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Balancing Demands and Resources: Exploring the Impact of Workload, Work-Life Balance and Technological Adaptation on Job Satisfaction Among Malaysian Academics

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Abstract: Based on the Job Demands--Resources (JD-R) model, this study examines the inter-relationships of workload, work-life balance, technological adaptation, and job satisfaction among academic staff members in Malaysian universities. Within this context, workload is considered a job demand that may impose pressure on individual well-being and reduce satisfaction, whereas work-life balance is regarded as a useful job resource and mediating variable, allowing individuals to balance conflicting work and non-work demands. Technological adaptation as the ability and willingness of academic staff to work with digital tools is conceptualized as a personal resource and a moderator that can strengthen the relationship between work-life balance and job satisfaction. The research design is a quantitative one, where a self-completion online questionnaire would be sent via stratified random sampling to achieve a wide representation in terms of the type of universities and field of study. Regression and moderated mediation will be applied to analyze data. This research helps to advance the theoretical understanding of the JD-R model by investigating the negative influence of high workload on job satisfaction, the mediating role of work-life balance and the enhancing effects of technological adaptation on the relationship between work-life balance and job satisfaction. It is also an invaluable resource to institutions of higher learning interested in how they can manage academic workload, enhance digital competency and streamline staff well-being in institutions that are increasingly becoming technology-oriented.

Keywords: *Workload, Work-life Balance, Technological Adaptation, Job Satisfaction, Job Demands–Resources (JD-R) Model*

1. Introduction and Background

Educational institutions are increasingly concerned about the quality of education delivered to their students, which has led to greater effort and dedication in improving student learning through the development of various policies and programs that promote academic achievement. Enhanced academic achievement may indicate increased competency, which students require for future career planning and development.

The competitive nature of the education sector demands that educators be creative in nurturing future leaders of the nation. Academic workload is directly linked with the complex roles of teachers, researchers, administrators, leaders, and professionals. Teaching, research, and community service are increasing with pressure to enhance the quality of educators. Workload The standard workload of Malaysian public universities includes teaching, supervision, research, consultation, publications, professional development, community service, student consultation, and administration. In alignment with the Ministry of Education Malaysia (MOE), the objective is to increase the graduate employability rate from 75% to over 80% by 2025, necessitating the reorganization of higher education institutions to meet this goal.

Ultimately, the performance indicators established for academics contribute to work-related stress, exacerbating burnout due to incessant tasks. Academics often take work home and spend long hours completing assignments before deadlines (Norazlinda, 2024; Utusan Malaysia, 2025). Academicians must devise strategies to manage work-related stress; otherwise, it may result in depression or burnout.

The control of emotions in managing job activities considerably influences academic performance; hence, achieving work–life balance is essential. This article highlights the importance of addressing task-related challenges in supporting academics to achieve such a balance. At the same time, academics must prioritize their personal lives to maintain mental well-being. They cannot afford to neglect their private lives merely to meet

imposed performance standards.

2. Literature Review

Workload

Workload encompasses the quantity and intricacy of work that a single worker takes on over a particular duration of time. Generally, it consists of the amount of work, its level of difficulty, time constraints, as well as cognitive and emotional pressures (Çelik & Köse, 2022). Excessive workload could cause physical and psychological exhaustion, temporal conflicts and role strain, which consequently could affect the work output, contentment and the general well-being of the employees (Jermsittiparsert, Petchchedchoo, Kumsuprom, & Panmanee, 2021)

According to Malaysia's Employment Act of 1955, the standard working hours for employees are 45 hours per week, with no more than 8 hours per day. Any hours worked beyond this are considered overtime and must be compensated at least 1.5 times the regular rate (Hassan, Saripan, Putera, Abdullah, & Mohamad, 2023). While the law establishes standard working hours, in practice, many employees may work beyond this standard, particularly in certain industries and positions.

For academic staff in Malaysia, workloads are generally heavy, and tasks are highly complex, leaving many scholars feeling overwhelmed in their daily work. Research indicates that academic staff at Sultan Idris Education University (UPSI) in Malaysia spend an average of 20.9 hours per week on teaching and student guidance, accounting for 50% of the standard 40-hour workweek (Razalli, Kamaruddin, Tek, Teck, & Daud, 2021). Among these, academic staff in the Faculty of Management and Economics have the highest teaching workload, averaging 27.1 hours per week, representing a staggering 67.8% of their total working hours (Razalli, Kamaruddin, Tek, Teck, & Daud, 2021).

However, teaching is not their sole responsibility. In addition to lecturing and guiding students, academic staff must also undertake tasks such as applying for and executing research projects, publishing high-quality academic papers, supervising undergraduate and postgraduate research projects, participating in curriculum development, undergoing teaching evaluations both within and outside the university, holding various administrative positions within the university, and actively engaging in community service and industry-academia collaboration (Reymert & Thune, 2023). This multitasking work model significantly increases time pressure and role conflicts, thereby affecting their job satisfaction and mental and physical health.

Work-Life Balance

To become exemplary employees by fulfilling organizational objectives, prioritizing tasks, and demonstrating high achievement, individuals must devise strategies. Assuming the dual roles of employee and family member positions an individual in challenging situations. The challenges are overwhelming the population. Previous research indicates that becoming an ideal employee is often neither essential nor desirable, as most employees struggle to suppress other aspects of life to maintain a singular concentration on work. They struggle significantly with managing other aspects of their lives, experiencing severe and dysfunctional consequences (Reid & Ramarajan, 2016). Consequently, inadequate life management adversely affects job satisfaction, resulting in diminished performance and increased turnover intentions (Mohamad et al., 2024; Noor, 2011).

Therefore role of academics in the process of knowledge transfer requires them to motivate, provoking students to challenge their ideas by encouraging critical thinking. The diversity of the area imposes intellectual expression to produce vibrant and dynamic outcomes. The advancement of learning environments through technology adaptation engages critical reflection and justification of the academic view. The students can extend their learning beyond factual concepts through the evaluation of their judgments. Transitioning from traditional learning methods to discussion-based approaches necessitates that academics adequately prepare, which requires additional time to furnish students with pertinent information. Academics often find themselves bringing job responsibilities home, which can contribute to role conflicts and result in an imbalance in managing work-life responsibilities.

Consequently, balancing work responsibilities and personal lives contributes to heightened stress and

discontent (Lwin et al., 2024). Maintaining job performance and achieving job satisfaction requires an individual to be able to properly manage their time in order to accomplish both their professional obligations and their personal responsibilities. This represents the idea of work-life balance, which is achieved when an individual is able to successfully manage the responsibilities that make up their life (Diego-Medrano & Ramos Salazar, 2021; Lwin et al., 2024; Yusoff et al., 2024).

Job Satisfaction

Job satisfaction is an emotional experience in fulfilling a job responsibility; it has a positive impact on employee behavior at the workplace. Various antecedents lead to job satisfaction such as working conditions, leadership, employee empowerment, compensation, job security, job freedom, flexibility, recognition and appreciation (Smetanová, 2024). As an academician with a variety of workloads, job satisfaction leads to greater dedication, productivity, allegiance, and involvement, while decreasing employee attrition, complaints, lateness, and absenteeism(Sinniah et al., 2022; Tafese Keltu, 2024).

The teaching load for Malaysian academics is structured on a semester basis, with a minimum requirement of 13 to 18 credit hours. An increase in teaching hours to 21 credit hours or beyond per semester may result in diminished efficiency and performance, potentially leading to job dissatisfaction. Meanwhile, the work environment is beyond the scope of the workplace; a healthy work environment is the possibilities of academics on self-development and career growth, which is also inclusive of employees' appreciation and recognition of their accomplishments (Smetanová, 2024). A healthy working environment, where individuals feel valued and respected both as employees and as private individuals (Lee et al., 2018). Satisfied employees exhibit greater commitment to task completion, perceiving their responsibilities as challenges that contribute to their sense of fulfilment in life. Discuss the leadership determinations leading to job satisfaction, the university management's primary motivational variables greatly affect employee empowerment, allowing academics in decision-making, curriculum creation, and community involvement (Sakarji et al., 2022).

The well-being of the academic staff and professional sustainability are concerns in which healthy work-life balance plays a role. The concept of flexible working hours which is widely applied in higher learning institutions enables the academics to manage their time freely whereby they can have enough time to carry out the preparation of teaching duties, research duties as well as the administrative duties. Such independence raises productivity levels besides limiting stress linked to strict work schedules (Sinniah et al., 2022). At the same time, the academic profession is the one that by itself stimulates life-long learning and self-development via participating in conferences, skill development courses, and research collaboration. All these activities contribute to present job performance and future career development, which brings some feeling of personal and professional satisfaction.

Furthermore, having the institutional support, in particular, academic leadership is rather essential to strengthen the work-life balance. In case academic leaders create a favorable environment, i.e., via participatory decision-making, balanced workload, and appreciation of the work effort, the faculty members will have a higher level of job satisfaction and a lower level of occupational stress. It is this enabling climate that allows the academics to take independent decisions and shape their work in a way that is consistent with both personal and professional aspirations.

Notably, the perceived work-life balance satisfaction has a close connection to organizational commitment and retention. When academics believe that their institution values and supports their necessity to have balance, as Noor (2011) points out, the more likely they are to want to stay in their posts. On the other hand, faculty turnover has been demonstrated to be one of the many effects of poor work-life integration. Thus, to minimize vertical cohesion and maximize horizontal stability, the atmosphere should be created that upholds the importance of personal boundaries but allows professional development to occur..

Technology Adaptation

Revolutionary technology in education compels academics to improve their technological competencies and adapt to the evolving learning environment. Traditional pedagogical methods, such as classroom lectures and textbooks, are nearly obsolete; the current generation of learners wants amusement, leisure, flexibility, involvement (Abdul Bujang et al., 2020), and applicable information for future use. Technological

advancements in education have heightened learners' desire to acquire knowledge. The Education 4.0 program has revamped the Malaysian higher education system (Ministry of Education Malaysia, 2015).

The progression of Technology 4.0 in education includes computer-based assessments, e-learning, learning management systems, gamification, and artificial intelligence (AI) (Hajar Halili, 2019). Computer-based tests offer immediate feedback by tailoring the examination to the students, while e-learning tools enable educators to present educational material in a flexible and accessible manner. Moreover, a learning management system serves as a comprehensive tool for monitoring and administering training content. Additionally, gamification enhances the learning experience by including game aspects, while artificial intelligence further increases engagement in the educational process. Consequently, the academician must be proficient in utilizing technology to engage students' interests effectively.

Integrating technology in higher education needs to be closely matched with the proper instructional practices to be successful. Not the existence of digital tools, but the existence of the strategic and pedagogically sensible application of these tools improves learning outcomes. That requires the instructional designers, educational technologists as well as the subject matter experts to work closely to come up with effective and engaging instructional materials (Khamis et al., 2024). This kind of collaboration is important to make sure that technological tools are not used in isolation but are meaningfully integrated into the curriculum to facilitate deep learning.

The willingness of the academic staff to embrace and use technology in their work is also important. This involves not just technical ability, but readiness to modify teaching plans and evaluation practices to match digital contexts. Scholars are also required to have digital literacy and pedagogical flexibility to be able to handle the complications of an online and blended learning environment. Yet, the barriers still exist, e.g., lack of training or reluctance to adopt changes, and the matter of ensuring academic integrity in online environments, which may hamper the successful implementation of online learning platforms.

Even though those are the obstacles, online learning environments have some exceptional benefits, such as time and place flexibility, more significant student autonomy due to self-regulated and self-directed learning, and novel forms of interaction and collaboration. Technology, when holistically incorporated in teaching, research, and community service, can help simplify academic processes and make them more productive. In its turn, this has a positive effect on the work-life balance, as academics will be able to handle their tasks more effectively and participate in the ongoing professional development in their own time. Thus, establishing digital preparedness and pedagogical creativity amongst the faculty is central to the optimal utilization of the educational technology and promotes academic health.

Evaluating the Impact of Workload on Job Satisfaction

Moderate workloads can have positive effects. For highly motivated employees, challenging tasks can stimulate work enthusiasm, enhance their sense of accomplishment, and thereby increase job satisfaction (Swedana, 2023). At the same time, moderate workloads may also be perceived by employees as a sign that they are 'needed' or 'valued,' thereby enhancing their sense of belonging and professional identity, and improving overall satisfaction (Guo & Ayoun, 2024).

Intensive work activities, however, are often linked to physical exhaustion as well as mental pressure, which combine to destroy job satisfaction among employees. Employees are prone to work-life imbalance when the workload is extreme, that is, when responsibilities are high, and time limits are strict. Such an imbalance is likely to be expressed in the increased family tension, lack of personal time, and general deterioration in psychological health (Kundu, Tuteja, & Chahar, 2022). To add to this problem, high workloads are normally coupled with lower levels of control and autonomy under which the employees have little control over how, when and what they work on. Due to this, they tend to lack intrinsic motivation and the feeling of accomplishment most of the time (Msuya & Kumar, 2022).

These issues are acute, especially in the academic profession where work nature is multidimensional in itself. Academic employees are supposed to carry out several functions at the same time: giving lectures, doing research, advising students, conducting administrative duties and serving the institution. This version of

perpetual switching between these roles is cognitively taxing and in many cases, overloading. In the long term, this continuous multitasking may result in permanent stress, emotional burnout, and a sense of uncontrollability that will eventually damage the sense of accomplishment, professional autonomy, and well-being of academics. As a result, the mentioned pressures severely undermine the overall job satisfaction and burnout and disengagement risks (Marsh, Vallejos, & Spence, 2022).

A number of empirical studies have shown a significant negative correlation between workload and job satisfaction, particularly in the context of higher education. Increased lecturing, administrative duties, and research demands often lead to greater stress and lower satisfaction among academic employees (Winefield et al., 2003; Houston et al., 2006). These findings indicate that there is a motivational imbalance where, when job demands become excessive, the ability to manage workload, work-life integration, and satisfaction decreases significantly. Regardless of this prevailing theory, it is critical to point out that there is a gap in research concerning the relationship between workload and job satisfaction, as there are conflicting findings. Several studies documenting weak or absent relationships cited differences in the context of the institution, coping strategies employed by individuals, and available resources as contributing factors (Kinman & Wray, 2013; Barkhuizen & Rothmann, 2008). Such contradictory findings reveal a need for further empirical research in relation to mediators and moderators like work-life balance or the integration of technology in reporting, in order to clarify the complex interplay of workload and satisfaction in academic contexts.

Some studies have not found a direct impact between the two (Ekowati, Supriyanto, Fatmawati, Mukaffi, & Setiani, 2021), while others have reported either positive or negative correlations (Wahyudi et al., 2021). Tentama et al. (2019) found that work stress and workload significantly influence job satisfaction, jointly explaining 39.9% of the variance in satisfaction. Additionally, a study by Jalal and Zaheer (2017) found that workload positively influences both job satisfaction and performance—an unexpected conclusion.

Furthermore, some studies have suggested that the work environment may mediate the relationship between workload and job satisfaction (Ekowati et al., 2021). Therefore, to manage employee workload more effectively and enhance satisfaction, scholars recommend creating a positive work environment (Ekowati et al., 2021) and using information systems to reduce barriers to data access and improve work efficiency (Wahyudi et al., 2021). In summary, the relationship between workload and job satisfaction is complex, influenced by both individual characteristics and the organizational environment. Therefore, this study proposed that:
H1: There is a significant relationship between workload and job satisfaction.

Evaluating the Impact of Work-life balance on Job satisfaction
Work-life balance refers to a state of harmonious coordination between an individual's work and personal roles. A high level of work-life balance means that employees can allocate their time and energy reasonably (Bulger, 2024), ensuring that work does not interfere with personal life, while personal matters also do not adversely affect work. A good work-life balance helps reduce employee stress, thereby enhancing their job satisfaction. When employees can achieve a balance between work, family, and personal life, they often demonstrate more positive work attitudes and report higher levels of satisfaction (Aruldoss, Berube Kowalski, Travis, & Parayitam, 2022). Additionally, most employees generally believe that organizations that prioritize work-life balance for employees tend to demonstrate greater humanistic concern, thereby strengthening employees' identification with their roles and the organization (Alzadjali & Ahmad, 2024).

Extensive research involving empirical research has continuously shown a positive correlation between work-life balance and job satisfaction in most professional environments. It has been repeatedly demonstrated that workers who subjectively experience a more adequate balance between their professional and personal lives declare greater job satisfaction (Fayyazi & Aslani, 2015; Pratama & Srimulyani, 2022). Nevertheless, not everybody is able to establish and sustain a work-life balance. Part of the employees, especially those working in high-intensity working environment that entails meeting short deadlines and large workloads, fail to achieve a balance between work and family demands. Such an imbalance may be a cause of high levels of stress, poor performance at work, and decreased overall satisfaction (Lupu & Liu, 2025).

Moreover, the correlation between the work-life balance and job satisfaction could be moderated by the impact of personal demographic variables that can shape the perceptions of individuals and their ways to balance the

relationship between their professional and personal lives. As an example, age, tenure in the organization, and education level have been revealed to influence how employees perceive and react to work-life balance practices (Soomro, Breitenecker, & Shah, 2018). These demographic variations imply that although work-life balance has a largely positive effect on job satisfaction, it might not have the same effect on all groups of employees. Work-life balance might be more satisfying to some people than others, or it may depend on the life stage or career priorities. Finally, even though contextual and person-related factors can regulate its intensity, the work-life balance always proves to be an essential predictor of job satisfaction in employees. In that regard this research hypothesizes that:
H2: There is a significant relationship between work-life balance and job satisfaction.

Evaluating the Impact of Workload on Work-life Balance
High-intensity workloads often encroach on employees' time and energy, hindering their ability to effectively manage personal affairs and thereby disrupting the balance between work and life (Ruby et al., 2023). Such workloads typically manifest as heavy task loads, tight deadlines, frequent overtime, and high stress associated with job roles. This state requires employees to maintain high efficiency for extended periods, often at the expense of personal time, leading to significant pressure in areas such as family responsibilities, health management, and social activities (Rajan, 2021). This, in turn, impacts their mental health, emotional stability, and overall job satisfaction.

Additionally, excessive workloads can lead to sustained psychological stress, causing employees to fall into a 'work-dominated' state where personal life is marginalized and passively subordinated to work-related matters (McAllister et al., 2025). Long-term imbalance not only reduces employees' satisfaction with life but also weakens their positive emotions toward work, further disrupting the coordination between work and life. This is especially true when employees need to switch frequently between multiple social roles (e.g., employee, parent, spouse), as high workloads exacerbate time conflicts and role conflicts, thereby intensifying the tension between work and life (Ugwu et al., 2024).

Empirical evidence tends to support this perspective. In their study examining financial workers in Makati City, Nogoy and Ijar (2020) noted that greater workloads considerably affect an individual's work-life balance, frequently resulting in the necessity to work extra hours. Sari et al. (2017) also found a significant negative correlation between workloads and work–life balance in a study of government auditors in Indonesia. Kartika and Riana (2024) further confirmed this in a survey of a water utility company in Denpasar, where employees' workloads were found to have a negative impact on their work–life balance.

These findings emphasize that the notion of managing workloads is critical in improving work–life balance and mitigating stress among employees. By adopting suitable strategies which may include flexible work practices, realistic performance expectations and favorable organizational cultures, organizations are able to develop a supporting environment which favors the well-being of the employees and the performance outcomes of organizations. These policies can assist in managing the physical workload but also allow contributing to mental health and, in effect, creating a sustainable and productive workforce (Sari et al., 2017; Nogoy & Ijar, 2020).

On the other hand, extreme workloads together with inadequately controlled workloads are potential origins of occupational stress and a main cause of work–life imbalance. Otherwise, due to the lack of organized policies and regulatory measures, the long-term effect of high workloads may be emotional exhaustion, lower job satisfaction, and turnover intentions. Such negative consequences not only affect personal health and morale but also affect the effectiveness and survival of organizations. Thus, in recognition of the adverse outcomes that excess workload has on the welfare of employees and the sustenance of organizations, the study generates the following hypothesis:
H3: There is a significant relationship between workload and work-life balance.

Workload, Work-life balance and Job satisfaction
In organizational behavior research, workload is typically regarded as a primary stressor (i.e., work demands) (Kubicek et al., 2023). When employees face heavy workloads and intense work rhythms, they often experience physical and mental exhaustion, energy depletion, and time-resource conflicts over a certain period of time

(Pensar & Rousi, 2023). This condition disrupts the harmony between the work life and personal life of the employees resulting in a lack of work-life balance. Lack of work-life balance also catalyzes work burnout, helplessness, family tension, and other negative effects and reactions to the organization, hence, lowering the level of job satisfaction in employees (Irfan et al., 2023).

In this mechanism, work–life balance plays the role of an intermediary variable. In other words, workloads may not directly influence job satisfaction in all cases but rather indirectly impact satisfaction through employees' capacity to maintain an effective work–life balance (Permadi et al., 2023). This may be because employees' subjective perceptions of workload vary from person to person and if they receive adequate resource support or maintain a good work–life balance, their satisfaction levels may remain stable.

It has only been within the past few years, though, that scholars have started to formally investigate the mediating value of work–life balance in the connection between workload and job contentment. There is also an emerging empirical support indicating that the workload exerts a statistically significant, negative influence on work-life balance because, in many cases, extensive work demand may result in the fact that employees have an inadequate amount of time and energy to fulfil their personal duties (Haar et al., 2014). Such an imbalance, in its turn, is related to lower job satisfaction, which makes work balance a leading tool by which workload impacts employee well-being. Regardless of these insights, it is necessary to examine this mediating pathway in various professional settings and examine what factors may buffer the negative impact of high workload (Aloulou et al.,2023; Fuadiputra and Novianti, 2021), whereas work-life balance positively affects job satisfaction of the employees (Muzti and Mardiana, 2024). However, existing research findings are inconsistent regarding whether workload directly influences job satisfaction: some studies have found a positive correlation between the two (Inegbedion et al., 2020), while others have not identified a significant direct effect (Fuadiputra & Novianti, 2021).

In addition to this, the work-life balance has been found to mediate in a number of other relations. Indicatively, Aloulou et al. (2023) demonstrated that work-life balance mediates the effects of core self-evaluation, perceived organizational support, and job satisfaction to some degree. Further, the research also established that, work-life balance fully mediates the effects of life satisfaction through job satisfaction. On the whole, the results give a better idea of the complex interrelation between the workload, work-life balance and job satisfaction and highlight the significance of workload management and the promotion of the work-life balance from an organizational point of view. Based on the above discussion, this study proposes:
H4: Work-life balance mediates the relationship between workload and job satisfaction.

Technology Adaptation as a Moderator

In the context of accelerating digitalization, technological adaptability is regarded as an important personal resource for employees in responding to the demands of multiple roles (work and life). Technological adaptability refers to employees' ability and willingness to accept, master, and actively apply new technologies (such as remote working platforms, project collaboration tools, and enterprise instant messaging systems) (Kumi, Osei, Asumah, & Yeboah, 2024). Specifically, technological adaptability enhances the flexibility of the boundaries between work and life: on the one hand, technological tools enable employees to complete tasks outside of formal working hours, enhancing their sense of control over time and reducing time-based conflicts (Zamani & Spanaki, 2023); on the other hand, employees with higher technological adaptability can optimize workflows and communication efficiency through digital tools (Sun & Jung, 2024), thereby reducing overtime and work backlogs and freeing up more time and energy for personal life.

Consequently, the likelihood that work-life balance positively influences job satisfaction is high when the employees have a high degree of technological adaptability. These people are in a better position to manage their work and family life, or put it another way, to use technology to save time and be effective and productive in various spheres of life. Such adaptive ability is frequently transformed into the increased feeling of organizational support and personal effectiveness and hence confidence in job Satisfaction (Duan, Deng, & Wibowo, 2023). Conversely, low technological adaptability could result in frustration, inefficiency, and lack of confidence in interaction with digital tools in employees with low technological adaptability. They can experience a higher perceived strain and lower job satisfaction even in the case of the objective conditions of work and life balance because of technological obstacles (Nam, 2014; Marques & Berry, 2021).

The current literature agrees on the importance of work–life balance in shaping various organizational outcomes. Remarkably, it is linked positively with job satisfaction and negatively with work-related stress and turnover intentions (Aruldoss et al., 2021; Fayyazi & Aslani, 2015). Such relationships are not, however, homogeneous and they can be determined by contextual or individual-level variables, such as the character of the work environment, training availability and technological adequacy. More specifically, technological adaptation behavior is a major moderator in the connection involving technology use and work-related outcomes (Bala & Venkatesh, 2015). Such employee behavior is determined by their employee appraisal of new technologies as enablers or threats, depending on their perceived employee involvement and confidence towards the adoption of such tools. Considering the foregoing, the hypothesis of the study is as follows:
H5: Technology adaptation moderates the relationship between work-life balance and job satisfaction.

Job Demands–Resources (JD-R)
One of the fundamental theoretical models extensively applied in industrial research regarding work stress and employee well-being is the Job Demands--Resources Model (JD-R Model) suggested by Bakker and Demerouti (2007). This model argues that there are two types of factors that affect work environments. First, job demands refer to factors that consume an individual's physical and mental resources during work, such as workload, time pressure, and task complexity (Demerouti & Bakker, 2023). The second category, job resources, is those assets that enable an employee to achieve work objectives, mitigate the adverse impact of work demands, assist in personal development, or self-balance, social support, and autonomy at work (Albrecht, Green & Marty, 2021).

The JD-R model emphasizes that high job demands combined with insufficient job resources increase the likelihood of negative outcomes such as reduced job satisfaction, occupational burnout, and diminished performance (Demerouti & Bakker, 2023). Conversely, adequate resources can buffer stress induced by job demands and promote positive work outcomes (Bakker & De Vries, 2021).

Based on the JD-R model's theoretical perspective, this study conceptualizes workload as the representative indicator of job demands. Workload typically manifests as a high task volume, tight deadlines, and task complexity, which are common high-consumption factors (Vinícius, Rodrigues, Torquato & Silva, 2022). Prolonged exposure to high-intensity workload can deplete employees' psychological and time resources, exacerbate role conflict and fatigue, and ultimately reduce job satisfaction (Zhang, Dai, Chen, Gu & Zhao, 2025).

Second, current research conceptualizes work–life balance as a job resource, as well as a mediating factor.. As a critical resource, a strong work–life balance helps alleviate work stress and improve employees' overall well-being. Work–life balance mediates the relationship between workload and job satisfaction: high workload impairs employees' work–life balance, whereas improvements in balance can effectively buffer its adverse effects, thereby enhancing job satisfaction (Ugwu, Nwali, Onyishi & Okafor, 2024).

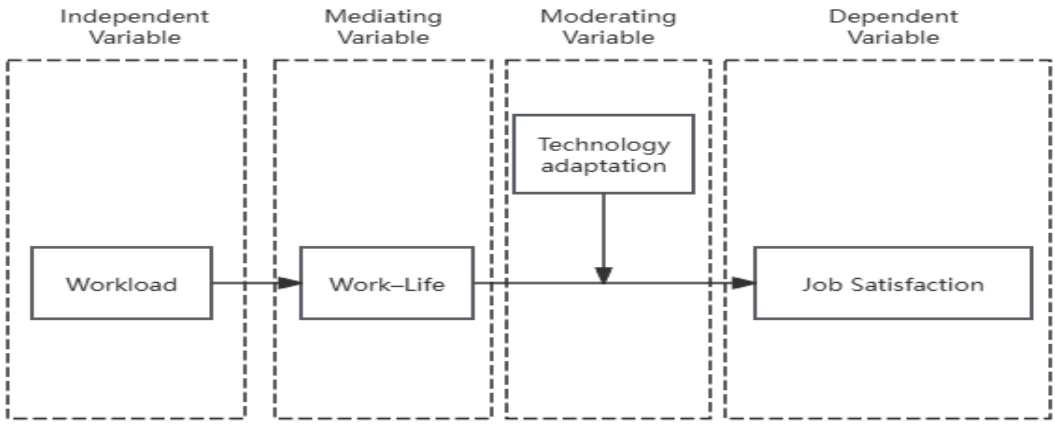
Additionally, this study incorporates technological adaptation as both a personal resource and a moderating variable within the model. In the JD-R framework, personal resources are believed to enhance the positive impact of job resources on work-related outcomes (Koroglu & Ozmen, 2022). Accordingly, technological adaptability is regarded as a moderator that influences the effect of work–life balance on job satisfaction. When employees demonstrate high technological adaptability, the positive effect of work–life balance on job satisfaction becomes more pronounced; conversely, this effect may diminish when adaptability is low.

Finally, job satisfaction, as a typical positive work outcome in the JD-R model, is shaped by the interaction of job demands and resources. When employees are equipped with sufficient resources to manage their job demands effectively, their satisfaction and organizational commitment tend to be higher (Koroglu & Ozmen, 2022).

Overall, the present study uses the JD-R model as a theoretical basis to develop a research framework that allows combining job demands, job resources, and personal resources and discloses the mechanisms that underlie the connections between workload, work-life balance, technological adaptation, and job satisfaction. This theoretical model not only deepens the understanding of key factors affecting job satisfaction among university faculty and staff but also provides practical insights for organizations to optimize resource allocation,

alleviate excessive workload, and enhance employee well-being. The conceptual framework is shown in Figure 1.

Figure 1: Conceptual Framework



3. Research Methodology

To test the stated hypotheses, the proposed study will use a quantitative research design. The population of interest includes academic personnel in the private and public Universities around Malaysia. The primary data collection instrument will be a self-administered questionnaire, which allows respondents to complete the questions independently. This approach helps to eliminate potential interviewer bias and ensures consistency in the responses.

To make the sample representative and the findings more generalized, this research will consider using a probability sampling method. In particular, a stratified random sample will be used whereby the necessary representation of subgroups in the academic population will be achieved. The reason is that all members of the population will be known to have equal probability of being selected and this fact makes the external validity of the study strong. The stratification criteria will consist of important demographic attributes, which include type of university (public or private), academic rank or years of service, and faculty/department affiliation, to make meaningful comparisons among various strata or segments of academic staff in Malaysian higher educational institutions.

The data collection tool would be a structured questionnaire, and demographic items and the items to measure the core variables of interest would be based on existing and validated scales in the literature. Before the questionnaire is deployed fully, a pilot test will be carried out using a small group of academic staff to test the clarity, reliability and internal consistency of questions in the questionnaire. The pilot feedback will be taken into account to clarify any vague or Vague items.

The completed questionnaire will be sent out electronically, via university mailing lists, professional academic networks, and appropriate social media platforms (e.g., WhatsApp or Telegram groups popular among Malaysian academics). The questionnaire will also contain an informed consent form that will explain the objective of the study, the voluntary basis of the study, the assurance that the data will be treated in a confidential manner, and the freedom of the respondents to withdraw at any point without repercussion.

4. Managerial Implications and Recommendations

It is presumed that the outcome of the ongoing study would bear important practical inferences for the administrators and policymakers of the university sector in Malaysia who are obliged to uplift the magnitude of job satisfaction among the academic staff. On the one hand, the revealed adverse effect of work overload on job satisfaction indicates that higher education institutions should closely review and streamline the

assignments of academic duties. There should be a just and open distribution of teaching, research and administrative responsibilities to avoid professional burnout due to role overload and frequent multitasking. Greater equality and sustainability in working practices could be enabled by the adoption of clear workload policies, regular task reviews, and feedback mechanisms that are inclusive.

Second, because of the mediating value of work-life balance amid workload and job satisfaction, universities ought to employ initiatives that actively incorporate the well-being of the staff. This may involve health promotion programs, work-flex programs, mental health services and programs that assist employees in balancing work demands with personal and family demands. Institutional support of work-life integration should be high to provide additional satisfaction and prolonged involvement.

Third, technological adaptability provides a moderating effect, which explains the need to develop digital competency as a strategic resource amongst the academic staff. The institutions ought to invest in continuous professional development programs in digital literacy, in addition to providing sufficient infrastructure support. Job design within the context of technology-integrated teaching, research, and service activities may be facilitated through the application of intuitive digital systems, virtual instructional technology training, and electronic task management platforms. The initiatives are expected to improve technological frustration and overall job satisfaction.

Finally, the human resource strategies ought to recognize the demographic differences of academic staff. Academic rank, career stage, type of employment (e.g., tenured versus contract), and disciplinary differences are some of the factors that may modify the way staff members experience and react to work-related demands and resources. The positive impact of institutional support can be enhanced with different interventions that consider the unique needs of several subgroups and promote inclusive outcomes of job satisfaction. Together, the measures have the capability to empower organizational commitment, decrease turnover intentions, and increase institutional performance in the long term.

5. Conclusion

The academic employees in Malaysian universities are the target of the proposed research. It uses the Job Demands--Resources (JD-R) model as the major theoretical approach. The model is adopted to investigate the complicated correlation among workload, work-life balance, technological adaptation and job satisfaction. In this context, workload is considered a job demand. It involves prolonged physical or mental activity and it is commonly associated with stress and burnout. Conversely, work-life balance is managed as a job resource. It assists in cushioning the adverse effects of job demands and helps one have positive outcomes. The technological adaptability is regarded as a personal resource. It shows how well a person can utilize digital systems and tools in his or her practice. Such flexibility can moderate the connection between work-life balance and job satisfaction. The outcome variable is placed as job satisfaction. It is a feeling and attitudinal manifestation by workers towards their job and workplace.

The main aim of the study is to investigate that, do extreme workloads have negative indirect effects on work satisfaction through work–life balance violation, and can technological adaptability cushion that relationship by increasing the positive impact of work–life balance on satisfaction? In the proposed model, therefore, both mediating and moderating mechanisms are captured within the same theoretical framework that provides a more subtle picture of how academic staff negotiate job demands and resources in a higher education environment that is changing very fast.

This theoretical framework is predicted to have a significant contribution to the current body of knowledge on the determinants of job satisfaction among university employees and offer practice recommendations that could be applied by institutions of higher learning in Malaysia. With enhanced workload management practices, universities will be able to establish a more favorable working environment. They can also encourage flexible work practices and invest in creating digital skills in employees. Such initiatives will boost professional fulfillment, promote workforce wellness and increase organizational loyalty.

Moreover, the current study will guide policy and workforce planning of academics. It underlines that universities should pay attention to both structural (e.g., workload distribution, institutional support) and personal (e.g., digital skills, adaptability) aspects when developing their human resource development strategies.

It is highly recommended that future studies take place to empirically prove the proposed model. The longitudinal research design would enable investigation of the causal relationship of changes occurring over time and would give information about changes in job demands and resources in dynamic academic environments. Besides this, future research ought to increase the geographical and institutional reach to cover universities in other regions or countries to make cross-cultural comparisons. Including other moderating factors, including organizational culture, leadership style, or psychological capital, might further increase the theoretical soundness and the explanatory value of the model.

Taken together, the theoretical baseline of the current paper is substantial and the practical implications of addressing the issue of digital transformation, work intensification, and faculty retention in the contemporary higher education environment are extensive.

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