). Liu and Liu (2020) found that job stress negatively affects employees, resulting in poor job satisfaction and performance. COVID-19 spread throughout the cabin crew within the service distribution sector, causing significant job stress due to the risk of infection and career interruption. Cabin crew that experiences reduced welfare benefits and social stigmatism as a result of human resource restructuring also experience job insecurity, which undermines their job satisfaction and organizational commitment (Shin et al., 2022). As a result, airline performance within service distribution is highly influenced by the degree of COVID-19 job stress among cabin crews.

Job satisfaction and job engagement are negatively affecting workers' attitudes toward a company and their ability to concentrate on their tasks within the realm of service distribution (Locke & Latham, 2004). Both individual and organizational productivity and work efficiency are adversely impacted (Ostroff & Kozlowski, 1992). This contention can be based on social exchange theory (Brooks & Zeitz, 1999). The lack of commitment and satisfaction with the company within service distribution prevents employees from having a sense of responsibility that contributes to the productivity of the organization (Donavan et al., 2004). It has been shown that job satisfaction can protect employees within service distribution from stress-related negative influences as well as alleviate depression and anxiety, according to Yan et al. (2021). In the COVID-19 situation within the realm of service distribution, job satisfaction is a very important psychological factor to prevent employees' exhaustion psychologically and physically, as well as plays a key role to overcome the crisis of COVID-19 (Zhang et al., 2020).

Previous research on cabin crews' job stress within the service distribution sector has focused on stress or anxiety during work (Castro et al., 2015; Kelleher & McGilloway, 2005; Lee & Lee, 2020; Moon et al., 2004; Williams, 2003; Won, 2021). The majority of research focusing on the relationship between COVID-19-related stress, job satisfaction, and organizational effectiveness was carried out mainly on workers in the hospitality business and tourism industry within service distribution (Kang et al., 2021; Alrige et al., 2022; Cai et al., 2020; Chen & Eyoun, 2021; Gupta & Sahoo, 2020; Han et al., 2022; Santarone et al., 2020; Temsah et al., 2020; Wu et al., 2020). It is rare to find research examining the stress factors facing employees during pandemics within service distribution (Shin et al., 2021; Rafique et al., 2022; Tsaur et al., 2020) sector specially in airline industry. By focusing on cabin crews who interact with customers during the work, this research aims to fill a critical research gap in the field of service distribution during pandemics.

This study is based on a comprehensive literature review and an analysis of current stressors impacting cabin crews and their performance during ongoing pandemics. It seeks to answer the question of how perceptions of COVID-19-related stressors, such as unstable employment, performance evaluation, working conditions, and job responsibility, influence job satisfaction and engagement in the service distribution sector. By identifying the causes of COVID-19-related stress, this research aims to provide meaningful insights and implications for both academic and managerial purposes in the better management of human resources, especially for employees like cabin crews who interact with customers on a daily basis.

2. Literature Review

2.1. Air Service Distribution

The COVID-19 pandemic has brought about a profound transformation and disruption across various sectors, resulting in substantial societal, economic, and industrial changes. This significant shift has led to the division of time into the 'pre-COVID' and 'post-COVID' eras, underscoring the far-reaching impact of this global crisis. Notably, the aviation industry has experienced considerable damage and is poised for fundamental transformations and systemic shifts in the future. To proactively prepare for external shocks and threats, the aviation distribution industry must pivot towards adopting a crisis management system and developing strategies that dynamically respond to market shocks and losses while simultaneously building value.

The post-COVID-19 landscape has witnessed alterations in overseas tourism and travel patterns, with a decline in group package travel and a notable increase in individual travel, commonly referred to as FIT (Free Independent Travel). Additionally, there has been a surge in non-face-to-face distribution networks, leveraging web-

based online travel agencies (OTAs) and meta search engines for travel product purchase. In response to these shifts in consumer travel patterns and purchasing behavior, airlines must be agile in adjusting their ticket distribution and sales strategies.

As we navigate the post-COVID-19 era, it is imperative for airlines to proactively seek strategies that align with the paradigm shift in the air distribution industry. Detecting changes in future air distribution trends will allow them to stay ahead of the curve in adapting to evolving market dynamics."

2.2. Job Stress

The concept of job stress within the service distribution industry, often referred to as the distribution sector, is multifaceted and has gained substantial attention in recent years. Scholars have proposed various definitions to capture the essence of job stress in this sector. As defined by Gill et al. (2006), job stress in the context of service distribution pertains to the tension and anxiety resulting from the work environment. It represents the harmful physical and emotional responses that emerge when work demands do not align with an employee's abilities, resources, or needs (Rode, 2004). This definition holds particular relevance in the service distribution industry.

2.2.1. Unstable Employment

In the service distribution industry, particularly during the unprecedented challenges posed by the COVID-19 pandemic, unstable employment becomes a prominent stressor. Unstable employment is characterized by a perceived risk of future career disruptions in response to external threats or uncertainties, resulting in an emotional state of insecurity among workers regarding potential job loss (Ashford et al., 1989; Greenhaus & Parasuraman, 1987). Within the service distribution industry, this concept encompasses various factors, including the introduction of temporary positions, layoffs, and organizational changes implemented as survival strategies by distribution businesses in response to external shocks such as the COVID-19 pandemic (Brockner et al., 1992; Shin et al., 2021). Such instability has been linked to job dissatisfaction, with workers becoming vulnerable to the prospect of job cuts within their organizations (Won, 2021). Research by Vujičić has further established a negative correlation between unstable employment and variables associated with job satisfaction and engagement (Vujičić et al., 2015).

H1: Unstable employment has a significant effect on job satisfaction.
H2: Unstable employment has a significant effect on job engagement.

2.2.2. Performance Evaluation and Compensation

Within the service distribution industry, performance evaluation includes various components, such as compensation, which plays a pivotal role in shaping employee well-being. Compensation encompasses not only salaries but also incentives, pensions, and opportunities for promotion (Zhang et al., 2021). Research has indicated that lower compensation can lead to increased job stress among employees in the service distribution industry (Malakh-Pines et al., 1981). The reward structure within these organizations significantly influences job satisfaction and engagement. Adequate reward policies motivate frontline employees to deliver high-quality services to customers and effectively manage customer complaints, thus affecting service quality (Lawler & Finegold, 2000).

H3: Performance evaluation and compensation significantly affect job satisfaction.
H4: Performance evaluation and compensation significantly affect job engagement.

2.2.3. Working Environment

The working environment within the service distribution industry encompasses the physical spaces where employees perform their tasks (Park, 2002). Factors such as lighting, noise, temperature, air quality, air circulation, and exposure to hazardous substances contribute to the overall work environment (Murphy & Schoenborn, 1987). In service distribution, particularly in high-risk environments encountered by airline cabin crews, employees interact with customers in confined spaces, posing unique challenges and heightened stressors, as evidenced during the COVID-19 pandemic (Cai et al., 2020; Pappa et al., 2020; Shin et al., 2021). Research indicates that employees in the hospitality and service distribution sectors often experience psychological stress, anxiety, and depression, which negatively impact their work attitudes, job satisfaction, and commitment (Gupta & Sahoo, 2020; Temsah et al., 2020; Hong et al., 2009; Lancee et al., 2008; Pappa et al., 2020).

H5: The working environment significantly affects job satisfaction.
H6: The working environment significantly affects job engagement.

2.2.4. Job Responsibility

In the service distribution industry, job responsibility, as defined by Santarone et al. (2020), and Anton (2009), pertains to the attributes of the job itself. This includes the stress factor associated with extended shifts and increased workloads. COVID-19 has highlighted the intricate relationship between job demands and an individual's

competency within organizations in the service distribution industry. Job stress within this context is compounded by organizational aspects, long work hours, lack of organizational support (Davey et al., 2001), conflicts between demands and pressures (Kahn et al., 1964), and unclear work protocols for dealing with infectious diseases (Liu et al., 2004).

Previous research has consistently shown that job stress negatively affects job satisfaction, organizational effectiveness, and turnover intention (Adam et al., 2004; Kahn et al., 1964). Job stress also has a significant negative impact on job engagement, as reported by Lee and Lee (Lee & Lee, 2020; Moon et al., 2004). Workload negatively influences employee job satisfaction (McCann et al., 2009).

The exposure to stress, which employees encounter, affects the organization's functioning (Rafique et al., 2022).

H7: Job responsibility has a significant effect on job satisfaction.

H8: Job responsibility has a significant effect on job engagement.

2.3. Job Satisfaction and Service Quality

Job satisfaction within the service distribution industry has been defined as the positive emotional state derived from one's occupation, contributing to the comfortable and pleasant experiences individuals feel while working (Locke, 1976). Research indicates that job satisfaction significantly enhances workers' service quality (Tharikh et al., 2016). Employees who are satisfied with their work duties tend to be more customer-oriented, resulting in increased levels of customer satisfaction (Scanlan & Hazelton, 2019). Job satisfaction has consistently been shown to impact customer-oriented behaviors (Hoffman & Ingram, 1992), with happy employees being more motivated to provide exceptional service to customers. This connection between job satisfaction and service quality is particularly pertinent in the service distribution industry.

H9: Job satisfaction significantly affects service quality.

2.4. Job Engagement and Service Quality

Job engagement within the service distribution industry refers to the belief that individuals and their organization are strongly connected (Morrow, 2011).

A committed employee within the context of service distribution is inclined to employ extensive exertion on behalf of the organization and has a strong aspiration to maintain membership in the organization (Mowday et al., 1979).

H10: Job engagement has a significant effect on service quality.

2.5. Service Quality

An employee's customer orientation can be defined as "a state-like variable regarding their attitude toward satisfying customers and their needs" (Mathe et al., 2016). Companies in the service distribution sector typically prioritize their customers' needs, as employees play a pivotal role in the service product (Tajeddini, 2010). Customers expect high levels of customer service from employees, emphasizing the importance of valuing customers. Service quality in the service distribution industry not only leads to business success but also results in desirable employee outcomes (Hennig-Thurau, 2004; Jaworski & Kohli, 1993). Moreover, customer orientation positively influences an employee's job satisfaction and commitment (Donavan et al., 2004), highlighting the significant role of service quality in service distribution. This evidence demonstrates that service quality contributes significantly to an entity's competitiveness, promoting and maintaining long-term customer-supplier relationships (Kelley, 1992).

3. Methodology

3.1. Survey Design

According to Saunders (Saunders et al., 2009), 42 survey items were developed for a quantitative approach based on the research model shown in Figure 1. Table 1 shows the results of revising and complementing items from previous studies on stress, job satisfaction, job engagement, and service quality. For this study, all questionnaires were revised to use a 5-point Likert scale. Based on Tarhini's guidelines, a convenient sampling method (Hair et al., 2006), based on the non-probabilistic, self-participation sampling method, was used for the study (Tarhini et al., 2016). Fourteen volunteers with current cabin crews in the Korean airline industry were asked to participate in three pilot tests. Questionnaires were modified to suit the topic of this study.

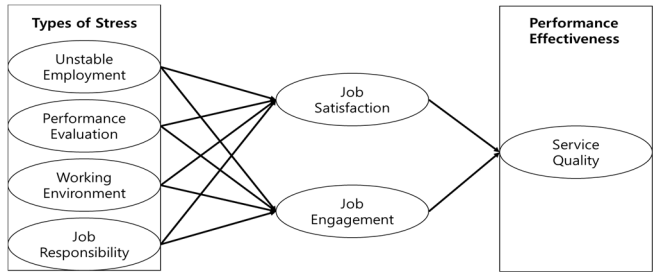

Figure 1: The Research Mode

Table1: Survey Items

Constructs		Descriptions	Sources
Unstable Employment	UE1	I think I'd be fired regardless of job per-formance of my work	Chirumbolo et al. (2005)
	UE2	I feel anxious about possibility of restrict-uring of the company due to CO VID-19	Brockner et al. (1992)
	UE3	I think the company'sfuture won't be bright	Lazarus & Stress (1984)
Performance Evaluation	PE1	I think it is difficult to achieve my goals due to COVID-19	Ashford et al. (1989)
	PE2	The opportunity for pro-motion is decreasing due to COVID-19	McGrath (1976)
	PE3	The opportunity for sal-ary increases is dim- inishing due to COVID -19	Vecchio (2005)
Working Environment	WE1	I feel that inside of airplanes is an envir- onment vulnerable to the COVID-19 virus infection	Chu et al. (2021)
	WE2	I am concerned that the COVID-19 virus will spread to my family	Ross (2005)
	WE3	I feel anxious about the possibility of being infected with COVID-19 virus	Barker & Nussbaum (2011)
	WE4	I feel wearing personal protective wear and goggles makes it incon- venient to carry out my work	Okita et al. (2017)
Job Responsibility	JR1	I think support by the airline company is not properly provided	Parker & DeCotiis (1983),
	JR2	I think a heavy work-load is assigned due to the reduction of human resources	Quinn & Shepard (1974)
	JR3	I feel difficulty in per-forming my duties due to frequent changes in work orders	Cordes & Dougherty (1993)
	JR4	I find it difficult to under-stand the priorities of assignments	Joseph F Hair et al. (1998)
	JR5	Because of COVID-19, there are cases where I am assigned to perform tasks beyond my capa- bilities	Karasek Jr (1979)
	JR6	I feel like I don't know the boundary of my dut- ies due to COVID-19	Rizzo & Robert (1970)
	JR7	I feel like I'm serving too many passengers to cover alone	Smith (1969)
Job Satisfaction	JS1	I am satisfied with the working environment	Meyer & Stanley (2002); Smith (1969)
	JS2	I am satisfied with my duties	
	JS3	I feel happy in my work	
	JS4	I do my best at work	
	JS5	I'm satisfied with the promotion system of the company	
	JS6	I'm satisfied with my salary	
Job Engagement	JE1	I am attached to my work	Allen & Meyer (1990); Mowday et al. (1979)
	JE2	I feel a sense of bel-onging to my job	
	JE3	I will continue to work at the current airline com- pany	
	JE4	I feel like the difficulty of a company as my own	
	JE5	I feel that the achiev-ement of my company is my own	
	JE6	I think it's better to work at my current airline company than the others	
	JE7	I tell others that my job is excellent	
	JE8	I am proud of the posi-tive assessment of my current job	
	JE9	I am working hard to develop myself for my job	
	JE10	I feel that I'm being developed through my work	
	JE11	I will perform any tasks to achieve the goal of my company	
Service Quality	SQ1	I try to understand the needs of passengers	Berry & Parasuraman (1991); Brown et al. (2002); Chen et al. (2011); Donavan et al. (2004)
	SQ2	I try to satisfy the needs of passengers	
	SQ3	I strive to provide the best services to pass-engers	
	SQ4	I try to pay attention to each one passenger	
	SQ5	I try to be polite and kind to passengers all the time	
	SQ6	I strive to include the passenger's needs to my duties	
	SQ7	I consider passengers' satisfaction important	
	SQ8	I do my best to resolve the passenger's comp- laints	

3.2. Data Collection and Analysis

Using a Google survey program, the main survey format was assembled and released to FSCs (full-service carriers; Korean Air, Asiana), LCCs (low-cost carriers), and foreign airlines operating from/to Korea. The survey was conducted over two weeks from May 11, 2021 and 312 responses were collected. A variety of analyses were conducted using SPSS version 25, including descriptive statistics and internal

reliability (Cronbach, 1951), as well as AMOS 23 for convergent reliability, discriminant reliability, model fit analysis, SEM path analysis, as well as validation of hypotheses (Hair et al., 2011; Leontitsis & Pagge, 2007).

4. Findings

4.1. Demographic Profile

As shown in the demographic profile in Table 2, 312 individuals 62.8% were female and 37.2% were male. In terms of age, 51.6% of respondents were in the 31-40 range, which is the largest age group. There were 34.0% in the 41-50 range, 11.2% in the 20-30 range, and 3.2% in the 51-60 range. Junior cabin crew members make up 46.2%, followed by 25.3% being assistant pursers. There was also an average income of million won per month for the highest income category approximately 31.7% with a range of 3.1 million to 4.0 million won. Considering employment status, paid leave was the largest with 34.9%, followed by paid + unpaid leave at 33.9% and 31.7% for unpaid leave.

There are some unusual phenomena that can be identified based on the data. According to the question about service years, 37.2% of respondents have worked for more than 12 years, and their age range is also in their 30s and 50s. It is more important to survey women in this study since the gender ratio of cabin crew in Korea is still much higher for women than for men.

Table 2: Demographic Profile

Items	Details	n	%
Gender	Male	116	37.2
	Female	196	62.8
Age	20-30	35	11.2
	31-40	161	51.6
	41-50	106	34.0
	51-60	10	3.2
Position	Junior Cabin Crew	144	46.2
	Assistant Purser	79	25.3
	Duty Purser	72	23.1
	Senior Purser	17	5.4
Airline in Work	Korean Air	102	47.7
	Asiana Airlines	112	52.3
Average Income (KRW per Month)	Less than 1.0	6	1.9
	1.0-2.0	25	8.0
	2.1-3.0	91	29.2
	3.1-4.0	99	31.7
	4.1 and above	91	29.2
Employment Status	Paid Leave	109	34.9
	Paid + Unpaid Leave	104	33.3
	Unpaid Leave	99	31.7
Service Years	Below 3 years	59	18.9
	3-7 years	58	18.6
	7-11 years	79	25.3
	12yyears and up	116	37.2

4.2. Confirmative Factor Analysis

Confirmatory factory analysis method is used to verify the factor structure among the observed variables in table 2. To analyze the relationship between observed variables and latent variables, squared multiple correlation is used to know the proportion of variance accounted for in the latent variables. Squared multiple correlations have a minimum value of 0.441 and the maximum value of 0.897. In addition, Cronbach's alpha is used to assess the reliability, internal consistency of observed variables. All the Cronbach values are proven to be acceptable (Cronbach, 1951; Santos, 1999). To measure the amount of variance captured by a construct in relation to the amount of variance due to measurement error, average variance extracted (AVE) and composite reliability (CR) are calculated in table 3. All the AVEs are proven to be higher than minimum threshold of 0.5 (Geldhof et al., 2014). It is also presented in table 4 the analysis of discriminant validity assessment.

In table 5, the measurement of model fit indices is provided to establish whether, overall, the model is acceptable. According to the model fit result, the model appears to be a good fit to the data. The x^2 is 597.564, CMIN/DF is 1.191, RMR is 0.042, GFI is 0.909, AGFI is 0.885, and RMSEA is 0.025. Thus, the structural equation model has an acceptable fit to the data.

Table 3: Confirmatory Factor Analysis (CFA)

Constructs			S. E	Cronbach-α	SMC	AVE	C.R
Performance Evaluation	--->	PE2	0.671	0.755	0.450	0.504	0.670
	--->	PE1	0.747		0.558		
Job Satisfaction	--->	JS6	0.637	0.889	0.406	0.716	0.908
	--->	JS3	0.902		0.814		
	--->	JS2	0.908		0.824		
	--->	JS1	0.906		0.821		

Constructs			S. E	Cronbach-α	SMC	AVE	C.R
Service Quality	--->	SQ8	0.893	0.976	0.798	0.832	0.975
	--->	SQ7	0.894		0.799		
	--->	SQ6	0.883		0.780		
	--->	SQ5	0.904		0.817		
	--->	SQ4	0.886		0.785		
	--->	SQ3	0.945		0.894		
	--->	SQ2	0.947		0.897		
	--->	SQ1	0.940		0.884		
Working Environment	--->	WE1	0.730	0.769	0.533	0.664	0.855
	--->	WE2	0.888		0.789		
	--->	WE3	0.818		0.670		
Unstable Employment	--->	UE1	0.900	0.821	0.811	0.797	0.887
	--->	UE2	0.886		0.785		
Job Responsibility	--->	JR1	0.669	0.922	0.447	0.608	0.915
	--->	JR2	0.664		0.441		
	--->	JR3	0.768		0.590		
	--->	JR4	0.811		0.657		
	--->	JR5	0.841		0.707		
	--->	JR6	0.863		0.746		
	--->	JR7	0.819		0.671		
Job Engagement	--->	JE10	0.693	0.942	0.481	0.677	0.943
	--->	JE8	0.878		0.772		
	--->	JE7	0.877		0.769		
	--->	JE6	0.794		0.631		
	--->	JE5	0.719		0.518		
	--->	JE3	0.858		0.736		
	--->	JE2	0.860		0.740		
	--->	JE1	0.879		0.773		

Table 4: Discriminant Validity

Constructs	A	B	C	D	E	F	G
A. Performance Evaluation	1						
B. Job Satisfaction	(0.595)	1					
C. Service Quality	(0.370)	0.510	1				
D. Job Engagement	(0.519)	0.775	0.674	1			
E. Job Responsibility	0.616	(0.731)	(0.473)	(0.449)	1		
F. Unstable Employment	0.658	(0.459)	(0.295)	(0.449)	0.668	1	
G. Work Environment	0.482	(0.430)	(0.252)	(0.396)	0.628	0.588	1

Table 5: Model Fit Results

Division	Result		Good Fit	Acceptable Fit	Sources
Absolute fit index	CMIN/DF	1.191	$0 \leq x^2/df \leq 2$	$2 \leq x^2/df \leq 3$	(Schermelleh-Engel, Moosbrugger, & Müller, 2003)
	RMR	0.042	$0 \leq SRMR \leq 0.05$	$0.05 \leq SRMR \leq 0.10$	
	GFI	0.909	$0.95 \leq GFI \leq 1.00$	$0.90 \leq GFI \leq 0.95$	
	AGFI	0.885	$0.90 \leq AGFI \leq 1.00$	$0.85 \leq AGFI \leq 0.90$	
	RMSEA	0.025	$0 \leq RMSEA \leq 0.05$	$0.05 \leq RMSEA \leq 0.08$	
Incremental fit index	NFI	0.948	$0.95 \leq NFI \leq 1.00$	$0.90 \leq NFI \leq 0.95$	
	CFI	0.991	$0.97 \leq CFI \leq 1.00$	$0.95 \leq CFI \leq 0.97$	

Table 6: Path and Hypotheses Results (***p< 0.001 and*p< 0.05.)

Hypotheses				Coefficient	S.E.	C.R.	P	Results
H1	Unstable Employment		Job Satisfaction	0.140	5.327	-0.005	0.996	Not Supported
H2	Unstable Employment		Job Engagement	0.066	4.718	-0.005	0.996	Not Supported
H3	Performance Evaluation		Job Satisfaction	-0.637	0.369	-3.407	***	Supported
H4	Performance Evaluation		Job Engagement	-0.594	0.373	-3.355	***	Supported
H5	Working Environment		Job Satisfaction	-0.002	0.038	0.517	0.605	Not Supported
H6	Working Environment		Job Engagement	0.034	0.043	0.882	0.378	Not Supported
H7	Job Responsibility		Job Satisfaction	-0.630	0.080	-7.983	***	Supported
H8	Job Responsibility		Job Engagement	-0.533	0.076	-7.504	***	Supported
H9	Job Satisfaction		Service Quality	-0.022	0.104	-0.327	0.744	Not Supported
H10	Job Engagement		Service Quality	0.685	0.119	8.033	***	Supported

4.3. Structural Equation Modeling Analysis

Path analysis, in figure 2 and table 6, shows the main results of the structural equation model providing coefficient estimates, construct reliability and p-value etc. First, the hypothesis connecting Unstable Employment to Job Satisfaction (H1), with the values of $\beta = 0.140$ was not supported. Secondly, the hypothesis connecting Unstable Employment to Job Engagement (H2), with the values of $\beta = 0.066$ was not supported. Thirdly, the hypothesis connecting Working Environment to Job Satisfaction (H5), with the values of $\beta =- 0.002$ was not supported. Fourthly, working Environment to Job Engagement (H6), with the values of $\beta =- 0.034$ was also not supported. Finally, the hypothesis connecting Job Satisfaction to Service Quality (H9), with the values of $\beta =- 0.022$ was not supported.

The hypothesis connecting Performance Evaluation to Job satisfaction(H3), with values of $\beta = -0.637$; the hypothesis connecting Performance Evaluation to Job Engagement(H4), with values of $\beta = -0.594$; the hypothesis connecting Job Responsibility to Job Satisfaction(H7), with values of $\beta = -0.630$; the hypothesis connecting Job Responsibility to Job Engagement(H8), with values of $\beta = -0.553$ and the hypothesis connecting Job Engagement to Service Quality(H10), with values of $\beta = 0.685$ are supported. According the figure 2, both job satisfaction and job engagement are not directly explained by either unstable employment or working environment. In addition, job satisfaction has no significantly positive effect on service quality.

5. Conclusion and Implications

5.1. Conclusion

The purpose of this study is to analyze how COVID-19-induced job stress factors affect the service quality of airline cabin crews within the context of the distribution service industry. To investigate the influence of pandemic-induced stress factors on the performance of airline cabin crews, we employed mediators such as job satisfaction and job engagement. These mediators are essential in understanding the relationships between pandemic-induced stressors and service quality within the airline industry during COVID-19. Through the mediating roles of job satisfaction and job engagement, we elucidate how COVID-19-induced job stress factors impact the service quality delivered by airline cabin crews.

This research has yielded key findings. Among the COVID-19-induced job stress factors, both performance evaluation and job responsibility had significant impact on job satisfaction and job engagement. In contrast, unstable employment factor and working environment factor during the pandemic had no significant affect job satisfaction and job engagement. The possible reasons for these results seem to be that the employment retention support provided by the Korean government to the airlines greatly affected by the pandemic has contributed to reducing stress arising from unstable employment, and this was resulted affecting on both job satisfaction and job engagement.

In addition, as the pandemic has persisted for an extended period, it seems that flight attendants have become somewhat accustomed to the given work environment during the pandemic, and it has not possibly influenced job satisfaction and job engagement.

Another finding was revealed that job satisfaction had no significant impact on service quality during COVID-19. The possible reason for this result seems to be that service quality is influenced by factors such as training and organizational culture, rather than individual job satisfaction. Another plausible explanation is that, given the potential transmission of the COVID-19 virus through saliva, interactions between flight attendants and passengers may have been limited during flights. Consequently, the unique environment during the pandemic is expected to have had some impact on the job satisfaction and service quality of cabin crew members.

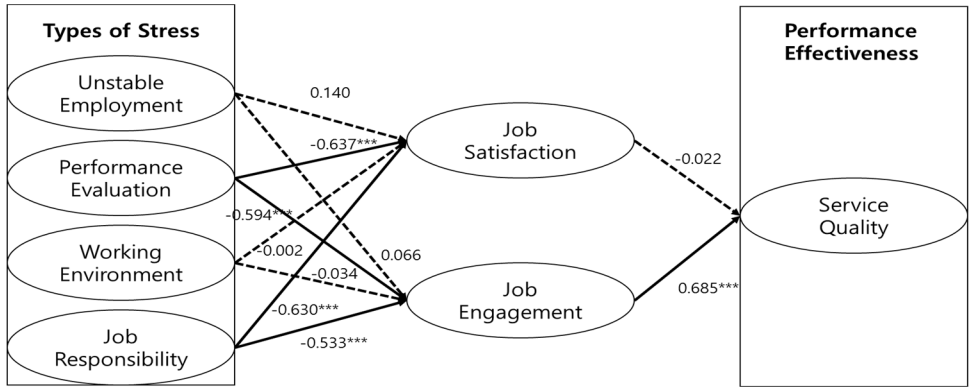

Figure 2: SEM Analysis Results

5.2. Implication

Based on these findings, we can draw several implications for both academic research and managerial practices:

Academic Implications: This study offers a theoretical foundation for comprehending the influences between variables of potential stresses including unstable employment, performance evaluation, working environment and job responsibility faced by airline cabin crews during the prolonged pandemic and service quality through mediating variables of job satisfaction and engagement.

Unlike many prior studies that concentrated on job stress and anxiety among cabin crews before the pandemic, this research examined the impact of stress of cabin crew specific to the pandemic situation on service quality by adopting mediating variables with different angle. By considering unprecedented circumstances of the pandemic era, this research has contributed to fill the research gaps left by previous studies.

Managerial Implications: The findings of this study hold meaningful insights for managerial practices within the airline industry.

First, the airline industry, which now stands at the end of the pandemic tunnel that began in March 2020, is in an uncertain environment, unsure of when another form of pandemic might emerge. As an industry highly vulnerable to external factors, airlines must thoroughly prepare for any future pandemics based on the experience gained during the recent pandemic era.

Second, based on the lessons learned from the recent pandemic, it is crucial to analyze the performance of cabin crew in detail and to create opportunities for enhancing their performance during emergency situations, such as a pandemic. This is also essential to enable cabin crew to achieve good performance and, simultaneously, enhance job satisfaction, navigating through challenging environments that may arise again in the future.

Third, in a pandemic situation, wearing protective gear and exposing oneself to risk for the sake of passenger safety and a comfortable flight is not an easy task. Even in such challenging circumstances, acknowledging and encouraging the dedicated efforts of the crew members who have selflessly worked for their company is crucial. The efforts of these companies can serve as a driving force, not only strengthening the job satisfaction and engagement of the crew members but also positively influencing the improvement of the airline's service quality.

Finally, in an emergency situation like a pandemic, where a limited number of cabin crew members perform their duties in a restricted environment, the ability to effectively carry out various roles becomes crucial. To facilitate this, it is important for companies to implement diverse training programs that empower cabin crew members to fulfill a range of responsibilities.

5.3. Limitation and Future Research

Based Despite the valuable insights gained from this research, there are several limitations to consider. First, due to the limited availability of prior studies on COVID-19-induced job stress factors, this study primarily drew upon existing literature on traditional work stress factors. To address this limitation, future research should investigate new findings and explore different facets of job stress factors caused by COVID-19. Furthermore, the evolving nature of the COVID-19 situation, which has persisted beyond the scope of this study, necessitates future research to encompass both domestic and international cases related to COVID-19, in order to derive relevant job stress factors. This comprehensive approach will provide a more holistic understanding of the challenges faced by airline cabin crews and offer insights into effectively managing their well-being in the context of the service distribution industry.

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