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The effect of STARA awareness on hotel employees' turnover intention and work engagement: the mediating role of perceived organisational support

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Abstract

Purpose – The proliferation of Smart Technologies, Artificial Intelligence, Robotics, and Algorithms (STARA) in the tourism and hospitality (T&H) industry has been shown to trigger negative employee behaviour associated with awareness of these technologies. This study expands the existing literature on technology and organisational behaviour from the perspective of hospitality employees based on a dual appraisal of STARA awareness.

Design/methodology/approach – The sample included 324 Turkish hotel employees, and the analysis was conducted through partial least squares structural equation modelling (PLS-SEM).

Findings – Results revealed the negative impact of STARA awareness on job outcomes among hotel employees. STARA awareness negatively affected the psychological relationship between individuals and organisations. Despite these findings, when perceived as a companion that could support employees' career development, STARA technologies increased employees' work engagement.

Practical implications – Organisational support plays a critical role in decreasing employees' fear of technological unemployment. Hotel managers can increase employees' commitment to the organisation by helping them feel valued and supported. However, the support they give to employees will not always work. While more optimistic employees are warmer toward the organisation, depressed employees may not recognise the value the organisation gives them. Hence, managers should strive to offer personalised assistance that addresses the distinct requirements and worries of individual employees.

Originality/value – The research provides a two-sided assessment, extending the one-sided negative perceptions of employees towards STARA technologies. The research is grounded in the Transactional Stress Theory and provides significant implications for the Job Demands-Resources Theory, Person-Organisation Fit Theory, and Self-Determination Theory.

Keywords Challenge-hindrance appraisals, Turnover intention, Work engagement, Perceived organisational support, STARA awareness

Paper type Research paper

Introduction

The rise of Smart Technologies, Artificial Intelligence, Robotics, and Algorithms (STARA), coupled with reduced maintenance costs and ease of acquisition, presents a significant challenge to traditional employment (Brougham and Haar, 2018; Jabeen *et al.*, 2022). This phenomenon allows opportunities for human-robot collaboration (Li *et al.*, 2019) but for workforce replacement as well (Poba-Nzaou *et al.*, 2021). Frey and Osborne (2017) predicted that 47% of US jobs were susceptible to automation, potentially leading to significant changes in overall US employment over the next two decades. Tourism relies on human-to-human services, which limits the ability of STARA technologies to replace human employees

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(Parvez *et al.*, 2022). However, according to Huang and Rust (2018), when AI becomes smarter and can handle more work tasks, there will be a shift from human labour to AI. This replacement of human employees for automation technologies is known as the "substitution effect" (Ivanov *et al.*, 2023).

In the current situation, STARA can be considered as technologies that assist employees and improve their performance (Smith, 2019), i.e. they have an enhancement effect on employees (Ivanov *et al.*, 2023). However, the uncertainty arising from STARA technologies can lead employees to develop negative sentiments regarding their jobs and career prospects. Considering these two scenarios, Brougham and Haar (2018) introduced the concept of STARA awareness, which refers to employees' perspectives on how STARA will affect their careers. Research has shown that hotel employees' perceptions towards STARA technologies are related to burnout and turnover intention (Khaliq *et al.*, 2022; Kong *et al.*, 2021; Li *et al.*, 2019). Most related studies have focused mainly on individuals' negative perceptions of STARA. Considering that not all employees in the tourism industry view technology negatively, this research examines both positive and negative perspectives of STARA awareness (Zhang and Jin, 2023).

It is still uncertain how STARA awareness affects employees because previous research has shown that STARA awareness could have both positive (Kang *et al.*, 2023; Ding, 2022) and negative (Li *et al.*, 2019) effects on employees' and organisational behaviour. To address the problem, this research was grounded in the transactional model of stress. It aims to examine both positive and negative evaluations of STARA technologies and to understand the underlying reasons for these evaluations. According to the transactional stress theory proposed by Lazarus and Folkman (1984) and its extension by Cavanaugh *et al.* (2000), stress and its outcomes depend on how individuals appraise it. The challenge and hindrance appraisals (CHAs) presented in this extended theory suggest that stress can have both positive and negative outcomes. As it includes coping mechanisms and psychological assessment, CHAs differ from other stress models (Pearsall *et al.*, 2009) and they play a key role in employee attitudes and behaviours (Abbas and Raja, 2019). Previous studies have established a unilateral link between the CHAs and employee behaviour. Zhang and Jin (2023) investigated the association of CHAs toward STARA technologies with job insecurity and mobility, while Tan *et al.* (2023) explored their relation to individual competitiveness and productivity. This study explores CHAs toward STARA technologies in relation to turnover intention (TI) and work engagement (WE). Given the high turnover rate in the T&H industry and the substantial need for highly committed personnel, research on employee behaviours remains crucial. Segovia-Perez *et al.* (2023) highlighted that employees' turnover intentions are a significant challenge for the T&H industry. They further asserted that this issue would become even more critical with the increasing concerns related to technology and AI awareness. The authors suggested that future research should focus on this issue and investigate not only the direct and indirect relationships with TI but also with other job-related outcomes such as job satisfaction and organisational commitment. In line with the recommendations for the use of mediating variables in research on CHAs (Cai *et al.*, 2022), this study also investigates the mediating role of perceived organisational support (POS). The role of POS in the CHAs framework has not been explored yet. However, its importance has been highlighted in the context of technology integration in T&H workplaces. Many studies suggest that companies can reduce future job insecurity concerns by conveying messages that support their employees in technology-related matters and by motivating them (Palrão *et al.*, 2023). Thus, this study analyses the impact of dual appraisals toward STARA technologies on perceived organisational support, turnover intentions and work engagement.

Based on the above discussion, this research makes several contributions to the literature. First, it goes beyond the one-sided negative impacts of STARA awareness and focuses on the two-sided assessment of its positive and negative impacts. This highlights the positive

impacts of technostressors on work behaviour and contributes to organisational studies. Second, it is unclear how organisational factors affect the collaboration between employees and technology, despite being frequently addressed in the context of technology integration (Yin *et al.*, 2024). Therefore, we investigate the mediating role of perceived organisational support. This contributes to our understanding of the significance of organisational support in managing technostress. Finally, previous research on STARA awareness has focused on various countries such as South Korea (Hur and Shin, 2024), China (Tan *et al.*, 2023), South Korea (Kong *et al.*, 2023), the US (Koo *et al.*, 2021; Ding, 2021), and New Zealand (Brougham and Haar, 2018). This study expands the understanding of STARA awareness within the Turkish context.

Literature review and hypothesis development

Challenge-hindrance stress model (CHSM)

The CHSM is a theoretical framework that divides workplace stressors into two categories: challenge and hindrance. This stress model was introduced to the occupational stress literature by Cavanaugh *et al.* (2000) and is based on Lazarus and Folkman's (1984) transactional stress theory. According to the transactional stress theory, stress is the result of a transactional process between individuals and their environment. Individuals assess stressors based on their coping abilities and significance, leading to the perception of stress in two different ways: challenge appraisal and hindrance appraisal (Ma *et al.*, 2021). Thus, the CHSM model separates stressors into two categories: those that challenge employees and those that hinder them (Mazzola and Disselhorst, 2019). While challenge stressors are associated with desirable business outcomes such as job satisfaction, hindrance stressors are associated with undesirable business outcomes such as job insecurity (Cavanaugh *et al.*, 2000). When a stressor is perceived as a challenge, motivation increases; when it is perceived as a hindrance, motivation decreases (Pearsall *et al.*, 2009).

The transactional stress theory suggests that the differences between individuals in how they respond to stress are due to their cognitive appraisal. This refers to how a person perceives and evaluates the stresses that affect their emotions and behaviours. Based on this evaluation, stressors can be seen as either obstacles or challenges. This cognitive appraisal leads to different outcomes in behaviour (Webster *et al.*, 2011). For instance, Kang and Jang (2019) found that role ambiguity and conflict were associated with turnover intentions as hindrance stressors. Recent studies have highlighted technostressors as a significant stressor alongside social, organisational, and psychological. These studies have shown that it is not appropriate to only consider technostressors in a negative light. Instead, a two-sided approach should be adopted (Tang *et al.*, 2024). Zhu *et al.* (2023) have suggested that technostressors can lead to positive outcomes when managed correctly. Assessments of these stressors are dependent on the context and situation of the workplace.

Challenge and hindrance appraisals of STARA technologies: turnover intentions, work engagement and perceived organisational support

Because it influences employees' expectations for the future, STARA awareness, as a job stressor (Ding, 2021), is associated with work engagement and turnover intentions (Kong *et al.*, 2021; Li *et al.*, 2019; Brougham and Haar, 2018). Turnover intention refers to *"individuals' own estimated probability (subjective) that they are permanently leaving the organization at some point in the near future"* (Vandenberg and Nelson, 1999, p. 1315). It is a multi-stage process that begins with employees' psychological responses to challenging circumstances and results in actual behaviours (Takase, 2010). Transactional stress theory suggests that employees' psychological response varies based on their appraisal of stressors

as challenges or hindrances. As a challenge stressor, STARA awareness is considered an opportunity for achievement (Ding, 2021). It is debatable whether STARA technologies will replace employees in the tourism sector or increase their efficiency because both effects happen simultaneously. A waiter robot in a restaurant, for example, can both assist and replace employees (Ivanov and Webster, 2020). Bhargava *et al.* (2021) conducted a study on 12 different sectors and concluded that robots, artificial intelligence, and service automation were viewed positively by employees because they assisted with routine, unpleasant, and tiring tasks. Therefore, employees' STARA awareness as a challenge stressor will not negatively impact their turnover intentions.

Work engagement is the positive, fulfilling, work-related state of mind characterised by vigour, dedication, and absorption (Schaufeli *et al.*, 2002, p. 74). Vigour is an individual's willingness to put effort into work, even in the face of difficulties; dedication is characterised by challenge and enthusiasm; and finally, absorption is the capacity to focus entirely on one's work and the inability to allow oneself to become distracted (Schaufeli *et al.*, 2002). It is generally associated with favourable outcomes in terms of employees' job performance (Halbesleben, 2011). Challenge stressors are positively associated with job satisfaction, work engagement, employee performance, and motivation (Podsakoff *et al.*, 2007). Adeniji and Igarashi (2022) argue that when employees appraise technostress as a challenge, it can lead to a positive impact on their work engagement. This is because challenge appraisal is associated with positive motivation and employees who appraise a stressor as a challenge approach their work with enthusiasm and energy. Therefore, they show a higher level of commitment to their responsibilities. Moreover, they exhibit proactive behaviours such as seeking innovative solutions. Chatbots, for instance, can provide automated answers to frequently asked questions and communicate with customers 24/7, reducing employee workload (Wang *et al.*, 2023). In this direction, employees who think STARA technologies will reduce their workload and consequently increase their performance approach their work with engagement (Koo *et al.*, 2021). As a result, employees are engaged in their work and have no turnover intentions. Thus, we propose the following:

H1. Challenge appraisal of STARA technologies is negatively associated with turnover intentions.

H2. Challenge appraisal of STARA technologies is positively associated with work engagement.

Studies indicated that STARA technologies can substitute human labour (Ivanov, 2017; DeCanio, 2016). In the context of hindrance stressors, STARA awareness causes detrimental behaviours by boosting employees' feelings of failure and loss (Ding, 2021). Employees who are incapable of adapting to the STARA technologies (Ivanov and Webster, 2019) may be forced to leave their jobs, believing that these technologies will lead to job insecurity (Parvez *et al.*, 2022). According to Brougham and Haar (2018), employees' high STARA awareness results in low work engagement. Similarly, previous studies showed that hotel employees believed that STARA technologies would cause them to lose their jobs and that their awareness of these technologies was related to turnover intentions (Khaliq *et al.*, 2022). Segovia-Perez *et al.* (2023) found that hospitality employee TI was affected by AI awareness. Employees had the perception that AI might replace them. Malik *et al.* (2021) focused on the impact of AI on employees. Overall, they found that AI technologies increased job insecurity. Working long hours and exposing oneself to excessive information, especially when learning about artificial intelligence technologies, could result in job dissatisfaction. STARA awareness is also associated with burnout (Kong *et al.*, 2021). Accordingly, job insecurity contributes to less work passion for employees, making them feel bored and exhausted. Over time, this scenario leads to burnout. As a hindrance to success and career advancement,

STARA awareness can play a key role in WE and TI. Based on existing studies, we propose the following:

H3. Hindrance appraisal of STARA technologies is positively associated with turnover intentions.

H4. Hindrance appraisal of STARA technologies is negatively associated with work engagement.

The CHAs framework points out that one's behaviour and attitudes are determined by how one evaluates the situation, not the situation itself (Jumelet *et al.*, 2022). In a way, cognitive appraisal theory studies behavioural reactions to felt emotions (Watson and Spence, 2007). Perceived organisational support refers to employees' "global beliefs concerning the extent to which the organisation values their contributions and cares about their well-being' (Eisenberger *et al.*, 1986, p. 501). This includes the support that employees receive from the organisation when needed to cope with stressful situations and carry out their duties effectively (Rhoades and Eisenberger, 2002). Because POS reflects the consciousness of employees that they have a supportive organisation behind them (Özdevecioğlu, 2013), it reduces unfavourable situations such as work stress, work-family conflict, and burnout (Kurtessis *et al.*, 2017). High levels of stress can cause employees to perceive less support from the organisation and impact their overall well-being (Rhoades and Eisenberger, 2002). Haar (2006) found a positive association between challenge stressors and POS, and a negative association between hindrance stressors and POS. The author emphasised that employees' perceptions of how much the organisation valued and cared about them were influenced by challenge and hindrance stressors. In the same way, Nielsen *et al.* (2022) reported that hindrance stressors had a negative impact on the POS of individuals with high levels of proactivity. Conversely, the study revealed that challenge stressors exhibited a positive correlation with POS, as proactive individuals perceived them as opportunities for growth and development. The authors highlighted that proactive individuals were inclined to attribute credit or blame to their organisation in response to workplace stressors, highlighting the substantial impact of challenge and hindrance stressors on POS. Thus, H5 and H6 are proposed:

H5. Challenge appraisal of STARA technologies is positively associated with POS.

H6. Hindrance appraisal of STARA technologies is negatively associated with POS.

Perceived organisational support and its mediating effect

Organisational support is a socioemotional resource (Panaccio and Vandenberghe, 2009). Employees can demonstrate positive or negative orientations by evaluating the values that the organisation provides them with (Eisenberger *et al.*, 2002). According to the social exchange theory, when employees perceive support from their organisation, they reciprocate by investing more effort into their work. Therefore, employees are more firmly engaged with the organisation and do not intend to quit their jobs (Loi *et al.*, 2006). This results in a mutual relationship where the organisation benefits from the employees' contributions (Akgunduz *et al.*, 2023). In a meta-analysis, Rhoades and Eisenberger (2002) found that POS was positively related to job satisfaction, affective commitment, the desire to stay, and job engagement. Hui *et al.* (2007) concluded that there was a negative relationship between POS and TI. In summary, considering that POS improves employees' sense of ownership toward the organisation and reduces detrimental job outcomes (Hussain and Asif, 2012), H7 and H8 are proposed:

H7. Perceived organisational support is negatively associated with turnover intentions.

H8. Perceived organisational support is positively associated with work engagement.

Regarding CHAs, POS has been used as a moderator (Saadeh and Suifan, 2020). Jiang *et al.* (2020) found that POS could amplify the impact of challenging stresses on WE by serving as a buffer. In addition to the moderator role, Loi *et al.* (2006) examined the mediating role of POS. They indicated the significance of supportive work environments concerning WE and TI. A recent study (Huang and Gursoy, 2024) demonstrated that the integration of artificial intelligence technology, depending on whether it is perceived as a challenge or a hindrance, has the potential to incentivise or hinder employees' proactive service behaviours. The authors highlight that for AI integration to be perceived as a challenge rather than a hindrance, organisational support plays an important role. Considering STARA awareness as a technostress, the perception as a challenge and hindrance relies on resources (coping abilities). In the cognitive appraisal theory of stress, coping strategies are categorised into three types: problem-focused, emotion-focused, and avoidant (Hur and Shin, 2024). The problem-focused coping strategy involves modifying the person-environment relationship such as working harder in an insecure environment while the emotion-focused coping strategy is about regulating emotions arising from stress, such as finding positive aspects in a stressful situation (Hur and Shin, 2024). In this regard, we argue that through organisational support as a coping mechanism, employees' evaluations of STARA technologies can lead to positive or negative work behaviours. For example, when it provides appropriate conditions for problem-focused coping strategy in organisational environments that encourage personnel to work with technology and support the development of personnel's technological skills, negative work behaviour resulting from hindrance appraisals towards STARA awareness may decrease simultaneously. However, organisational support can be instrumental, informational, or emotional because of its heterogeneous nature (Jolly *et al.*, 2021). Moreover, Rohwer *et al.* (2022) indicated that organisational support aimed at promoting technological participation and literacy was insufficient for effectively managing technostress. Therefore, in the context discussed in this study, if employees receive emotional and psychological support, the effect of STARA technologies appraisal on work behaviours may alter. In other words, when employees feel emotionally supported and perceive the significance of their contributions to the organisation, there may be a decrease in their negative work behaviours and an increase in positive work behaviours resulting from CHAs of STARA technologies because POS encourages employees to exhibit altruistic behaviour and increases their desire to fulfil the psychological contract with the organisation. Thus, the intention to leave the job tends to decrease concurrently with an increase in organisational support (Wu *et al.*, 2023). Therefore, the following hypotheses are proposed (Figure 1):

H9. Perceived organisational support mediates the relationship between challenge appraisal of STARA technologies and turnover intentions.

H10. Perceived organisational support mediates the relationship between hindrance appraisal of STARA technologies and turnover intentions.

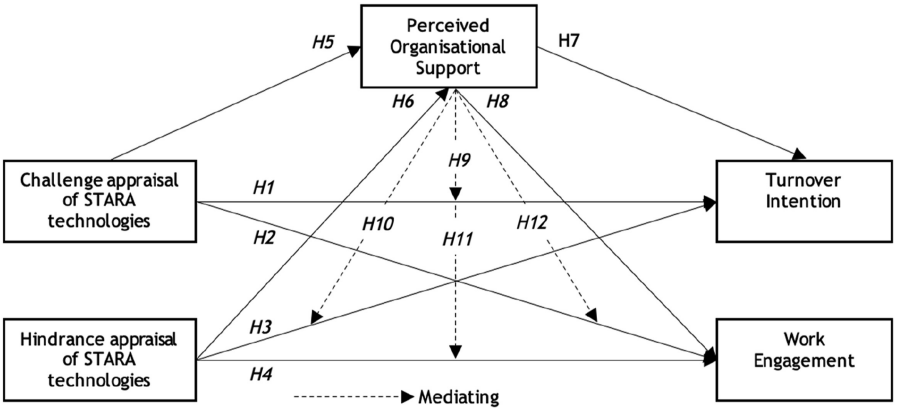
H11. Perceived organisational support mediates the relationship between hindrance appraisal of STARA technologies and work engagement.

H12. Perceived organisational support mediates the relationship between challenge appraisal of STARA technologies and work engagement.

Method

Sampling, data collection and survey instrument

The population in this research included hotel employees in Turkey. According to the Tourism Databank (2022), 417,000 people work in Turkey's hotels as of 2022. Cohen *et al.* (2007) suggested that 272 responses are sufficient for a research population of 500,000.



Source(s): Authors' own work

Figure 1.
Research model

In total, 324 responses were collected, 21 were eliminated due to incompleteness and 301 responses were used for data analysis. The study's sample size adequacy was determined using G*Power 3.1 software (Kang, 2021). A post-hoc test was conducted, setting an effect size of 0.15 and an Alpha error probability of 0.05. The test yielded a power (1–β (Beta) error probability) of 0.9, indicating a power level of 90%.

Given that the research focused on STARA awareness in the T&H industry in Türkiye and considering the limited use of technology and related employee experience compared to China and Europe, convenience sampling was used for data collection. Convenience sampling is a preferred method used by researchers due to its ease of use, time and resource efficiency, accessibility, and the broad understanding it provides (Etikan *et al.*, 2016). To identify a suitable hotel for data collection, the authors worked with a market research company through the local freelancer platform, bionluk.com, and identified 8 hotels in the Antalya region. These hotels used technologies such as kiosks, chatbots, and voice command systems. The data collection was carried out from November 2022 to January 2023 in three different hotels that agreed to participate. The link to the anonymous online questionnaire was distributed via WhatsApp and email. As the hotels involved in the research had periodic staff turnover, the number of employees during the data collection period was limited. To ensure a more diverse sample of employees, individuals from all departments were included in the research.

The measurement instruments were adapted from previous studies. The challenge scale ($\alpha = 0.93$) and hindrance appraisal scale ($\alpha = 0.95$) were adapted from Searle and Auton (2015). Both scales consist of four items each. The three items measuring work engagement ($\alpha = 0.85$) were adapted from (Guler *et al.*, 2019). The turnover intentions scale ($\alpha = 0.83$) was measured by five items from Kose *et al.* (2019). Perceived organisational support ($\alpha = 0.97$) was measured by using eight items from Yılmaz (2014). All measurements were on a 7-point Likert scale (1 = Strongly Disagree, 7 = Strongly Agree). All the measurement items are shown in Appendix.

Data analysis

The current research is based on partial least squares structural equation modelling (PLS-SEM), and analysis was carried out with PLS 4.0. With this method, researchers can test hypotheses and determine causal connections between study constructs. Unlike covariance-

based structural equation modelling (CB-SEM), which requires that the data be normally distributed, PLS-SEM does not raise such requirements (Zhang *et al.*, 2021). Furthermore, while complex models in the social sciences make CB-SEM difficult to use, PLS-SEM can be used in any circumstance (Hair *et al.*, 2012). Thus, PLS-SEM is frequently recommended in social science research (Ringle *et al.*, 2014). The data analysis utilised a three-step method proposed. The initial step involved testing the measurement model, followed by analysing the structural model and investigating the research hypotheses. Finally, perceived organisational support's mediating effect type and strength were estimated. Additionally, frequency analysis was conducted using Statistical Package for Social Sciences (SPSS), version 24.0, to ascertain participants' demographic information.

Findings

Profile of respondents

The respondents' demographic information (Table 1) showed that 69.1% of them were males. Most of the respondents (21.3%) were aged 31–35 years, 54.5% had graduated from high school, and 22.3% had a college degree. A total of 31.6% of respondents had worked in the tourism and hospitality industry for between 6 and 10 years, while 64.5% had worked at their current hotel for less than 5 years.

Measurement model

The reliability and validity of the constructs were assessed to test the measurement model. Table 2 shows the factor loading of each item, Cronbach's alpha, average variance extracted (AVE), and composite reliability values of the constructs. The results indicated that Cronbach's alpha (ranging between 0.74 and 0.81) and composite reliability (between 0.71 and 0.78) values were greater than the suggested minimal values of 0.70 (Hair *et al.*, 2022; Hair *et al.*, 1998). The results confirmed the convergent validity of the constructs, with AVE values

Table 1. Demographic information (n = 301)

Characteristics		Frequency	(%)
Gender	Male	208	69.1
	Female	93	30.9
Age	17–25	47	15.6
	26–30	60	19.9
	31–35	64	21.3
	36–40	63	20.9
	41–45	44	14.6
	46+	23	7.7
Education	Primary and secondary school	58	19.3
	High school graduate	164	54.5
	College graduate	67	22.3
	Post college graduate	12	3.9
Tenure in this hotel (year)	0–5	194	64.5
	6–10	73	24.3
	11–15	25	8.2
	16+	9	3.0
Tenure in the tourism and hospitality industry (year)	0–5	84	27.9
	6–10	95	31.6
	11–15	76	25.2
	16+	46	15.3

Source(s): Authors' own work

	T-value	2.5% lower	97.5% upper	Std. Loadings	Cronbach's alpha	AVE	CR
Challenge appraisal					0.81	0.63	0.76
CA1	41.426	0.778	0.855	0.819			
CA2	28.682	0.715	0.821	0.773			
CA3	34.846	0.757	0.847	0.805			
CA4	33.417	0.745	0.836	0.793			
Hindrance appraisal					0.79	0.61	0.75
HA1	25.051	0.694	0.812	0.758			
HA2	27.573	0.708	0.817	0.767			
HA3	51.412	0.815	0.880	0.850			
HA4	27.714	0.706	0.816	0.766			
Turnover intention					0.74	0.52	0.78
TI1	18.999	0.622	0.769	0.703			
TI2	25.981	0.674	0.782	0.733			
TI3	28.069	0.699	0.806	0.758			
TI4	28.113	0.695	0.801	0.752			
TI5	17.131	0.592	0.746	0.677			
Work engagement					0.76	0.67	0.71
WE1	41.602	0.789	0.867	0.831			
WE2	39.727	0.782	0.864	0.827			
WE3	39.351	0.766	0.847	0.810			
Perceived organisational support					0.77	0.52	0.78
POS1	23.728	0.672	0.793	0.740			
POS2	26.821	0.685	0.792	0.743			
POS3	25.464	0.675	0.788	0.736			
POS4	16.672	0.597	0.759	0.688			
POS5	23.688	0.647	0.765	0.711			

Source(s): Authors' own work

Table 2.
Measurement model

exceeding 0.5 and factor loadings above 0.6 after three items of the POS construct were eliminated (Hair *et al.*, 2010). Tables 3 and 4 show the discriminant validity of the constructs. The results confirmed the discriminant validity between the constructs according to the Fornell-Larcker criterion (Fornell and Larcker, 1981) because the square root of the AVE for each construct exceeded its correlation with all other constructs. Additionally, the results confirmed the constructs' discriminant validity based on the HTMT criterion because all HTMT values were less than 0.90 (Kline, 2015).

Constructs	CA	HA	POS	TI	WE
CA					
HA	0.572				
POS	0.537	0.502			
TI	0.565	0.562	0.849		
WE	0.740	0.553	0.659	0.771	

Note(s): CA = Challenge appraisal; HA = Hindrance appraisal; TI = Turnover intention; WE = Work engagement; POS = Perceived organisational support

Source(s): Authors' own work

Table 3.
Discriminant validity (HTMT criterion)

Structural model

When assessing the quality of a structural model, CB-SEM and PLS-SEM employ different approaches. The CB-SEM fit relies on calculating the observed covariance matrix, whereas the PLS-SEM fit focuses on the variance explained in the endogenous constructs (Astrachan *et al.*, 2014). Thus, the predictive capabilities of the model are used to evaluate the structural model (Hair *et al.*, 2022). This predictive capability is assessed by R2, collinearity, and path coefficients (Hair *et al.*, 2019; Sarstedt *et al.*, 2014). Before evaluating the structural model, collinearity must be examined, and VIF values must be 3 or less. There was no collinearity problem in the study because the VIF values for each predictor construct were less than 3.0 (Hair *et al.*, 2019). If the VIF values are acceptable, the next step is to examine the R^2 values (Hair *et al.*, 2019). Hair *et al.* (2022) highlighted that *"the R^2 is a measure of a model's explanatory power"* (p. 119). R^2 values range from 0 to 1, with larger values indicating more powerful explanations. R^2 values of 0.75, 0.50, and 0.25 can be considered significant, moderate, and weak, respectively (Hair *et al.*, 2019). The acceptable level of R^2 depends on the research context; for target constructs, R^2 should usually be greater than 0.25 (Hair *et al.*, 2022). In this context, the R^2 values of TI, WE, and POS were found to be 0.490, 0.435, and 0.254, respectively.

Table 5 and Figure 2 summarise the path coefficients of the structural model. A bootstrapping procedure with 5,000 samples was used to evaluate the structural model and test the significance of the path coefficients. According to the results, there was a significant relationship between the dependent and independent variables. Challenge appraisal of STARA technologies positively affected employees' work engagement ($\beta = 0.400$, $p < 0.01$) and POS ($\beta = 0.309$, $p < 0.01$). In addition, challenge appraisal had a

Constructs	CA	HA	POS	TI	WE
CA	*0.798*				
HA	−0.457	*0.786*			
POS	0.426	−0.397	*0.724*		
TI	−0.448	0.443	−0.660	*0.725*	
WE	0.583	−0.435	0.504	−0.590	*0.823*

Note(s): CA = Challenge appraisal; HA = Hindrance appraisal; TI = Turnover intention; WE = Work engagement; POS = Perceived organisational support; Square root of AVE on the diagonal; Correlations in the cells below the diagonal

Source(s): Authors' own work

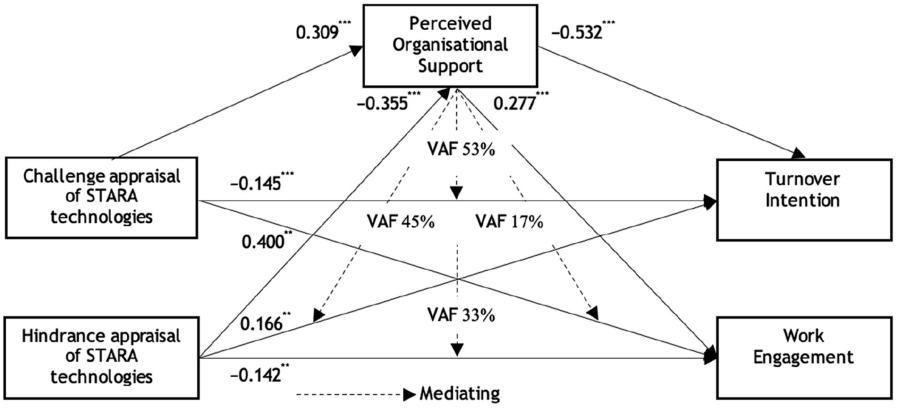
Table 4. Discriminant validity (Fornell-Larcker)

	β	T-values	p-values	2.5% lower	97.5% upper
H1: CA of STARA technologies → TI	−0.145	0.856	0.000	−0.248	−0.046
H2: CA of STARA technologies → WE	0.400	7.418	0.004	0.297	0.503
H3: HA of STARA technologies → TI	0.166	3.254	0.001	0.068	0.269
H4: HA of STARA technologies → WE	−0.142	2.722	0.007	−0.243	−0.041
H5: CA of STARA technologies → POS	0.309	4.254	0.000	0.157	0.447
H6: HA of STARA technologies → POS	−0.256	4.630	0.000	−0.364	−0.148
H7: POS → TI	−0.532	9.852	0.000	−0.636	−0.423
H8: POS → WE	0.277	4.723	0.000	0.163	0.390

Note(s): CA = Challenge appraisal; HA = Hindrance appraisal; TI = Turnover intention; WE = Work engagement; POS = Perceived organisational support; β = Path coefficient

Source(s): Authors' own work

Table 5. Significance testing results of the direct structural model path coefficients



Note(s): $^{**}p < 0.01$, $^{***}p < 0.001$
VAF 20%-80% = Partial
VAF < 20% = No mediation
Source(s): Authors' own work

Figure 2.
Structural model results

negative effect on employees' turnover intentions ($\beta = -0.145$, $p < 0.01$). H1, H2 and H5 were supported. The results showed that hindrance appraisal negatively influenced employees' work engagement ($\beta = -0.142$, $p < 0.001$) and perceived organisational support ($\beta = -0.256$, $p < 0.001$). There was a positive and significant relationship between employees' hindrance appraisal of STARA technologies and turnover intentions ($\beta = 0.166$, $p < 0.001$). Thus, H3, H4 and H6 were supported. The results supported H7, which showed a negative effect of employees' POS on their TI ($\beta = -0.532$, $p < 0.001$). Furthermore, there was a positive effect of employees' POS on WE ($\beta = 0.277$; $p < 0.001$), supporting H8.

The mediating effects of perceived organisational support

This study investigated the mediating effect of POS by adopting the method proposed by Nitzl *et al.* (2016). An indirect effect must first be significant for a mediating effect to exist. The type of mediation effect is then determined by using the variance accounted for (VAF) value, which is calculated by dividing the indirect effect by the total effect. A VAF value between 20% and 80% suggests partial mediation, while values above 80% indicate full mediation. VAF values below 20% indicate no mediation (Hair *et al.*, 2014). Table 6 displays a partial mediating effect of POS between challenge appraisal of STARA technologies and turnover intentions (VAF = 53%), providing support to H9. There was no mediating effect of POS between challenge appraisal of STARA technologies and work engagement (VAF = 17%) and H12 was rejected. On the other hand, the VAF values of 45% and 33% between hindrance appraisal of STARA technologies and turnover intentions and work engagement, respectively, show a partial mediating effect of POS. However, POS mediates in the opposite direction of the hypothesised effect, thus H10 and H11 were rejected.

Discussion and conclusion

Conclusions

The results support most of the hypotheses. We found that there was an important relationship between hindrance appraisal of STARA technologies and turnover intentions.

Type of effect Total effect (TE)	β	t	2.5% lower	97.5% upper	Remark
CA of STARA technologies → TI	−0.310	5.074***	−0.428	−0.190	sig
CA of STARA technologies → WE	0.486	8.947***	0.375	0.586	sig
HA of STARA technologies → TI	0.302	5.297***	0.190	0.413	sig
HA of STARA technologies → WE	−0.213	4.420***	−0.306	−0.121	sig
Indirect effect (IE)					**VAF (IE/TE)**
CA of STARA technologies → POS→TI	−0.165	3.967***	−0.250	−0.081	53%
HA of STARA technologies → POS→TI	0.136	4.294***	0.078	0.202	45%
HA of STARA technologies → POS→WE	−0.071	3.112**	−0.122	−0.034	33%
CA of STARA technologies → POS→WE	0.086	3.387**	0.039	0.139	17%

Note(s): CA = Challenge appraisal; HA = Hindrance appraisal; TI = Turnover intention; WE = Work engagement; POS = Perceived organisational support; **$p < 0.01$; ***$p < 0.001$; VAF = Variance accounted for; Sig = Significant
Source(s): Authors' own work

Table 6.
Summary of mediating effects tests

Contrary to Ding (2021), this research showed that a hotel employee's hindrance appraisal of STARA technologies reduced work engagement – the fear that employees would be unemployed due to STARA technologies created insecurity and negatively affected their work engagement. This concern about job security resulted in job dissatisfaction, causing staff to despair about their career (Kong *et al.*, 2021). The research also showed that challenge appraisal of STARA technologies had a significant and negative effect on turnover intentions but a positive effect on work engagement. Employees who considered STARA technologies as an opportunity for career development in tourism had more positive perceptions toward these technologies.

The research also suggests that cognitive appraisal triggers emotions (So *et al.*, 2016). The findings showed that challenge and hindrance appraisals affect perceived organisational support. These findings enrich the psychological evaluation of employees toward technologies (Ding, 2021). When a business adopts STARA technologies, feelings of depression and cynicism increase if the staff feels distrust toward these technologies (Brougham and Haar, 2018). In this case, the hindrance appraisal not only directs employees to leave their jobs in the long term but also affects their trust in the business and damages the relations between the employees and the organisation. The research also showed that perceived organisational support mediated the relationship between challenge appraisal of STARA technologies and turnover intentions.

Theoretical implications

This research has theoretical implications in various contexts. First, findings advance the previous research, which found that STARA awareness affects turnover intentions with a one-sided negative evaluation (Brougham and Haar, 2018), and revealed that STARA awareness could be evaluated positively. Similarly, Zhang and Jin (2023) found that a positive perception toward STARA technologies could lead to lower levels of job insecurity and job mobility while Tan *et al.* (2023) found that perceiving STARA technologies as a challenge led to increased employee satisfaction with their needs for job autonomy, relatedness, and competency. The relationship between STARA awareness and CHAs also refers to the Self-Determination Theory (SDT). According to SDT, individuals are active organisms who actively seek challenges for development. Within the scope of CHAs, individuals may possess

intrinsic motivation when perceiving a challenge believing that it will provide opportunities for competence and autonomy. Hindrances, on the other hand, diminish the satisfaction of psychological needs and lead to low levels of self-determined motivation (Kong *et al.*, 2023; Ntoumanis *et al.*, 2009).

Second, The Person-Organisation Fit Theory suggests that individuals experience positive outcomes such as job satisfaction, performance, and commitment when their values and goals align with those of the organisation they work for (Kristof-Brown *et al.*, 2023). Kong *et al.* (2021) highlight that AI awareness can disrupt the fit between the employee and the organisation. Similarly, this research shows that the relationship between hindrance appraisal of STARA technologies and perceived organisational support can disturb the psychological balance between the individual and the organisation.

Third, results expand previous research on CHAs, which refers to the Job Demands-Resources (JD-R) model (Fernandez de Henestrosa *et al.*, 2023). The JD-R is a stress model that highlights the correlation between job demands and resources. The model suggests that when there is a mismatch between the demands of the job and available resources, negative outcomes such as burnout can arise. However, if there are adequate job resources available, positive outcomes like engagement can be achieved (Bakker and Demerouti, 2007). Considering technostressors as job demands (Tang *et al.*, 2024), our findings reveal that perceived organisational support acts as a job resource.

Practical implications

This study provides several practical implications for hotel managers. First, managers should be aware of the benefits and harms that these technologies will bring to the business. In general, STARA technologies provide benefits for employees in terms of speed of work, productivity, efficiency or reduced workload. However, managers also need to consider employees' attitudes, awareness, and acceptance of these technologies (Parvez *et al.*, 2022). The uncertainty created by STARA technologies can cause exhaustion and burnout in employees and lead to increased turnover intentions. For this purpose, managers can train employees, informing them about their potential benefits and how STARA technologies can help them in their work processes (Li *et al.*, 2019). To reduce fatigue and burnout caused by uncertainty around technologies and the associated increase in turnover intentions, managers can implement training programmes to familiarise employees with these technologies. These training sessions should not only focus on technical aspects but also highlight the potential benefits of embracing technology in facilitating business processes and enhancing productivity. This will help emphasise the importance of humans in business processes and convey a message about human-technology collaboration rather than competition and the replacement of humans for technology.

Second, organisational support plays a critical role in keeping employees away from the fear of unemployment caused by technology. Hotel managers can increase employees' commitment to the organisation by helping them feel valued and supported. However, managers should keep in mind that the support they give to employees will not always work. The support provided by the organisation is based on the evaluation of the employee. While more optimistic employees are more warm toward the organisation, depressed employees may not recognise the value the organisation gives them. Moreover, individuals with higher levels of self-efficacy are more likely to adopt new technologies effectively, as they can overcome barriers to adoption and persevere in the face of challenges (Khoa, 2023). For this purpose, support should be provided to psychologically empower employees and improve their self-efficacy (Kong *et al.*, 2021). Hence, managers should strive to offer personalised assistance that addresses the distinct requirements and worries of every individual employee. This could include boosting employees' psychological empowerment, enhancing

their self-confidence, and cultivating a sense of worth and inclusion within the company. By applying these strategies, managers can establish a nurturing work atmosphere that minimises the adverse effects of technological uncertainty, thereby boosting employee well-being and dedication to the company.

Limitations and future research

The main limitation of the paper is that it considers employees in 5-star hotels in Turkey. Hence, the findings should be interpreted in that context. Future studies need to focus on employees from other tourism and hospitality sectors and other countries. In future research, it may be beneficial to examine hotels of varying sizes, including small, medium, and large establishments. Second, the study did not analyse interdepartmental differences because due to seasonality the number of employees was limited and the personnel turnover was high. Thus, future research may investigate the differences in the attitudes toward STARA technologies of employees from various hotel departments. Third, it was not possible to group respondents by hotels they worked in due to their anonymity. Future research can perform data analysis by grouping businesses based on different criteria, e.g. the specific STARA technologies used in them. Fourth, the current study assumed that the participants had knowledge of STARA technologies, and convenience sampling was used. In future research, the purposive sampling technique could be used to target personnel who are directly utilising technology within the hotel. Fifth, the current research used only one mediator variable. Therefore, future research may consider using different mediators. Finally, control variables (e.g. demographic characteristics of respondents) were not considered as the Turkish tourism sector is characterised as male-dominated, high turnover rate and lower education levels. Also, previous studies indicate that control variables such as actual positions, hotel star ratings, work experience (Zhang and Jin, 2023), gender, age, highest education level, and year of birth (Tan *et al.*, 2023) do not exhibit a significant relationship with the endogenous variables. Considering that the absence of control variables may facilitate potential endogeneity problems (Hult *et al.*, 2018), future research may incorporate control variables in the analysis.

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Further reading

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Appendix

Variables	Items	Statements
Challenge appraisal (Searle and Auton, 2015)	CA1	STARA technologies will help me learn a lot of information about my work
	CA2	STARA technologies will make the experience educational
	CA3	STARA technologies will show me I can do something new
	CA4	STARA technologies will enhance my ability to maintain focus and achieve optimal performance
Hindrance appraisal (Searle and Auton, 2015)	HA1	STARA technologies will hinder any achievements I might have in my work
	HA2	STARA technologies will restrict my work competency
	HA3	STARA technologies will limit how well I can do my work
	HA4	STARA technologies will prevent me from mastering difficult aspects of the work
Turnover intention (Kose *et al.*, 2019)	TI1	I will leave as soon as I can get a better job
	TI2	I am actively looking for a job except for this one
	TI3	I am seriously considering quitting my job
	TI4	I am thinking about quitting my job frequently
	TI5	I think I will work in this workplace for another five years (R)
Work engagement (Guler *et al.*, 2019)	WE1	At my workplace, I experience a sense of invigorating energy
	WE2	I am fully engaged and immersed in my work
	WE3	I am immersed in my work
Perceived organisational support (Yılmaz, 2014)	POS1	The hotel managers appreciate my contributions to the benefit of the hotel
	POS2	The hotel managers fail to appreciate any extra effort from me (R)
	POS3	The hotel managers ignore any complaints from me (R)
	POS4	The hotel managers demonstrate minimal concern for me (R)
	POS5	The hotel managers care about my general satisfaction at work
	POS6	The hotel managers really care about my well-being (Removed)
	POS7	Even if I did the best job possible, the hotel managers would fail to notice (R) (Removed)
	POS8	The hotel managers take pride in my accomplishments at work (Removed)

Note(s): R stands for reverse coding
Source(s): Authors own work

Table A1.
Sources of the items

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