

Employee Engagement Toward Need Satisfaction in Flexible Work Arrangement: Insights from Malaysia's IT Professionals

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ABSTRACT

There has been a change in the modern workplace brought about by the increasing popularity of flexible work arrangements (FWA), which are being implemented by organisations with the intention of enhancing employee engagement and need satisfaction. Despite this, research on FWA is still in the process of being developed, particularly regarding the mechanisms that drive the relationship between employee engagement and need satisfaction. In the context of flexible work arrangements, the purpose of this study is to investigate the relationship between employee engagement and the satisfaction of their needs. For this study, quantitative questionnaires that were validated using the Fuzzy Delphi approach were distributed to IT professionals working in Malaysia's information technology and communication industry. The structural equation modelling technique known as partial least squares was utilised in this study by SmartPLS. Z-score normalisation was applied to our 337 data, and Jamovi and Python code were used to perform the screening. According to the findings of the study, there is a positive correlation between employee engagement and need satisfaction. We also found that there were significant relationships between need fulfilment and other aspects of employee engagement, with gender serving as a moderating factor. This was discovered with multi-group analysis. Our findings contribute to the existing body of research on FWA by providing an explanation of the mechanisms that describe the connection between employee engagement and need satisfaction. The findings of this study are significant for ICT industry that want to increase employee engagement and productivity in an environment that allows for FWA. These findings highlight the importance of catering to the requirements of employees and cultivating a supportive atmosphere in the workplace.

1. Introduction

The ICT sector in Malaysia has experienced substantial development, contributing RM412.3 billion in 2022, an increase from RM359.3 billion in 2021 (DOSM, 2023). ICT sector is vital to the national economy, representing 23% of overall economic output. According to the DOSM (2023), the ICT industry has benefited from advancements in areas such as e-commerce, 5G and cloud technologies which have contributed to increased business efficiency and digital transformation across various sectors (DOSM, 2023; eStatistik, 2023). As key aspect of this transformation is the increasing adoption of flexible work arrangements (FWA), such as remote work and hybrid working mode particularly following the pandemic.

The Malaysian government has promoted the implementation of FWA in response to rising employee demand for work-life balance (Hackney et al., 2022). The Malaysian government, via agencies such as TalentCorp, has actively advocated for FWA, particularly in knowledge-based sectors, to tackle workforce issues, including the scarcity of female professionals, and to improve productivity and societal welfare (TalentCorp, 2021, 2022). FWA is recognised not only as a response to technological advancements but also as a planned approach to enhance employee engagement and need satisfaction especially in industries like ICT.

Nevertheless, despite the increasing focus on FWA in Malaysia, there is a significant lack of research specifically examining the impact of these practices on employee engagement and need satisfaction within the Malaysian ICT sector. Although the available literature addresses the advantages of FWA worldwide, there is limited study examining the distinct dynamics of Malaysia's ICT sector. Addressing this study gap could provide significant insights for businesses and policymakers, facilitating the more effective implementation of FWA policies that support both organizational aims and the welfare of ICT personnel, thereby strengthening the expansion of Malaysia's digital economy.

1.1 Problem Statement

The research regarding FWA and their direct impact on employee engagement (EE) within Malaysia's IT sector identifies multiple shortcomings (Asmawi & Othman, 2018; Parasuraman, 2022; Shaari & Amirul, 2020; TalentCorp, 2021). Although FWA are acknowledged for improving employee well-being and engagement, there is scant research specifically investigating their effects in the Malaysian ICT sector (Asmawi & Othman, 2018; Weideman & Hofmeyr, 2020). Current research predominantly examines employees' perceptions of FWA and the obstacles to their implementation, rather than their direct impact on engagement. Moreover, the literature reveals an insufficient understanding of the reasons for the limited adoption of FWA by employers in Malaysia, especially within knowledge-based sectors such as information technology (IT) (Asmawi & Othman, 2018). This gap is impaired by most of the existing research that relies on quantitative studies, which neglect the actual implementation issues and limitations of FWA (Weideman & Hofmeyr, 2020). Moreover, there is a visible lack of research examining the gendered perspectives of flexible work arrangements, which may affect their uptake and efficacy in enhancing employee involvement. The Malaysian International Chamber of Commerce and Industry has emphasised the necessity for more comprehensive studies prior to the implementation of FWA, indicating that existing research may not adequately encompass the complexity involved (Federation, 2022; Geyzel, 2022). While FWA is regarded as advantageous for work-life balance and employee retention, the dynamics within Malaysia's ICT sector are insufficiently examined, highlighting a notable gap in the literature that necessitates further inquiry to ascertain how these arrangements can be optimally utilized to improve EE (Asmawi & Othman, 2018; Pfordten, 2022).

1.2 Research Objectives and Research Questions

This paper aims to investigate the key components of employee engagement that impact Malaysia's IT professionals' need satisfaction. Additionally, it seeks to explore how gender influences employee

engagement toward need satisfaction within this demographic. By examining these aspects, this paper hopes to contribute valuable insights that can inform organisational policies, strategies and practices aimed at enhancing employee engagement, particularly in Malaysia's competitive ICT landscape. The research questions are as follows.

- (i) What are the key components of employee engagement that affect Malaysia's IT professionals' need satisfaction?
- (ii) How does gender differ in their employee engagement toward need satisfaction?

2. Literature Review

2.1 Theoretical background

The principal ideas supporting employee engagement encompass the Self-Determination Theory (SDT), Social Exchange Theory (SET), and the Needs-Satisfaction Framework. Self-Determination Theory (SDT) is a comprehensive framework for human motivation that underscores the need of satisfying fundamental psychological needs: autonomy, competence, and relatedness to improve motivation and engagement in professional settings. This idea posits that the fulfilment of these demands enhances employee well-being and optimal functioning, thus promoting work engagement. SET asserts that employee engagement arises from reciprocal interactions between employers and employees. When organisations offer support, employees have a sense of duty to reciprocate with heightened engagement and dedication. This theory emphasises the significance of perceived organisational support in promoting favourable employee behaviours and attitudes. The Needs-Satisfaction Framework, proposed by Kahn (1990), defines three psychological variables essential for engagement: meaningfulness, safety, and availability. Meaningfulness arises from the perceived return on investments in role execution, safety stems from the capacity to express oneself without fear of adverse repercussions, and availability is contingent upon having the requisite resources to invest in role execution. These frameworks jointly underscore the need of satisfying psychological demands and fostering supportive work environments to augment employee engagement. Although the given papers do not expressly address FWA, the underlying ideas of these theories can be utilised to comprehend how FWA may enhance employee engagement by fulfilling psychological demands. For example, FWA might augment autonomy by granting employees greater choice over their work schedules, thereby potentially enhancing engagement through the fulfilment of this fundamental need. These theories offer a thorough understanding of the elements influencing employee engagement, emphasising the essential role of psychological need fulfilment, and supporting organisational behaviours.

2.2 Employee engagement

Employee engagement is a complex notion that includes an employee's emotional, cognitive, and physical commitment to their professional tasks. It is defined by vigour, dedication, and absorption; vigour denotes elevated vitality and resilience, dedication signifies profound engagement and importance in one's work, and absorption represents a state of complete concentration and enjoyment in professional duties. Kahn (1990) defines employee engagement as the integration of organisational members' identities with their work responsibilities, encompassing physical, cognitive, and emotional expression during role execution. Eight factors from employee engagement model are identified in the previous paper (Chan et al., 2024). The table 1 is the discussion of the definition and sources of employee engagement model.

Table1: Definition and sources of employee engagement model adopted from (Chan et al., 2024)

No	Factors	Definition	Source
1	Reward	A form of recognition or benefit provided to individuals in response to their contributions or performance within an organisation.	(Kavyashree et al., 2023; Saks, 2019; Zionia.A & Sathyapriya.J, 2019)
2	Transparent organisation communication	The dissemination of truthful, substantial, and complete information within an organisation to encourage active employee participation in information acquisition and distribution.	(Braganza et al., 2021; Jiang & Shen, 2023; Santoso et al., 2022)
3	Job trust	The belief and confidence that employees have in their organisation, superiors, and colleagues.	(Braganza et al., 2021; Weideman & Hofmeyr, 2020)
4	Training and development	The process of providing employees with opportunities for growth, enhancing their competence and strengthening their personal resources.	(Saks, 2019; Saks, 2022)
5	Organisation support	The belief held by employees that their organisation values their contributions and cares about their well-being.	(Hameduddin, 2021; Nargotra & Sarangal, 2023; Saks, 2019; Weideman & Hofmeyr, 2020; Yousf & Khurshid, 2021)
6	Job characteristics	The specific attributes and features of a job that influence employee engagement and satisfaction. These characteristics include aspect such as autonomy, task significance, task identity, variety, feedback, skill variety and job resources	(Sahni, 2021; Saks, 2019; Saks, 2022)
7	Supervisor support	The assistance, guidance and care provided by a supervisor to their subordinates in the workspace.	(Saks, 2019; Tauetsile, 2021)
8	Employee feedback	The information provided by employees regarding their experience, opinions, and suggestions within an organisation.	(Kavyashree et al., 2023; Puspitasari et al., 2021; Sheoran et al., 2023; Zionia.A & Sathyapriya.J, 2019)

2.3 Need satisfaction

The notion of need satisfaction, especially for autonomy, competence, and relatedness, is fundamental to self-determination theory (SDT) and has been thoroughly examined in diverse contexts. Autonomy denotes the necessity of perceiving control over one's actions and decisions, competence signifies the requirement of feeling competent and capable in one's endeavours, and relatedness represents the need for connection with others. Studies demonstrate that fulfilling these requirements is essential for intrinsic motivation and overall well-being. Autonomy is regarded as a distinctive "booster" for well-being, enhancing a sense of vitality and energy, which is crucial for work engagement (Sarkar et al., 2023). Competence and relatedness enhance well-being by fostering feelings of mastery and belongingness, respectively (Liebenberg et al., 2022). In professional environments, the fulfilment of needs correlates with favourable results, including heightened motivation, enhanced well-being, improved performance, and diminished turnover. The fulfilment of these demands is linked to intrinsic motivation, essential for prolonged participation in activities like video games, where factors that augment competence and autonomy can elevate motivation (Gajenderan et al., 2023). Cross-cultural research indicates that need satisfaction universally predicts favourable outcomes, however the dynamics may differ across various cultural contexts. In professional settings, autonomy and competence are strongly associated with work engagement, whereas relatedness exhibits a lesser impact. This indicates that although all three demands are essential, autonomy and competence may have a more substantial impact on daily work engagement. Moreover, the fulfilment of these requirements might influence the connection between psychological factors and behavioural intentions, underscoring their significance in motivation and behavioural

modification (Gajenderan et al., 2023). The research emphasises the necessity of establishing environments that facilitate the fulfilment of autonomy, competence, and relatedness to enhance motivation and well-being across diverse areas.

2.4 Flexible work arrangement

Flexible work arrangements (FWA) allow employees to manage their schedules and locations independently which is important in today's digital economy (Asmawi & Othman, 2018; Kamp et al., 2024). Remote work, flextime, reduced workweeks, and job sharing are used to improve work-life balance and organisation performance (Groen et al., 2018; Yamin & Pusparini, 2022). Telecommunication technology has made FWA possible allowing employees to work from home or other remote location (Agbanu et al., 2023). FWA has been shown to boost employee engagement, work happiness and productivity depending on the situation (Groen et al., 2018; Zionia.A & Sathyapriya.J, 2019). The literature emphasises matching FWA with organisational goals and employee engagement to maximise benefits and minimise drawbacks (Agbanu et al., 2023; Asmawi & Othman, 2018).

2.5 The moderating effects of gender

When preparing research model under FWA context, gender can be considered. Past literature highlighted that women prefer flexible scheduling and companies with good reputation while men prioritize high earning and permanent contracts (Valet et al., 2021). FWA are more beneficial for women particularly mothers as they help balance work and family responsibilities. As stated by Rodríguez-Modroño (2022), the intensity of teleworking differentially impacts job quality and work engagement for men and women. Women, particularly those involved in high-intensity telework, may encounter a reduction in work intensity and the quality of working hours (Rodríguez-Modroño, 2022). The study aims to provide perspective on how gender can be beneficial in solidifying the connection between employee engagement and need satisfaction under FWA context.

2.6 Conceptual framework

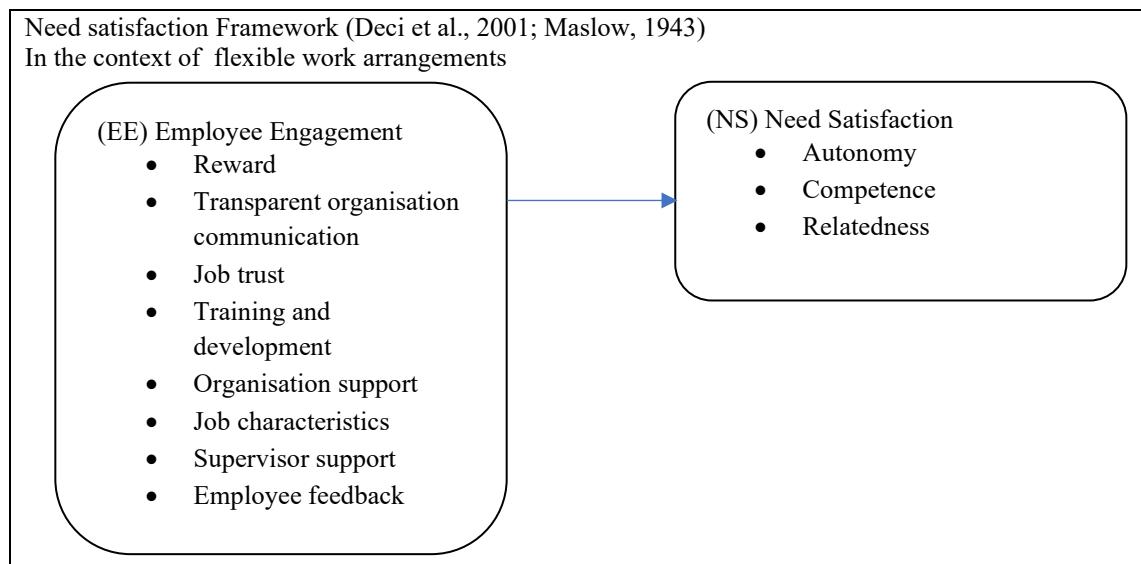


Figure 1 Conceptual model of this study

2.7 Hypotheses

This discussion above gives rise to the following hypotheses:

- H1: Reward will significantly affect need satisfaction under FWA.
- H2: Transparent organisation communication will significantly affect need satisfaction under FWA.
- H3: Job trust will significantly affect need satisfaction under FWA.
- H4: Training and development will significantly affect need satisfaction under FWA.
- H5: Organisation support will significantly affect need satisfaction under FWA.
- H6: Job characteristics will significantly affect need satisfaction under FWA.
- H7: Supervisor support will significantly affect need satisfaction under FWA.
- H8: Employee feedback will significantly affect need satisfaction under FWA.
- H9: Gender has significant effect as a moderator in influencing the relationship between employee engagement and need satisfaction under FWA.

3. Methodology

This study investigates how the need satisfaction of IT professionals is affected by their employee engagement under flexible work arrangements (FWA), utilising the causal relationships between conceptions and variables, driven by a positivist methodology. This study employs a quantitative methodology for a causal examination. The data for the quantitative investigation were acquired in a cross-sectional manner. The participants were IT professionals from the Malaysia Developer Kaki Facebook Group in July 2024. The research population selected through random sampling methodology. This cross-sectional study utilised a random sampling procedure, as determined by G-Power analysis, with a minimum sample size of 89 respondents (Faul et al., 2009; Faul et al., 2007).

The study instruments are adopted based on previous research (Chan et al., 2024; Chan et al., 2025). The survey items were qualitatively gathered from 6 IT professionals and quantitatively assessed by 10 IT professionals with over 10 years of experience. The survey items were validated and established using the Fuzzy Delphi approach. The participants also filled out a socio-demographic survey addressing their gender, age, employment position, and years of experience. Ethical permission was obtained prior to the distribution of the questionnaire to guarantee adherence to established research protocols.

The survey items were assessed using a seven-point Likert scale, with responses ranging from 'Strongly disagree' to 'Strongly agree.' The gathered data were encoded, screened with z-score normalisation (Kandanaarachchi et al., 2020), and processed with Jamovi version 2.6.13 (Jamovi, 2024). The study produced a significant dataset of 337 valid questionnaires for analysis. Descriptive analysis was employed to examine the demographic characteristics of the sample.

4. Finding and discussion

The study variables and constructs must meet the criteria for composite reliability (CR), average variance extracted (AVE), and factor loadings as emphasised by Hair et al. (2018). Tables 1 and 2 present the results of the measurement model. The ideal value for the CR is 0.7; however, the recommended value for the factor loadings should exceed 0.7. Simultaneously, the optimal value for the AVE exceeds 0.5. The Heterotrait-Monotrait (HTMT) ratio was selected over the standard and widely utilised Fornell-Larcker criterion to assess the model's discriminant validity (Groot et al., 2024). All HTMT values are fulfilled the conservative HTMT recommended value should be lower than the 0.85 ratios.

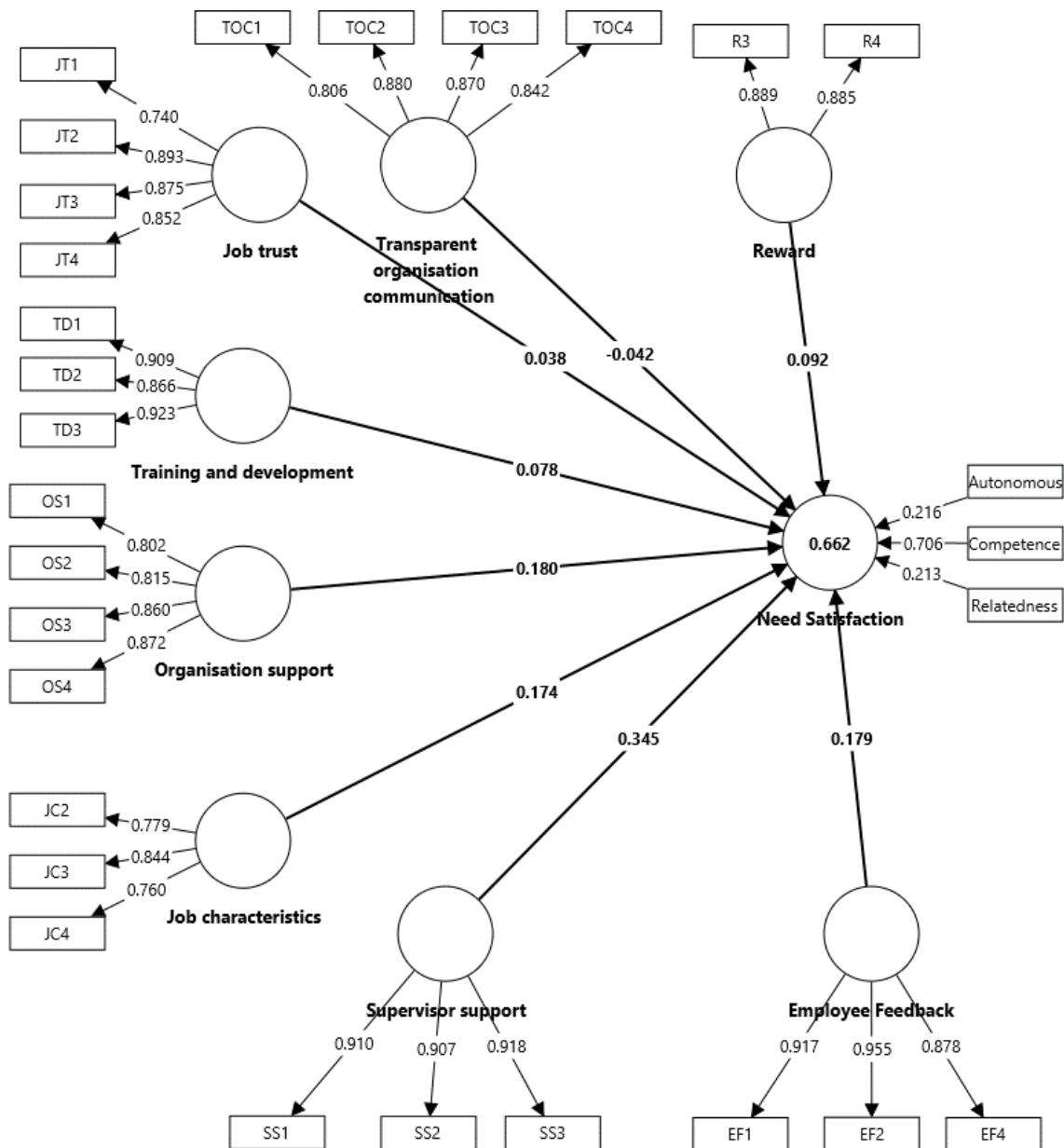


Figure 2 Measurement model

Table 2: HTMT assessment

	EF	JC	JT	OS	R	SS	TD	TOC
Employee Feedback (EF)								
Job characteristics (JC)	0.624							
Job trust (JT)	0.695	0.508						

Organisation support (OS)	0.746	0.633	0.646					
Reward (R)	0.380	0.317	0.271	0.209				
Supervisor support (SS)	0.626	0.744	0.481	0.738	0.274			
Training and development (TD)	0.535	0.463	0.582	0.487	0.399	0.564		
Transparent organisation communication (TOC)	0.579	0.477	0.738	0.546	0.348	0.371	0.552	

4.1 Structural Model

Table 3: Path analysis

Path	Beta value	t-values	p-values	F-square
Reward -> Need Satisfaction	0.092	2.503	0.012	0.021
Transparent organisation communication -> Need Satisfaction	-0.042	0.808	0.419	0.003
Job trust -> Need Satisfaction	0.038	0.835	0.404	0.002
Training and development -> Need Satisfaction	0.078	1.433	0.152	0.011
Organisation support -> Need Satisfaction	0.180	2.497	0.013	0.040
Job characteristics -> Need Satisfaction	0.174	3.841	0.000	0.052
Supervisor support -> Need Satisfaction	0.345	6.978	0.000	0.151
Employee Feedback -> Need Satisfaction	0.179	3.071	0.002	0.040

Notes: $R^2 = 0.662$; $Q^2 = 0.633$; p-value < 0.001***; p-value < 0.05**

The study hypotheses claimed a significant relationship between reward, organisation support, job characteristics, supervisor support and employee engagement and the need satisfaction under FWA. Table 3 presents the path coefficient based on the structural model assessment. The R^2 for this study was 0.662, which is deemed moderate based on conventional standards (Hair Jr et al., 2019). The predictive sample reuse method (Q^2) was employed to evaluate the predictive significance of the structural model (Chin, 1998). The outcome of 0.633 validates the prediction accuracy of both study models.

The path analysis results revealed significant direct effects from several organizational support on need satisfaction with a low p-value threshold ($p < 0.05$). The most substantial impacts came from supervisor support ($\beta = 0.345$, $t = 6.978$, $p < 0.000$) and job characteristics ($\beta = 0.174$, $t = 3.841$, $p < 0.000$), both indicating a strong positive association with need satisfaction. The findings are statistically significant, indicated by the F-square value of 0.151 for supervisor assistance, showing a medium significant contribution to IT professionals' need satisfaction. While referring to Chin (1998), the F-Square of reward, organisation support, job characteristics and employee feedback are larger than 0.02, reporting minimal significant effect size.

4.2 Multi-Group analysis

The PLS-based multi-group analysis (MGA) was utilised to investigate the influence of moderators on the connection between independent and dependent variables (Cheah et al., 2020; Hair et al., 2018). This

study employed the PLS-MGA method instead of the motive-based interaction strategy. In accordance with the MGA approach, the sample was first divided into groups or subsamples. The associations of exogenous independent factors were regressed on endogenous dependent variables, utilising one subsample at a time. The bootstrap approach was subsequently employed 5000 times to resample the data and calculate the standard error of the structural routes within the relevant subsamples. The disparities among the path estimators were evaluated for the significance of the t-test findings.

The variable being analysed for moderation was the gender of the respondents. Since the moderating variable was categorical, the entire sample was segmented into two groups: male and female categories. Table 1 displays the estimated values of the structural relationships for the two subsamples. Among 337 respondents, 249 (73.9%) are male and 88 (26.1%) are female. According to MGA in Cheah et al. (2020), the Smith-Satterthwaite test indicated significant differences in the impact of employee engagement on need satisfaction. The varying significance levels by gender confirm that gender moderates the relationship between employee engagement and need satisfaction. Consequently, the H9 is endorsed.

Table 4: Multi-Group Analysis Results (MGA)

Path	Differences (Male vs Female)		MGA result
	path coefficient	p-value	
<i>Reward -> Need Satisfaction</i>	0.113	0.124	Not significant
<i>Organisation support -> Need Satisfaction</i>	0.358	0.007	Significant
<i>Job characteristics -> Need Satisfaction</i>	0.103	0.171	Not significant
<i>Supervisor support -> Need Satisfaction</i>	-0.181	0.040	Significant
<i>Employee Feedback -> Need Satisfaction</i>	-0.443	0.000	Significant

Notes: p-value <0.05**

The Smith-Satterthwaite test was utilised to assess group differences in path coefficients between male and female IT professionals within the context of our study's MGA. The results reveal that certain pathways exhibit substantial gender differences at $p < 0.05$, whereas others do not attain statistical significance yet nevertheless display noteworthy patterns.

The correlation between supervisor support and need satisfaction revealed a statistically significant difference ($\beta = -0.181$), suggesting that supervisory support is more negatively correlated with need satisfaction in male employees than in female employees. The correlation between organisation support and need satisfaction exhibited a significant trend ($\beta = 0.358$), indicating that the influence of organisational support on employee need satisfaction may be more pronounced among male employees than their female counterparts. The employee feedback path exhibited a distinct, statistically significant negative correlation ($\beta = -0.443$) with need satisfaction in females, while showing no significant difference for males (p-value = 0.04). This indicates that employee feedback adversely affects need satisfaction just for female IT professionals in this model, underscoring a gender-specific dimension of how particular organisational characteristics differentially impact results based on gender.

Table 5: Hypotheses results

Hypotheses	Result
H1: Reward will significantly affect need satisfaction under FWA.	Supported
H2: Transparent organisation communication will significantly affect need satisfaction under FWA.	Not supported
H3: Job trust will significantly affect need satisfaction under FWA.	Not supported
H4: Training and development will significantly affect need satisfaction under FWA.	Not supported

H5:	Organisation support will significantly affect need satisfaction under FWA.	Supported
H6:	Job characteristics will significantly affect need satisfaction under FWA.	Supported
H7:	Supervisor support will significantly affect need satisfaction under FWA.	Supported
H8:	Employee feedback will significantly affect need satisfaction under FWA.	Supported
H9:	Gender has significant effect as a moderator in influencing the relationship between employee engagement and need satisfaction under FWA.	Supported

5. Conclusion

The application of the Smith-Satterthwaite test in our MGA analysis has enhanced our comprehension of how distinct subgroups—specifically male and female IT professionals in Malaysia—perceive critical workplace factors such as supervisor support, organisational support, job characteristics, employee feedback, and their correlations with need satisfaction. The distinct differences observed, especially the more substantial adverse effect of supervisor support on need satisfaction in males relative to females, indicate that interventions aimed at leadership behaviours may be essential in mitigating gender inequities within this sector.

Nonetheless, it is crucial to recognise the constraints inherent in the scope and methods of our study. The sample size was restricted by industry availability, hence limiting generalisability to other industries or areas. The geographic emphasis on Malaysia may influence the external validity of these findings when evaluating diverse cultural contexts across the global IT workforce. Furthermore, dependence on self-reported data brings potential biases and inaccuracies. Obtaining authoritative sources to validate our findings would enhance credibility.

Future research should encompass cross-industry comparisons to provide a comprehensive understanding of how these dynamics manifest across various sectors and to determine if the trends identified in IT are distinctive or universal. Furthermore, longitudinal research monitoring employees' responses over time would yield significant insights into causative linkages rather than simply correlations. Longitudinal data can reveal changes in job satisfaction, employee turnover patterns, and the development of gender dynamics as sectors adjust to evolving standards. In conclusion, our findings significantly enhance the understanding of involvement among IT professionals and pave the way for further research that could impact policy-making and organisational practices on a broader scale.

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Conflict of interest statement

The authors agree that this research was conducted in the absence of any self-benefits, commercial or financial conflicts and declare the absence of conflicting interests with the funders.

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A. *Measurement Model Assessment*

Variable	Construct	Code	Items	Full dataset (n=337)				Male (n = 249)				Female (n=88)			
				Loadings	Cronbach's alpha	CR	AVE	Loadings	Cronbach's alpha	CR	AVE	Loadings	Cronbach's alpha	CR	AVE
				h ₁	h ₂	h ₃	h ₄	h ₁	h ₂	h ₃	h ₄	h ₁	h ₂	h ₃	h ₄
Employee engagement	Reward	R3	Respect from the people you work with	0.889	0.729	0.881	0.787	0.920	0.733	0.880	0.786	0.740	0.715	0.851	0.745
			More freedom and opportunities	0.885				0.852				0.971			
	Transparent organisation communication	TOC1	My organisation provides accurate information to people like me.	0.806	0.872	0.912	0.723	0.810	0.880	0.917	0.734	0.792	0.852	0.900	0.693
			My organisation provides information that is relevant to people like me.	0.880				0.881				0.873			
		TOC2	My organisation provides information that is easy for people like me to understand.	0.870				0.891				0.809			
			My organisation provides information that is complete	0.842				0.843				0.854			
	Job trust	JT1	I feel my organisation is competent.	0.740	0.863	0.907	0.709	0.714	0.851	0.899	0.692	0.827	0.903	0.931	0.770
			My organisation is open and upfront with me.	0.893				0.892				0.915			

	JT	My organisation can be always trusted.	0.875			0.875			0.882					
	JT	I think my organisation treats me fairly.	0.852			0.836			0.884					
Training and development	T D 1	The training improves my skills, knowledge, and attitude.	0.909	0.882	0.927	0.809	0.918	0.884	0.927	0.809	0.886	0.892	0.933	0.822
	T D 2	My organisation provided enough training for me to achieve true performance.	0.866			0.863			0.885					
	T D 3	The training led me to be satisfied with my job.	0.923			0.916			0.949					
Organisation support	O S1	My organisation would forgive an honest mistake on my part.	0.802	0.858	0.904	0.702	0.777	0.838	0.892	0.674	0.880	0.911	0.937	0.790
	O S2	Help is available from my organisation when I have a problem.	0.815			0.788			0.888					
	O S3	My organisation strongly considers my goals and values.	0.860			0.862			0.865					
	O S4	My organisation cares about my opinions.	0.872			0.853			0.920					
Job characteristics	JC 2	The opportunity in my job to get to know	0.779	0.710	0.837	0.632	0.747	0.696	0.829	0.618	0.862	0.744	0.856	0.665

		other people.																			
		JC 3	The amount of variety in my job.	0.844	0.836	0.858															
	JC 4	The control I have over the pace of my work.	0.760	0.773	0.719																
Supervisor support	SS 1	My supervisor cares about my opinions.	0.910	0.899	0.937	0.831	0.901	0.881	0.926	0.807	0.933	0.949	0.967	0.908							
	SS 2	My work supervisor really cares about my well-being.	0.907	0.889	0.970																
	SS 3	My supervisor strongly considers my goals and values.	0.918	0.904	0.955																
Employee feedback	EF 1	Make constructive suggestions to improve the unit's operation.	0.917	0.905	0.941	0.841	0.928	0.921	0.950	0.863	0.879	0.857	0.914	0.782							
	EF 2	Proactive develop and make suggestion for issues that may influence the unit.	0.955	0.952	0.964																
	EF 4	Proactively suggest new projects which are beneficial to work unit.	0.878	0.907	0.803																
Autonomous	A 3	I feel like I can pretty much be myself.	1.000	0.784	0.768																
Competence	C1	I have been able to learn interesting and new skills at work.	0.849	0.801	0.883	0.715	0.964	0.758	0.861	0.674	0.909	0.907	0.942	0.844							
	C2	Supervisors at work tell	0.852																		

		me I am good at the working with my tasks.										
	C3	Most days I feel a sense of accomplish ment from working.	0.8 35									
Related ness	R R1	People at work are friendly toward me.	0.8 73	0.8 73	0.9 12	0.7 22	0.8 05	0.8 72	0.9 12	0.7 21	0.6 86	0.8 52
	R R2	I got along with people in works	0.8 73									
	R R3	I prefer my colleagues at work.	0.8 29									
	R R4	People at work care about me.	0.8 23									