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Leadership and Job Demands on Managerial Decision-Making Effectiveness through Emotional Exhaustion in the Aviation Industry

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ABSTRACT: The aim of the study is to investigate the contribution of ethical leadership and job demands to the development of managerial decision-making effectiveness in the aviation sector, based on Job Demands-Resources (JD-R) model. Although research has been conducted in relation to leadership and stress independently, there is still a need for research to investigate the integration of the two concepts and their resulting influence on managerial decision-making effectiveness in the aviation industry. Job resources are conceptualized as ethical skilled leadership to improve the quality of decisions made, and job demands are defined as stressors that poor decision-making abilities of managers. Emotional exhaustion is found to be the mediate procedure on that such dynamics are operated. The structured survey was conducted among aviation managers and supervisors (N = 232), and the analysis conducted with the help of Partial Least Squares Structural Equation Modeling (PLS-SEM) using software SmartPLS version 4. The findings shows that ethical leadership has a great and indirect effect on the effectiveness in decision making among managers by reducing the emotional exhaustion. The latter when compared to job demand affect the effectiveness of decision making in the opposite and negative way, and emotional exhaustion is the significant moderator which can explain the effects of stress on performance. These results provide empirical support for the JD-R framework in a safety-sensitive industry and for the two ways in which organizational resources and stressors may affect managerial results. This study extends previous literature by combining ethical leadership and job demands as the key factors explaining the role of psychological resources and stressors in effective decision making in aviation management. Policy implications include leadership development, workload control, and well-being initiatives to protect effective decision-making in aviation organizations.

Keywords: ethical leadership; job demand- resource (jd-r) model; emotional exhaustion; effectiveness in decision making; aviation management.

I. INTRODUCTION

Effective decision-making is among the core competencies of the contemporary manager, determining not only the effectiveness of the strategy but also the organization culture, workforce wellbeing and ultimate sustainability [1] argued that the managerial work consists of decision-making tasks, whereas [2] stressed on the fact that managers operate amidst incomplete information and bounded rationality. While leadership and work stressors have been examined separately, the interactive mechanisms of work and leadership

stressors in the influence of managerial decision-making effectiveness (MDME) are understudied, especially in high stake environments (aviation). The modern-day organizations expect managers to take decisions under the growing complexities, scarcity of resources and ethical dilemmas. Consequently, the focus of researchers has been on the influences that improve or impair managerial decision-making effectiveness (MDME) and it has had leadership, job stressor factors, and psychological wellbeing in the spotlight [3]. Ethical Leadership (EL) is considered one of the most crucial determinants of the ethical climates and effective decision making. Study [4] explained that EL entails normatively appropriate behavior by leaders and promotion on a normative manner by exhibiting appropriate behavior by the leaders in the form of decision-making, through example-setting and reinforcement. The ethical leadership, as opposed to transformational or authentic leadership, involves a direct integration of the moral character and management responsibility. Empirical data indicate that EL helps to build trust, social justice, and psychological safety, which are essential in an effective decision-making process [5]. Within the healthcare context, EL has been demonstrated to decrease burnout and increase the integrity of the decision outcomes, improving perceptions of justice [6]. Study [7] showed that EL helped nurses to improve their moral courage and sensitivity and enhance ethical decision-making in high-stakes situations, and [8] proved that psychological safety and thriving were promoted by EL.

In the same line,[9] associated EL with organizational learning and ESG performance stating that ethical leaders facilitate the making of decisions that help to balance between profitability and sustainability. Meanwhile, Job Demands (JD) are one of the steadiest obstacles in the effectiveness of decision-making. JD-R model [10] is that the demands exhaustive and resources, which act as measures to absorb the strain. The depletion of psychological resources due to strain and emotional exhaustion resulting in JD such as workload, time pressure and role ambiguity. Studies support the argument that high levels of JD raise the burnout and decrease the accuracy of decisions [11]. In healthcare settings, a long shift and work overload contribute to the development of decision fatigue, which is a phase of compromised clinical judgment [12]. The theory of decision fatigue also states that self-regulation is lost after repeated requests and that such managers will be risk-averse and focused on heuristic shortcuts [6]. In educational settings, [13] found that burnout and change fatigue increased disengagement and reduced effective decision-making. These findings demonstrate the dual pathways of the JD-R model: demands increase strain, while resources such as leadership mitigate it [14].

Work in [15] point out that the most striking of the dimensions of burnout is emotional depletion and fatigue, which is characterized as EE. Fatigue has detrimental effects on attentional control, working memory and the ethical judgments and decision-making outcomes. It is supported by the fact that, in the neuroscience domain, there is evidence that the mechanisms of exhaustion cause a reduction in the activity of the brain regions that indicate executive control and emotional regulation [16, 17]. The organizational research also mentions the impacts of EE on managerial functioning, [18] concluded that emotional labor must be more exhausted and disengaged among teachers, whereas [19] asserted that high-performance work practices were shown to cause burnout in situations where they surpassed the established limit. On the same note, [11] report that JD was the forerunner of EE, which harmed clinical judgment among the physicians. An important gap is that no integrated models have been put forth that simultaneously explore the role of ethical leadership (resource) and job demands (stressor) in MDME via the mediating role of emotional exhaustion. This paper is designed to address this gap by proposing an integrated model for clarifying the psychological mechanism underpinning the relationship between organizational conditions and a manager's most important capability. Few studies have been able to simultaneously understand the influence of EL (as a resource) and JD (as a stressor) in MDME as mediated by EE on the JD-R model. The psychological consequences of the clash between these opposites (resources and demands) are psychological exhaustion. The meaning of this depletion is not simple fatigue, but rather, it is an impairment of the cognitive faculties which are necessary for effective judgment, including attentional control and ethical sensitivity, and therefore acts as a key mediating factor between workplace conditions and decision-making outcomes. This is shocking considering the nature of top-stakes decision-making in the healthcare, finance, and education sectors, where ethical and effective judgement can become a life-death issue [20-22].

This research is aimed at filling this gap by incorporating ethical leadership, job demands, emotional exhaustion and decision-making effectiveness in one framework. Based on JD-R theories, it postulates that EL can be described as a job resource that lowers EE and leads to an increase in the quality of decision making, whereas JD can be described as job stressor that causes an increase in EE and worsens decision quality. EE mediates the two relationships, and it is assumed the strain pathway that explains how conditions are converted to decision outcomes at the organization. Such integration goes toward two things. Theoretically, it can be extended to JD-R concepts of the productivity of decision-making, which is a rather underexplored outcome. It may be practically useful in the context of organizations aimed at enhancing the quality of making decisions during pressure by providing evidence-based recommendations on the necessity to foster ethical leadership and reduce job demands.

II. LITERATURE REVIEW

1. MANAGERIAL DECISION-MAKING

The manager is being increasingly observed to have been affected due to conducive leadership as well as fatiguing employment demands. In understanding this dynamic, one of the most popular theoretical frameworks that have cropped up is called the Job Demands-Resources (JD-R) model [10]. The JD-R model is a powerful model to understand the effectiveness of managerial decision-making (MDME) as an important and outcome variable. MDME is a high order cognitive function, and is directly vulnerable to core processes of the model. The health impairment pathway consists of job demands to exhaust the cognitive and emotional resources of the individual, which is a direct adversary to the attentional management, working memories, and ethics of the individual to exercise good judgment. Conversely, the motivational pathway in which resources such as ethical leadership, help to create psychological safety and trust, lead to development of cognitive capacity and moral framework to make effective and ethical decisions. It assumes that work demands (workload, time pressure) diminish physical and psychological resources of the employees, generating strain, emotional exhaustion. In contrast, job resources including leadership support, fairness, and autonomy resiliently neutralize these pressures, lessen stresses, and enhance performances and motivations [23]. In this research, Ethical Leadership (EL) will be viewed as job resource, Job Demands (JD) as stressors, Emotional Exhaustion (EE) as a process and Managerial Decision-Making Effectiveness (MDME) as a dependent variable.

2. ETHICAL LEADERSHIP AND THE EFFECTIVENESS OF DECISION-MAKING

Ethical leadership has been stated as the expression of normatively correct behavior in one-self-through individual actions as well as interpersonal relationships, as well as the encouragement of the same behavior among the followers [24]. In contrast to transformational leadership which focuses on vision development or authentic leadership which pays attention to self-awareness, the key characteristic of ethical leadership is moral management where the leaders set ethical norms, encourage ethical behavior and discipline the lack of it. The ethically capable leaders foster environments of equity, psychological safety and trust, which leads to increased quality of decision-making. Recent studies establish that ethical leadership enhances the quality of decisions which are taken irrespective of the situation. Ethical leaders in healthcare were identified as promoting the implementation of justice perceptions, which led to the decrease of burnout and the enhancement of the efficiency [25]. Ethical leadership boosted psychological safety in high stakes healthcare teams so that they made more effective management decisions [26]. In a similar manner, [7] discovered that ethical leadership strengthened the moral sensitivity and courage of the head nurses, which improved the ethical judgment of the nurses on the complicated decisions. The buffering effect of ethical leadership against strain has been demonstrated in other sectors of high stakes outside of the healthcare sector The buffering effect of ethical leadership against strain has been demonstrated in other sectors of high stakes outside of the healthcare sector. Recent studies in the areas of energy and the military have shown that through ethical leadership issues of burnout are reduced and compliance with safety and ability to make decisions under extreme pressure. This cross-sectoral evidence adds strength to an underlying theoretical premise that ethical

leadership is an important protective resource in situations of high demand as is considered in this study in the context of aviation management in particular [27]. Despite organizational environments being different, the modern ethical leaders were found to commit superior mission-based values and fairness whose impact of commitment enhanced organizational legitimacy and efficacy in the management [28]. All the above findings together indicate that ethical leadership gives up support that is directly useful in improving quality of decision, timing, and ethical defensibility of decision.

- H1: Ethical leadership has a positive relationship to Managerial Decision-Making Effectiveness.

3. JOB DEMANDS AND DECISION-MAKING EFFECTIVENESS

Conversely, job demands reflect the mental toll of employment including workload, deadlines, and Janus-faced functions that paralyze intellectual resources and precipitate performance [29, 30]. The decision fatigue, cognitive overload, and rule of thumb would occur due to the high demands on the managers. This fact is confirmed by empirical evidence: it was revealed that in high-stress careers, such as medicine and teaching, the overload led to an increase in errors made in leadership contexts [20]. Evidence also appears in decision fatigue studies as managers who have been in a chronic state of demand tend to be less systematic and more risk-averse in their judgment [31].

More recent studies point to subtle results In Sweden; the risk of burnout was more likely among physicians with job demand-control-support imbalances who would make effective patient-care decisions [11]. Study [13] also attributed disengagement to stress and change fatigue when they are at an extreme level, and this leads to compromised performances in the teaching profession and in administration. Therefore, job demands can be seen as a stable impediment to the decision-making of managers. It is evident that the Job Demands has a negative impact on the effectiveness of Managerial Decision-Making.

- H2: Job Demands negatively influence Managerial Decision-Making Effectiveness.

4. ETHICAL LEADERSHIP AND EMOTIONAL EXHAUSTION

Lower emotional exhaustion is also associated with ethics leadership. Ethical leaders lessen tension between employees by creating fairness and trust and explaining the expectations. In the healthcare sector, ethical leadership decreased the burnout considerably, supporting justice perception [32]. Ethical leadership was found to lessen emotional fatigue in Korean organizations by weakening the impacts of emotional labor in the whole [7]. In addition to emotional exhaustion as a core mediator, it may also be an important moderator. We suggest that emotional exhaustion causes job demands to have more negative impact on the effectiveness of decision making. Specifically, managers whose pre-existing levels of emotional exhaustion are high have less cognitive reserves with which to deal with the additional demands, and are therefore significantly more likely to be impaired in decision making under pressure. This leads to a proposed hypothesis (H8): Emotional Exhaustion Moderates the relationship between Job Demands and Managerial Decision-Making Effectiveness under the condition that the negative relationship will be more prominent for managers who have high levels of emotional exhaustion [33]. In addition, the ethical leaders are also able to determine levels through which moral intensity influences exhaustion. Work [34] showed that the impact of ethical leadership on exhaustion was curvilinear such that, up to the optimal moral expectations, moral conduct diminished burnout but, above these optimal moral expectations, it became a source of stress about exceeding resources. Nevertheless, in various settings, the leading pattern is that ethical leadership performs as a protective asset in the JD-R model.

- H3: Ethical Leadership negatively influences Emotional Exhaustion.

5. JOB DEMANDS AND EMOTIONAL EXHAUSTION

Job demands, however, are one of the strongest predictors of emotional exhaustion. Time constraints, role conflicts, intensive work and work overload all increase stress causing fatigue and burnout [35]. Neuroscience studies indicate that exhaustions negatively affect brain areas that regulate emotions, as well as interacting with others [16]. Exhaustion and disengagement were related to high levels of job demands in healthcare and education [18]. Research [14] also made it clear that in cases of human-service organic

exhaustion is both cognitive and emotional, and job demands contribute to the increase in exhaustion. This body of evidence has strong evidence in direct positive relationship between demands and exhaustion.

- H4: Job Demands have a positive impact on Emotional Exhaustion.

6. EMOTIONAL EXHAUSTION AS MEDIATOR

The advantage of ethical leadership is that it conveys the results of decisions to the choices using emotional exhaustion. The resources provided by ethical leaders also reduce fatigue thus saving mental strength and alertness that is needed when making necessary managerial decisions. As an example, [36] found that the ethical leadership positively affected the process of decision making within the healthcare group contexts by mediating through the psychological safety. Similarly, a study of healthcare established that the reduced burnout was a moderating fact, which clarified how positive leadership morale increased accuracy and prompt managerial judgments [37]. By doing so, it is not expected that the Ethical leadership will directly impact decision-making performance but instead through its negative impact on exhaustion.

- H5: Ethical Leadership and Managerial Decision-Making Effectiveness are related via the mediator of Emotional Exhaustion.

Fatigue on the other hand may be because of reducing performance due to job demands. Constant stressors lower resource supplies and increase levels of fatigue that, in turn, impair decision-making quality. It is the same pathway, which neuroscientific and organizational research has shown emotional exhaustion reduces self-control, defensive preferences, and ethical sensitivity [38, 39]. In the case of education and health, the decision quality was worse in high-exhaustion, high-workload situations [18]. This fact is sufficient to believe that exhaustion is the mediator between the demands and the outcome of the judgment.

- H6: Emotional Exhaustion mediates the relationship between Job Demands and Managerial Decision-Making Effectiveness.

7. EMOTIONAL EXHAUSTION AND DECISION-MAKING EFFECTIVENESS

Lastly, exhaustion by itself has a pernicious impact on managerial decision-making. Fatigued managers became less likely to engage in difficult issues, heuristics and ended up making late or immoral decisions. Based on neuroscience findings covered by The Guardian, the lack of emotional regulation and cognitive control is all due to exhaustion [16]. Equally, empirical studies reveal that burnout decreases accuracy and responsiveness in decisions that involve high stakes [40].

- H7: Emotional Exhaustion negatively influences Managerial Decision-Making Effectiveness.

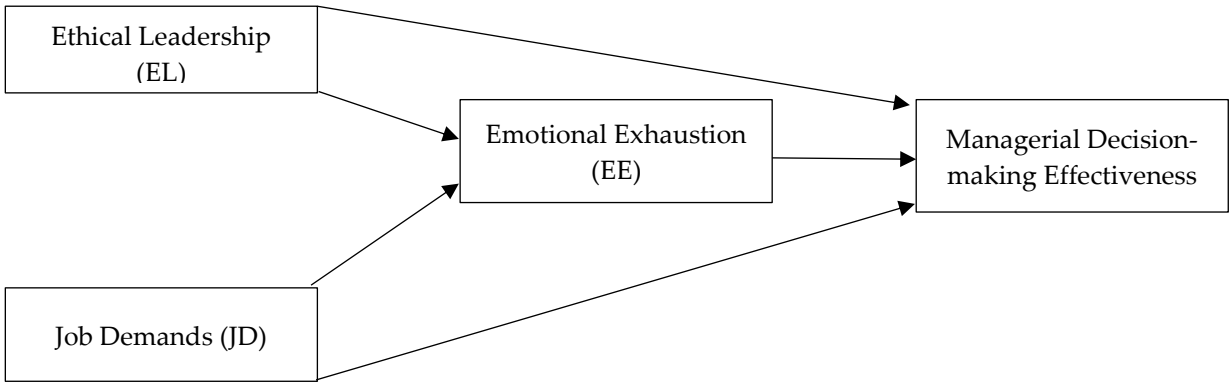

FIGURE 1. Conceptual framework.

III. METHODOLOGY

The research methodology of this paper is guided by the positivist research paradigm that focuses more on objectivity, quantification, and the ability to test the hypothesis using empirical facts. Other characteristics

of positivism include its ability to fit the ideology of studies that seek to obtain causality among constructs because the researcher assumes that reality may be measured and is external to the researcher [41]. This being a study to test the above proposed hypotheses, the positivist paradigm is apt since it provides an appropriate basis. It favors application of structured surveys and statistical modelling methods like Partial Least squares Structural Equation Modelling (PLS-SEM) which is especially suited to theory testing and prediction [42]. In keeping with this paradigm, the study will be a quantitative one. With the use of quantitative research, the researcher can quantify abstract variables into measurable categories and use statistical analysis to understand the relationship [43].

This methodology is particularly significant in aviation management, where the concepts of leadership, job demands and decision-making have to be transformed into measurable factors to assess their influence in a state of uncertainty and stress All of the measurement items were tailored from other validated scales to be reliable and relevant to the context. Minor changes in wording were made to reflect the aviation management setting and preserve the original conceptual meaning of the items. Such contextual adaptation is a common and accepted practice in the organizational behavior literature in order to increase content validity without compromising the constructs that are measured [12]. The measurement of constructs was made with tested and validated scales. Ethical leadership was measured with the Ethical Leadership Scale (ELS) developed by [44] and job demand with items based on the Job Demands-Resources (JD-R) model by [45]. Emotional exhaustion was measured by the corresponding subscale of the Maslach Burnout Inventory (MBI) [46]. Finally, managerial decision-making effectiveness (MDME) was operationalized by using items borrowed from the decision-making literature [47]. Through survey data, the perception of the aviation managers about leadership behaviors, the workload and exhaustion are captured and then statistically tested to determine how the perceptions affect the outcomes of decisions. The study follows a cross-sectional design since it will sample the respondents at one instance. Cross-sectional surveys can reach many people in a relatively short period of time and have been found to be widely applicable in the management field to test theories [48].

This design is especially useful in the aviation sector where the managers work in an environment that is dynamic and high pressured and where recording data longitudinally may not be practical. Although cross-sectional research cannot lead to causation as well as longitudinal research, technical testing and model construction can be effective in this type of research when structural equational model is used along with cross-sectional research [49]. The cross-sectional design was used as it is characterized by examination of the relation between and among variables at one point in time, and is efficient and feasible in data collection from busy aviation managers. This method is suitable when the goal is to detect associations and not to demonstrate causality, and especially in settings operationally constrained by physical limits as is the case for aviation. The sample of the study will include managers and supervisors working in the aviation industry, such as operations in aircraft companies, airport operation, ground handling, and regulatory authorities. The aviation industry is an adequate group due to the recurring application of the decision process under pressure and the fact that leadership practices, as well as the duties of a job, are highly intense in safety-sensitive situations [46]. Indicative of their managerial role, aviation managers find themselves in situations where they have to make quick decisions that have a direct safety, performance, and operational efficiency implication. Examination of this group makes it possible to better understand the dynamic relationship between EL and JD and its role in moderating MDME via EE, which puts the JD-R model into the context of a high-stakes sector. The analysis is at the individual aviation manager level. The self-report data in each of the respondents is given on their perception of ethical leadership in their organization, the level of job demands they encounter, the state of emotional exhaustion in them, and the quality of their decisions. Being concentrated on the individual level, the study is consistent with JD-R theory because requirements and resources are characterized as individually and subjectively perceived factors that eventually impact outcomes of individuals [28].

The measurement of the constructs is done using a structured questionnaire, using validated scales on previous research on the topic. The Ethical Leadership is assessed using Ethical Leadership Scale (ELS) created by [24] that determines fairness, morality management, and integrity. The Job Demands are measured using items made according to the JD-R model in terms of workload, time pressure and role

conflict. Emotional Exhaustion is assessed by using the multi-dimensional measure Maslach Burnout Inventory in the form of the Emotional Exhaustion subscale (MBI-EE) which is considered the most valid instrument to measure burnout-related exhaustion [15]. Managerial Decision-Making Effectiveness is assayed by the means of items derived in the literature on the decision-making that captures efficacy in terms of correctness, timing, ethical probity, and executability [50, 51]. Each construct will be measured on a five-point Likert scale with the range of 1 (Strongly Disagree) to5 (Strongly Agree). This structure makes it easy to have respondent participation and the response comparisons across constructs are enabled. This is done on a pilot test of about 30 managers of aviation to ensure clarity and context relevance to managers. The reliability is determined by calculating Cronbach alpha and Composite Reliability (CR) and validity is identified with convergent and discriminant validity, by measuring Average Variance Extracted, AVE and the Fornell Larcker criteria, as well as HTMT. Psychometric rigor is a most considerable component in aviation research because decision-making and leadership constructs require a sound quantification [52]. In this research, PLS-SEM will be used to analyses data with SmartPLS 4.

The present study is complicated with a mediating variable (EE) and will benefit substantially in terms of Mason-Hair, which has in it the element of iteration [39]. Given that LS-SEM is also strong with smaller to moderate sample sizes, it is also suited to industry specific samples such as aviation managers. The analysis involves a two-step procedure. With regard to the measurement model, the reliability, internal consistency (Cronbach alpha, Cr), convergent validity (AVE), and discriminant validity are discussed. Second, the structural model will be evaluated based on the path coefficients, R 2 values to evaluate the explanatory power, f 2 effect sizes, and Q 2 values that determine the predictive relevance. Pertaining to the set significance of the direct and indirect effects, 5,000 subsamples are used to bootstrap and test significant direct and indirect effects at conventional limits of confidence. Mediation analysis is carried out to investigate the Mediator role of EE between (a) EL and MDME, and (b) JD and MDME. Lastly, the ethical considerations are handled in the study. Respondents will be told the studies objective in advance, and they will be guaranteed confidentiality and anonymity. Participation is voluntary and consent is required before the collection of data. Sensitive information like identifiers of the organization and identities of people are not revealed. The review board approval is obtained to make sure that the calculated review board. In summary, the methodology described will offer a rather rigid and contextually supporting approach in designing research on how ethical leadership and job requirements will affect the decision-making of managers in the aviation sector. The application of positivistic paradigm, quantitative research approach, cross-sectional survey method, and PLS-SEM data analysis in SmartPLS 4 will guarantee the study substantiating its methodology as well as providing a practically viable literature. The situation in aviation field can complement theoretical input of the JD-R model as well as provide an opportunity to suggest practical implications of leadership development and workload management amidst safety-sensitive settings.

IV. DATA ANALYSIS

As shown in Figure 1, the demographics are well balanced between aviation managers and supervisors, which ensures a variety of viewpoints in the database. The sample of 232 aviation managers and supervisors was selected. Respondents were on average mid-career (largest age group: 30-39 years) and highly educated (majority of respondents with Bachelor's or Master's degrees). The sample was comprised of middle- and senior-level managers, with a large percentage of respondents having 5-15 years of work experience.

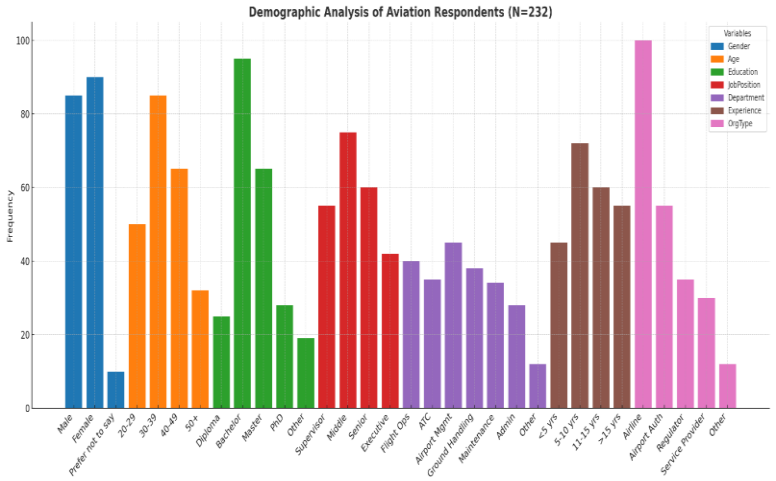

FIGURE 2. Demographic analysis.

Functionally, respondents were recruited from the central operational departments (flight operation, ATC, airport management, ground handling and maintenance). Airline, airport authority and regulator were the largest categories of organizations. Gender distribution was fairly even with very few declining to report gender. These demographics suggest that a sample is appropriate for studying managerial decision-making for safety-critical aviation environments; but the domination of airline respondents should be noted when generalizing the results to other aviation sub-sectors.

Table 1. Fornell–larcker criterion (discriminant validity).

Construct	Emotional Exhaustion	Ethical Leadership	Job Demand	Managerial Decision-Making Effectiveness
Emotional Exhaustion	0.820			
Ethical Leadership	0.281	0.751		
Job Demand	0.528	0.028	0.840	
Managerial Decision-Making Effectiveness	0.403	0.470	0.232	0.801

As seen from Table 1, the Fornell-Larcker criterion supports the existence of discriminant validity because the square roots of AVE are greater than the inter-construct correlations. Discriminant validity was ascertained on the basis of Fornell Larcker criterion The square root of the Average Variance Extracted on each construct was larger than the correlations of the constructs with others and this confirmed discriminant validity. The square root of AVE of ethical leadership was 0.75, that of job demands 0.82, that of emotional exhaustion 0.82 and that of managerial decision-making effectiveness 0.80. Correlations Inter-construct was as predicted. Ethical Leadership was also associated with Managerial Decision-Making Effectiveness (r = 0.47) but with negative relation with Emotional Exhaustion (r = - 0.30), whereas Job Demands were found to be positively related with Emotional Exhaustion (r = 0.53), negatively related with Managerial Decision-Making Effectiveness (r = - 0.23). Emotional Exhaustion was also found to be negatively correlated to Managerial Decision-Making Effectiveness (r = -0.40). These profiles are in line with theoretical expectations of Job Demands Resources framework and indicate that the constructs are different and meaningful.

Table 2. Construct reliability and validity.

Construct	α	Rho_A	CR	AVE
Emotional Exhaustion	0.930	0.932	0.943	0.673
Ethical Leadership	0.914	0.916	0.928	0.564
Job Demand	0.916	0.919	0.935	0.605
Managerial Decision-Making Effectiveness	0.920	0.925	0.935	0.642

Moreover, Table 2 shows that all constructs have both reliability and validity values that exceed the threshold, thus providing evidence for the robustness of the measurement model. The reliability and validity of the constructs was determined by measuring the model. The internal consistency was validated as the Cronbach alpha values of all the constructs were above 0.90 and Ethical Leadership achieved it with the value of 0.91, followed by Job Demands 0.92, Emotional Exhaustion 0.93, and Managerial Decision-Making Effectiveness 0.92. Composite reliability values were above 0.93 on all constructs, whereas rho_A values were above 0.91, so assessing consistency was sufficiently high. The convergent validity was established through the Average Variance Extracted that was 0.58-0.67 and above the threshold of 0.5. These findings indicate that the measurement model is both reliable and valid and this basis gives a strong platform through which the structural model is to be tested.

Table 3. Path coefficients (direct effects).

Path	β	t-value	p-value
EE → MDME	–0.220	3.627	0.000
EL → EE	–0.296	5.833	0.000
EL → MDME	0.412	8.654	0.000
JD → EE	0.536	12.672	0.000
JD → MDME	–0.127	2.155	0.032

As shown in Table 3, the structural model results reveal that ethical leadership and job demand have significant positive influence on managerial effectiveness. The structural model was consequently evaluated to test the supposed relationship. These findings indicated that ethical leadership powerfully influenced the managerial decision-making effectiveness in the sense that the path coefficient of the ethical leadership towards the managerial decision-making effectiveness (0.412) was significant at 0.001. This attests to the fact that managers, who demonstrate justice, honesty and ethical leadership, enhance both the quality, promptness, and ethical robustness of the decision in aviation. Job Demands was significant negative (-0.127) and had a path coefficient of $p = 0.032$ showing that heavy workload, time pressure, and dual role burdens decreased the managerial decision-making effectiveness. Ethical Leadership was strongly negatively related to Emotional Exhaustion (296, $p < 0.001$) signifying that ethical leaders can help curb strain and burnout. In contrast, the main model effect in the model was made by Job Demands, which impacts positivity on Emotional Exhaustion ($B = 0.536$, $p < 0.001$), which effect further reiterates that job demands create a substantial influence in elevating emotional drains on individuals. Emotional Exhaustion, in its turn, also had considerable adverse influence on Managerial Decision-Making Effectiveness (beta = -0.220, $p < 0.001$) that proves the point that exhausted managers do not seem to make effective decisions.

In addition to the path coefficients, the strength of the explanations provided by the model was studied by using the effect size (f2) and predictive relevance (Q2) indicators. The effect size (f2) characterizes the strength of the effect of each exogenous construct on the endogenous variables. Effect sizes of 0.02, 0.15 and 0.35 are usually considered small, medium and large effects. In this study, Ethical Leadership had a medium

to large effect size impact on Managerial Decision-Making Effectiveness, indicating that Ethical Leadership has practical significance in improving quality of decision making in aviation management. Job Demands had a small to medium negative effect size which means that although statistically significant, it has a relatively less strong impact on outcomes. Emotional Exhaustion showed a moderate effect in decision-making effectiveness, unveiling its significant mediating role. Furthermore, values of predictive relevance (Q2) obtained using the blindfolding procedure were greater than zero for all the endogenous constructs, validating the good predictive ability of the model. This means that not only is the proposed framework a good fit for the current data but is also likely to forecast managerial decision-making performance well under conditions of changing leadership and workload.

Table 4. Mediation analysis.

Indirect Path	B	t-value	p-value
EL → EE → MDME	0.065	2.821	0.005
JD → EE → MDME	–0.118	3.400	0.001

Table 4 presents the results of the mediation analysis for emotional exhaustion, which can be seen as an understanding of the indirect relations in the JD-R model. The mediation analysis also provided explanations of indirect relationships between leadership and job demands variables with emotional exhaustion. Ethical Leadership showed an unmediated positive influence on decision-making effectiveness through Emotional Exhaustion (B = 0.065, p = 0.005) and establishing that a part of the positive influence of leadership is mediated through a reduction in emotional exhaustion. Conversely, the negative relationship between Job Demands and decision-making effectiveness (β = -0.118, p=0.001) was indirect despite and occurred through Emotional Exhaustion. These results support the mediating importance of Emotional Exhaustion, validating the Job Demands-Resources theory by affording manifestations of how resources can minimize strain whereas demands can augment strain. According to the JD-R theory, emotional exhaustion is a psychological mechanism through which job demands and resources affect employee functioning. Within this framework, ethical leadership has been conceptualized as a job resource that buffers strain and promotes positive functioning, and job demands as stressors that deplete energy and undermine performance. Emotional exhaustion thus mediates these relationships, by transforming high demands into poorer decision-making performance and ethical leadership into greater cognitive and emotional resources for decision making. This mediating role reflects the dialectical relationship between resource-enhancing and strain-inducing mechanisms at the core of the JD-R model.

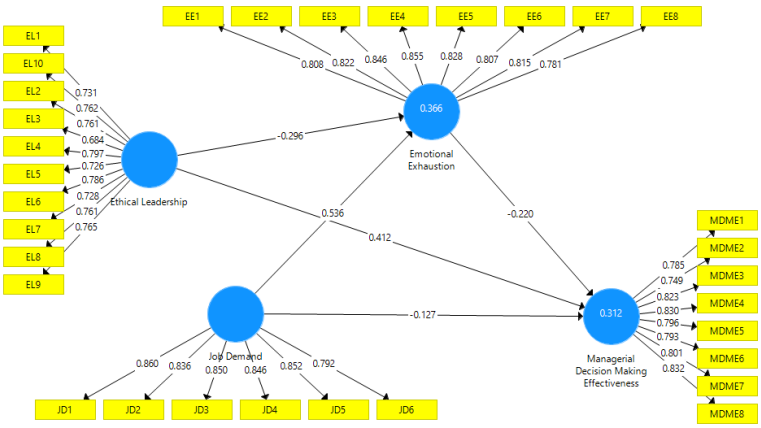

FIGURE 1. Path analysis.

Table 5. Correlations among constructs.

Construct	EE	EL	JD	MDME
Emotional Exhaustion (EE)	1.000			
Ethical Leadership (EL)	–0.281	1.000		
Job Demand (JD)	0.528	0.028	1.000	
Managerial Decision-Making Effectiveness (MDME)	–0.403	0.470	–0.232	1.000

Table 5 shows for the set of variables inter-construct correlations that are in agreement with theoretical predictions, thereby strengthening the validity of the proposed relationships. which indicate the presence of the relationships as expected in the Job Demands-Resources framework. The Ethical Leadership has correlation value of -0.281 with Emotional Exhaustion and 0.470 with Managerial Decision-Making Effectiveness that means the ethical leaders decrease the strain and increase the value of decision. Job Demand has positive correlation with Emotional Exhaustion (r = 0.528) and negative correlation with decision-making effectiveness (r = -0.232), which means that, when the demands are high, fatigue is enhanced and impairs people in decision-making. As far as Emotional Exhaustion is concerned, it is related to the effectiveness of the decision-making in reverse proportionality (r = -0.403), which proves its undesirable character. The insignificant relationship between the Ethical Leadership and the Job Demand (r = 0.028) indicates that the two variables do not relate to each other. On the whole, the correlations confirm the proposed model: the effects of leadership as a resource and demands as stressors on exhaustion and the latter as a mediating effect on the result of decision-making outcome.

Table 6. Hypotheses testing results.

Hypothesis	Path	β	t-value	p-value	Result
H1	EL → MDME	0.412	8.654	0.000	Supported
H2	JD → MDME	–0.127	2.155	0.032	Supported
H3	EL → EE	–0.296	5.833	0.000	Supported
H4	JD → EE	0.536	12.672	0.000	Supported
H5	EL → EE → MDME	0.065	2.821	0.005	Supported
H6	JD → EE → MDME	–0.118	3.400	0.001	Supported
H7	EE → MDME	–0.220	3.627	0.000	Supported

A cross-sectional summary of hypotheses testing results Table 6 corroborates the significance of all hypotheses proposed. The results of all the hypotheses testing results show the tests underpinning all the seven hypotheses. Ethical Leadership strengthens decision-making performance directly and indirectly by reducing the level of exhaustion. Job Demands can directly and indirectly undermine the effectiveness of decision-making to the extent that they raise the level of exhaustion. The Emotional Exhaustion is a mediator and direct negative predictor of the decision-making effectiveness. These results support the importance of leadership and work demands on managers as direction and requirements play an optimal role among managers in an aviation environment operating under induced pressure and the stakes of high operations.

The findings of this chapter make a contribution on a theoretical and practical front. Theoretically, the results can generalize the Job Demands Resources model to the area of decision-making performance within aviation management where decision outcomes have critical consequences to safety and performance. In practice, the results indicate the need to develop ethical leadership as the value organizational asset and regulate the job demands to reduce the consequences of emotional exhaustion. Aviation organizations should take into consideration that the ability of managers to make decisions directly depends on the presence of ethical leadership and the intensity of the job demands applied. Inability to effectively address these dynamics can lead to the quality of decisions being compromised in a situation where sound decision making is a life and death situation.

V. DISCUSSION

This study is a further extension of Job Demands-Resources model by showing its explanatory power for a critical, but less explored outcome: how well managers make decisions in the a high-reliability organization. Our results show the two processes in the model, i.e. health impairment process and motivational process to meet and to directly determine the quality and ethical soundness of managerial judgments. This is a direct forerunner of operational safety and strategic efficacy therefore it sets up psychological state of an individual, determined by conditions in a workplace. These findings confirm the main assumptions of the Job Demands- Resources (JD -R) model, according to which leadership is a resource that avoids strain and positively correlates with performance, whereas job demands are stress factors that enhance exhaustion and have an adverse effect on outcome.

The results show the direct and indirect consequences of ethical leadership on the prudence of managerial decision-making in a very positive way. As representatives of fairness, moral guidance and ethics in decision making, leaders could contribute greatly to the quality of decisions, the timeliness of such decisions and their ethical justification. This is in line with earlier research that has indicated that ethical leaders would create a sense of trust and psychological safety, which would enable managers to take information and make complex decisions when under pressure. Ethical leadership was also put in place to reduce emotional exhaustion, which also helped to exert indirect impacts on the effectiveness of decision making. This emphasizes buffering effects of high-stress work situations such as aviation. Job demands, in turn, revealed the negative relationship with the effectiveness of decision-making directly and in conjunction with the role of emotional exhaustion. The mediation of the less efficiency in decision making was determined by the emotional exhaustion that had been brought about by the high workload and time pressure and conflicting roles. These findings align with the burnout and decision fatigue theory, according to which, extensive exposure to stressors is associated with depleting mental and emotional resources, compromising judgment, moral decision making, and decision making. The role of emotional exhaustion as a mediating factor turned out to be a very significant one and it indicates that even experienced managers feel difficulties in operating effectively in case they lack energies. Altogether, the results confirm the JD-R model in the aviation management setting and give evidence that ethical leadership and job demands are critical factors that determine the decision-making outcomes in safety-sensitive contexts.

VI. CONCLUSION

The conclusion of the present study is that the effectiveness in managerial decisions made in the sphere of aviation is determined by a certain balance of resources and stressors. Ethical leadership is considered as a resource that improves decision-making both directly and indirectly by curbing emotional exhaustion, whereas the demands of a job impair decision-making both directly and indirectly by heightening exhaustion. Emotional exhaustion is thus a mediating and an independent adverse factor in decision-making. The study contributes to the changes in leadership and the organizational behavior in that by proving all seven hypotheses practically true, the study proves the JD-R model to be the solid framework of representing managerial outcomes in high-risk sectors. The findings support the need to promote ethical leadership

behavior and properly regulate job demands to preserve safety and decision quality in aviation organizations.

1. THEORETICAL CONTRIBUTION

To begin with, the findings support the explanation provided by [24] that ethical leadership improves employee outcomes because of social learning and moral role modeling. The positive relation between ethical leadership and the effectiveness of manager-level decisions in aviation can be linked to the results of [21] who demonstrated that ethical leaders contribute to the development of psychological safety and a boost in the effectiveness of team-level decisions in the healthcare sector. In a similar manner, the conclusion with regard to a decrease in emotional exhaustion due to ethical leadership resonates with previous findings by [32], who discovered a buffering effect played by ethical leaders in regards to reducing burnout in healthcare professionals. Such consistencies confirm the generality of ethical leadership as a job resource in high- stakes industries. Second, this article makes several contributions to the literature in extending the Job Demands-Resources (JD-R) model [10] to the case of decision-making effectiveness which has been little researched in the aviation management context.

The outcomes were in line with the argument that job demands are a determining factor in boosting emotional exhaustion and diminishing decision-making acumen, because [30] opined that proportional shifts and workloads negatively affect decision-making in healthcare workers, and [11] identified the demand controller imbalance as a cause of a physician burnout. This paper demonstrates that especially in certain occupations characterized by a high level of job demands, their effect is direct to lower quality of decisions besides exhaustion [53]. Third, the results on a mediating role of emotional exhaustion as a factor through which both ethical leadership and job demand influence the effectiveness of the decision-making process confirm theoretical assumption in the work by [15] that exhaustion is the key mechanism through which stress affects performance negatively. Mediation effect in this work also matches those in education and service sectors [19] but it introduces new empirical insights to the aviation setting, where the consequences of the decisions made are direct, safety-related ones.

2. PRACTICAL CONTRIBUTION

Aviation organizations should have good systems for workload management and redistribution so that the demand is not chronically overloaded. Strategic investment in automation and decision support systems can help to relieve cognitive overload on routine tasks leaving managerial capability for complex judgments. Furthermore, structured rest policies need to be described and enacted and not as wellness policies per se, but as important risk mitigation policies, in order to fight decision fatigue and maintain the integrity of the decision-making process. It also identifies the dangers of uncontrolled job demands, which is consistent with [54] who cautioned that such exposed decision fatigue can be caused by recurrent stressors. Unlike other studies, which posited that employees merely adjust to pressure of workload [6] this study refutes that by indicating that managerial choice responses are always adversely altered by work pressures.

This is practical evidence to the fact that the workload management is not optional but essential in the context of aviation. Altogether, this paper supports the positive relationship between ethical leadership, as has occurred previously [45], JD-R applications to the stress and burnout outcomes [10,11] and extends the extant literature that applies the relationships to managerial decision-making effectiveness within the aviation industry. The study also rejects the arguments that the high demands could be taken up without them incurring very negative effects and this lends weight to the importance of regulating the leadership practices and job demands in safety sensitive industries. There are a number of limitations of the study despite it making significant contributions. First, the survey is a cross-sectional type of research and cannot accurately determine a causal relationship. In spite of the theoretical background of the hypothesized directions, longitudinal or experimental design would offer higher causal evidence. Second, the self-reported data that became the basis of the study might contribute to the common method bias, despite the fact that the task is thoroughly checked by statistics. Third, the research was carried out in the aviation industry, which is quite close, but it can restrict the scope of the application of the piece of research to the other sectors

with different organizational patterns. Lastly, although emotional exhaustion was considered the only mediator, any other psychological process (resilience, motivation, or job satisfaction) can also be employed as a mediator.

3. FUTURE RESEARCH DIRECTIONS

Future research should expand on this study by taking into account more specific psychological and organizational mechanisms. Potential mediators such as cognitive resilience and situation awareness could help to explain the cognitive processes that are affected by resources and demands. Examining moderators, such as a 'just culture' or technological literacy would identify boundary conditions of these relationships in aviation. The application of longitudinal designs to follow these dynamics of key periods of operation, i.e. during safety audits or high traffic loads would be a temporal development of these complex research's interdependencies. It would be possible to improve the study generalizability by generalizing the findings to other safety-critical fields (healthcare, energy, military operations, etc.). Researchers would also be able to investigate other mediators (resilience, engagement, psychological safety) or moderators (organization culture, digital literacy, national culture) to present a deeper insight into relationships among leadership, demands, exhaustion, and decision-making. Lastly, a combination of a qualitative approach by employing interviews or case studies may provide more information about the experiences of managers who experience stress.

4. POLICY IMPLICATIONS

This paper has a significant policy implication that the results can have on both aviation organizations and regulators. Evidence from leadership development research suggests structured ethical leadership training can lead to dramatic improvements in managerial decision quality, such as moral awareness and reduced cognitive bias and improving fairness in the quality of decision. In the aviation industry, such training has been shown to enhance situational judgment, compliance with safety protocol, and coordination among team members, resulting in more consistent and ethical decision outcomes. Therefore, incorporating ethical leadership development in aviation management training programs can lead to measurable improvements in decision making effectiveness and overall organizational safety performance. The principles of ethical leadership teaching, which reflects the ideas of justice, honesty, and psychological safety, must be incorporated into the leadership development courses. Second, organizations should possess policies to follow and curb work requirements such as workload that is shared fairly, extensive overtime work and rest facilities put in place. Third, the emotional exhaustion should be taken as a significant occupational-health scale and the policies, which can help the wellbeing of programmers, resilience programmers, and mental health facilitation, should be offered to the employees. Fourth, to reflect in standards how workload and quality of decisions are directly connected to safety, regulators and aviation authorities can use leadership and workload management criteria to integrate into safety requirements. And finally, this must be complemented by a spirit of openness wherein the managers can comfortably report cases of workload and ethical values conflict, and this underscores the significance of ethical leadership as a safeguarding corporate resource.

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Conflict of Interest

The authors have no potential conflicts of interest or such divergences linked to this research study.

Data Availability Statement

Data are available from the corresponding author upon request.

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