Research article

Unlocking team excellence: The transformative power of work engagement, career commitment, and role innovation Amidst conflict

Buddhika Mudannayake [a], Ramudu Bhanugopan [a], Jane Frances Maley [b,c,*]

[a] Faculty of Business, Justice and Behavioural Sciences, Charles Sturt University, Wagga Wagga, NSW, 2678, Australia
[b] School of Business, Sabanci University, Tuzla, 34956, Istanbul, Turkey
[c] Faculty of Business, Justice and Behavioural Sciences, Charles Sturt University, Bathurst, NSW, 2678, Australia

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ABSTRACT

Organizations increasingly recognize the importance of work engagement and career commitment. Yet, how these factors operate within teams remains unexplored in the current literature. This study aims to uncover how conflict and innovation influence engagement and career commitment in teams. We conducted a two-wave survey involving 196 managers and 873 subordinates from Sri Lankan manufacturing firms. As expected, higher work engagement is linked to greater career commitment and role innovation. Interestingly, role innovation was more pronounced during elevated task conflict. While task conflict enhanced the connection between work engagement and role innovation, it also positively impacted career commitment. Thus, the findings confirm role innovation's mediating role between employee engagement and career commitment and reveal task and relationship conflict as moderators in this relationship. This research expands on the Broaden and Build theory by emphasizing the greater importance of task conflict intensity in teams than previously recognized. Additionally, the study highlights that low conflict levels detrimentally affect teams, offering fresh insights for managerial considerations. By enhancing our understanding of team dynamics, this study contributes to improved organizational efficiency and positive outcomes.

1. Introduction

Over the past two decades, extensive research has emphasized the growing significance of employee work engagement [1,2]. This burgeoning field has unveiled crucial connections between work engagement, career accomplishments, and job performance [3].

Work engagement, arising from diverse social-psychological processes, exhibits contagious properties within teams [3]. This phenomenon emerges collectively when team members share heightened levels of vigor, dedication, and absorption, ultimately leading to improved team performance [4]. Yet, while individual-level work engagement has garnered substantial attention [5], a comprehensive understanding of the multilevel and social-psychological origins of team engagement remains limited [6]. Notably, the effects of conflict on work engagement and goal attainment in teams warrant further exploration.

Conflict, categorized as task or relational, has been implicated as a social-psychological construct with potential disruptive impacts on teams and work engagement. However, comprehending the ramifications of task and relational conflict presents challenges, leaving gaps in our understanding of their relational implications in teams. This study seeks to address this void by elucidating the link between work engagement and career commitment, positing that both conflict types not only influence career commitment but also moderate the connection between work engagement and career commitment. Additionally, conflicting results regarding the relationship between conflict dimensions and team outcomes create a knowledge gap that requires deeper exploration. Therefore, a holistic understanding of the complex multilevel dynamics in team environments is needed, encompassing the antecedents of work engagement and career commitment, as well as the roles of conflict and innovation.

Consequently, this study investigates the moderating role of team conflict and the interplay between work engagement and role innovation. Research suggests that moderate levels of task conflict can enhance team innovation, but on the other hand, conflict might divert energy from innovative endeavors. Nevertheless, despite the wealth of conflict literature, scant attention has been given to its impact on careers and the motivating factors influencing team engagement. We present a theoretical model (Fig. 1) depicting the relationship between work engagement and career commitment, accounting for their effects on role innovation and team conflict. In this model, task and relationship conflicts act as moderators between work engagement and career commitment, while role innovation mediates the connection between work engagement and career commitment.

Our study contributes meaningfully to the team literature by examining the interactive impact of work engagement and team conflict on role innovation and career commitment. It sheds light on engaged employees and their role in fostering innovation. The findings highlight triggers of team conflict and offer recommendations for conflict mitigation. Furthermore, the study underscores the importance of career commitment, elucidating its advantages across organizational levels. This commitment encourages proactive behavior, aligns employee skills with strategic goals, and plays a pivotal role in achieving organizational objectives.

The subsequent section examines theory-building, focusing on work engagement, innovation, career commitment, and team conflict. Drawing from Fredrickson's [7] Broaden and Build theory, this section synthesizes role innovation, team conflict, and career commitment, culminating in the formulation of hypotheses. The methodology section outlines the research approach, followed by the presentation of findings. Subsequently, the discussion section elaborates on contributions, implications for theory and practice, limitations, and avenues for future research.

2. Theory development

2.1. Work engagement

The notion of work engagement has recently attracted the attention of scholars and practitioners due to its association with increased employee performance and well-being [8]. The original concept of employee engagement suggested that engaged employees would be physically, cognitively, and emotionally more involved in their work, find more meaning, and have more robust levels of trust and security [5].

Engaged employees have heightened levels of stamina and commitment [9]. Vigor refers to high energy and mental resilience while working. Individual resilience is comparable to stamina but also refers to recovery; for example, *"the ability to maintain and exceed expected performance and recover fast from adversity and demands by mobilising and accessing the resources needed"* (19, p. 25). Dedication refers to being intensely involved in work tasks and experiencing a sense of significance, enthusiasm, and challenge. The absorption dimension of work engagement indicates the absolute concentration on and immersion in work, characterized by difficulty separating oneself from one's work [9].
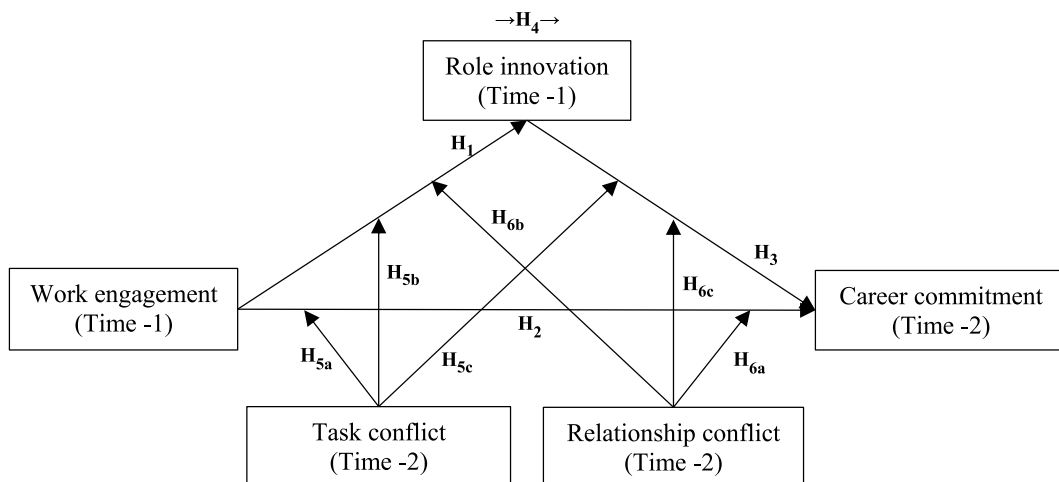

Fig. 1. The theoretical model.

On the other hand, low work engagement can reduce work performance outcomes and employee well-being. Maslach and Leiter [10] associate low work engagement with burnout. Schaufeli et al. [9] agree that work engagement could be a positive antidote to burnout, and they regard the two concepts as separate, distinct ideas. They argue that work engagement must be gauged on something other than a burnout scale. To measure work engagement, they developed the Utrecht work engagement scale (UWES) [9]. The scale measures work engagement characterized by vigor, dedication, and absorption.

A substantial body of research has recently pinpointed various antecedents of work engagement. One of the foremost factors is leadership in the work environment [11]. Possibly the most prominent factor is perceived organizational support [12], which explains the extent to which employees feel the organization values their work contributions and cares for their well-being. Business performance is a motivational factor for work engagement, and it makes sense that if the business is doing well, teams will be more engaged. It is evident from the extant literature that engaged employees offer organizations many benefits, and engagement is a highly desirable state for teams and organizations.

2.2. Work engagement and role innovation

Work engagement is fundamentally linked to role innovation. Kahn [5] found that work engagement directs an employee to be innovative, where the employee takes extra effort to work with peers and tries to improve current work practices. Thus, when work engagement is present, employees become enthusiastic about their job roles, take pride in their work, and are willing to put in more time [9], which can then result in innovation.

Brim [13] defines *role innovation* as an individual's identity through role assimilation and extension. Bandura [14] extended this definition by suggesting that exposure to diverse patterns will increasingly enable an individual to combine aspects of various models into a new innovative approach. Role innovation will occur due to the psychological and cognitive freedom occurring when employees are deeply involved and satisfied with their work. Engaged individuals are not just present in their roles; they are psychologically absorbed in their tasks and their mind is unburdened by unimportant concerns that can repress creativity. In this state, individuals are more likely to experience cognitive flexibility, allowing them to 'think outside the box' and generate innovative solutions.

Innovation is associated with particular teams of employees, such as R&D experts in high-tech companies such as Amazon, Apple, and Netflix. According to Richard Branson, the innovative potential of employees is critical for firm sustainability. Branson argues that innovative employees who think outside the box have disrupted industries and positively changed business operations [15]. One way Virgin increases employee engagement may be the abundance of training it offers to all its employees. Training increases motivation across many companies. It leaves employees feeling motivated and with a higher understanding of the organization [16].

Other scholars maintain that role innovation encourages employees to become proactive, take more initiative and engage in role-making and modifying their task processes [17], and align job tasks with personal knowledge and capabilities, reinforcing self-efficacy and job satisfaction [1]. In this way, role innovation could involve modifying roles to facilitate team members' engagement. Thus, each scholarly work has slightly different notions of role innovation. Staw and Boettger [17] propose behavioral realities, whereas Bandura [14] and Aime et al. [1] appear to be more cognitively driven. Indeed, evidence suggests that innovative role behavior enables job tasks to be aligned with personal knowledge and capabilities, reinforcing self-efficacy and job satisfaction [14].

While some relationships between engagement and innovation may appear obvious, they are not fully understood, so they are worth investigating. For example, we do not know if all or what type of employees will become more engaged in their work through extended job extension [13]. Or what types of combinations of work patterns and teams are more likely to foster innovation [14]. And we know little about how this manifest across different cultures. Our study will attempt to add new insights by increasing our understanding of the nuances around positive engagement and innovation.

Career commitment is related to work engagement. For instance, personal achievements reinforce career commitment, which brings a psychosocial benefit (recognition, friendship, acceptance, and role modelling that can enhance an employee's subjective perceptions of their career [1]. Work engagement benefits the organization by stimulating task and contextual performance. As per Coetzer and Rothmann [18], when employees are disengaged from work, it can result in employee turnover, absenteeism, and poor performance, while work engagement may result in job performance, job satisfaction, organizational commitment, and lower turnover intention rates [19]. According to these authors, people's job engagement and commitment are a consequence of their work-based intrinsic attitudes and identities. According to previous research, we can propose:

Hypothesis 1. Work engagement is positively related to role innovation.

The positive relationship between work engagement and career commitment encompasses several critical dimensions. Engaged employees typically experience a higher sense of job satisfaction, which in turn fuels a deeper commitment to their careers. This satisfaction stems from finding their work both fulfilling and rewarding, enhancing their attachment to their career path [1]. Engaged employees are often more driven to develop their skills and progress in their careers.

A significant factor is the Sense of Purpose and Meaning that engaged employees derive from their work. When employees find their work meaningful, they are more likely to maintain a long-term commitment to their careers, finding a solid anchor in the purpose their work provides [19]. Engaged employees are usually more productive and achieve better outcomes, reinforcing their commitment to their career through the tangible success of their efforts [1], and according to Bandura [14], they will be exposed to more diverse patterns that will encourage innovative behavior.

Organizational Support and Recognition further strengthen this relationship. Engaged employees often receive greater support and acknowledgment from their organization, enhancing their connection to their careers and motivating them to continue excelling [20]. Thus, work engagement and career commitment are intricately linked, with engagement acting as a catalyst for various factors that

collectively enhance career satisfaction, growth, and sustainability. We propose:

Hypothesis 2. Work engagement is positively related to career commitment.

Hypothesis 3. Role innovation is positively related to career commitment.

Hypothesis 4. Role innovation mediates the positive relationship between work engagement and career commitment.

2.3. The moderating role of team conflict

Conflict has been more formally defined as *"the process emerging from perceived incompatibilities or differences among group members"* (12, p. 360). Research on conflict has revealed two primary types of team conflict: task conflict and relationship conflict. Task conflict concerns scope, policies, methods, or determinations concerning work duties. On the other hand, *relationship conflict* is an interpersonal fray founded on differing opinions, dispositions, or understanding, with little regard to the task at hand. Awkwardly, task conflict and relationship conflict are often confused and poorly understood in the typical workplace. A third form of conflict is frequently discussed in management literature – *"process conflict"* [21]. This model embodies frustration, conceptualization, behavior, and outcomes. We decided not to focus on process conflict for two reasons. First, task conflict has been argued to be similar to process conflict [22]. Second, process conflict has been found by scholars to be difficult to measure. While we recognize the critical role that process conflict can play in team effectiveness, we agreed it was better to omit it from our study for these reasons.

The seminal works of Jehn examined relational conflict and task conflict within work teams. His first study refers to relational conflict as interpersonal disagreements or personality contrasts and different values or norms that manifest in tension, annoyance, and animosity among team members [23]. The second study defines relational discordancy, task conflict, and team member incongruity 22). A third study assesses the notion of process conflict – outlined as incompatible partialities about how a task should be performed [24].

However, a study by Pelled [25] provided two theoretical models explaining why conflict emerges. The structural models of conflict highlight the contextual factors that cause and shape the conflict. In contrast, the process models outline the dynamic processes that connect structural sources to manifest conflict [26]. These two models of conflict establish a route whereby circumstantial factors that define incongruous goals and interests form pessimistic social interactions among team members and eventually drive team conflict [26]. Recent studies have built on these earlier studies and created numerous ideas. For example, Greer et al. [27] advocate that influential teams will attempt to increase their power, while Nishii [28] maintains that inclusion is needed to lower relational and task conflict.

Furthermore, while De Dreu [29] found inconsistencies in his study on the association between conflict and team innovation, showing teams became innovative when conflict was moderate instead of low or high, he also found a curvilinear effect occurred for task conflict, but not for relationship conflict, and that the effects of task conflict are mediated by collaborative problem-solving.

Conversely, DeWit et al. [16] denote a negative relationship between conflict with more proximal team outcomes, stressing that teams' motivational and affective states change dynamically and permanently. Rezvani et al. [30] argue that when trust exists in a team, it reduces conflict by helping to manage emotions. Consistent with the strengthen, diminish, or otherwise alter relationship nature of the task and relationship conflict arguments with mixed empirical support above, we expect the following:

Hypothesis 5. Task conflict moderates the relationship between *(a)* work engagement and career commitment, *(b)* work engagement and role innovation, and *(c)* role innovation and career commitment. Such relationships are stronger when task conflict is higher.

Hypothesis 6. Relationship conflict moderates the relationship between *(a)* work engagement and career commitment, *(b)* work engagement and role innovation, and *(c)* role innovation and career commitment. Such relationships are more pronounced when relationship conflict is low rather than high.

Thus far, we have explained how work engagement leads to subordinates' career commitment via role innovation and proposed the moderating role of team conflict on the work engagement-role innovation relationship. Taking these together, we propose the moderated mediation model for these relationships. In low-level conflict situations, subordinates' perceptions of their members are more likely to be transformed into innovative behavior due to increased task and relationship conflicts. However, the association between work engagement and career commitment via role innovation is better in a typically unsupportive relationship (indicated by high task and low relationship conflicts). Accordingly, we propose the following:

Hypothesis 7a. The indirect relationship between work engagement and career commitment via role innovation is moderated by task conflict, such that when conflict is higher, the indirect relationships are stronger.

Hypothesis 7b. The indirect relationship between work engagement and career commitment via role innovation is moderated by relationship conflict, such that when conflict is lower, the indirect relationships are stronger.

2.4. Broaden and Build theory

The complexity around work engagement, career commitment, role innovation, and conflict can be understood through Broaden and Build theory [7]. This theory perspective asserts that engaged employees exhibit positive emotions, such as curiosity and contentment, because they are not plagued by negative emotions, such as anxiety and misery. While positive emotions can be infectious at work, fostering trust and resilience [31], psychological empowerment and innovative behavior [32], negative emotions can

be catastrophic to teams. They narrow mindsets and entice escapement and a loss of trust [33]. For instance, a frustrated team member can become argumentative, which can engender negative team emotions. Thus, Broaden and Build theory [33] is particularly pertinent to our study.

While Broaden and Build focus on positive and negative emotions, Fredrickson [7] has been attentive to negative emotions. Our study mainly focused on negative emotions, such as fear, sadness, and shame, that can narrow perspective and avoidance motivation [34]. Negative emotions are more likely to arise in conflict, which may result in fewer opportunities to build innovation capabilities. Focusing on negative emotions was more pertinent to our study.

3. Methodology

3.1. Sample and procedures

The study was conducted in the manufacturing industry in Sri Lanka. Ethics approval was obtained from the ethics committee of a large Australian university. The research was designed at two points in time over the 'six months targeted' manufacturing line. Data were collected in two waves with a three-month interval (Time 1; three months after starting the product line, and Time 2; three months after Time 1). The survey period ran from June 2016 to January 2017. Through the public relations officer in the human resources department in each company, the researcher distributed the questionnaire to employees. The participants received a cover letter explaining the purpose of the study, a questionnaire, and an envelope for returning the questionnaire. A sealed box was used for returned questionnaires.

Participants were given two weeks to complete the survey. At the end of the second week, the researcher collected the box with the returned questionnaires. At Time 1, the questionnaires were distributed three months after starting the production cycle, measuring role innovation, team conflict, and basic demographics. Three months later, at the end of the production cycle (Time 2), employees were asked to report on career commitment and work engagement. To reduce the risk of comprehension problems, the questionnaires were administered in Sinhala (the local language). As the questionnaires were originally constructed in English, all items underwent a standard translation and back-translation procedure. The questionnaires were translated from English to Sinhala, then back-translated into English to ensure high accuracy. Furthermore, a pilot test was also conducted to ensure the clarity and adequacy of the translation. Color coding for each team was used; and a code for each team member was created. Finally, leaders and subordinates were informed that their responses would be kept confidential and that codes would ensure an accurate match of leader-subordinates surveys.

The questionnaires were distributed to 1410 employees (1200 subordinates and 210 immediate supervisors). Comparing the two sets of returned questionnaires yielded a final sample of 196 leaders (93.3% response rate) and 873 subordinates (72.7% response rate). Of the 196 leader participants, 58.7% were female and 49.1% were aged between 36 and 45; their average organizational tenure was 3.4 years and 37.2% held a diploma level education. From 873 subordinate participants, 76.2% were female and 80.2% were aged 31–35; their average organizational tenure was 2.7 years and 63.3% held a technical or trade qualification. Of the 1069 participants, 60.1% were from production; 8.6% from quality checking; 7.5% from stores; 7.1% from packing; 6.1% from cutting; 4.2% from sampling; 3.7% from bundling; and 2.7% from fabric departments.

3.2. Ethics approval

Full ethics committee approval was granted for this study and informed consent was obtained from all participants before the start of the research.

3.3. Measures

Role innovation was measured using West's [35] six-item role innovation scale. Sample items are, "Deciding the methods used to achieve work targets/objectives" and "Initiating new procedures or information systems". Respondents rated this measure based on a 4-point Likert-type scale from 1 (*"I do the job much the same as other people have done"*) to 4 (*"I do the job completely differently than others have done it"*). Cronbach's alpha was 0.84. *Task conflict* was measured using Jehn's [36] 4-item scale. Sample questions are, "How many disagreements over different ideas were there?" and "How many differences about the content of decisions did the group have to work through?" *Relationship conflict* was also measured with five items adapted from Jehn [36]. Sample questions are, "How much anger was there among the members of the group?" and "How much personal friction was there in the group during decisions?" Respondents rated this measure based on a 5-point scale (1 = none to 5 = a great deal). The alpha coefficient was 0.82.

3.4. Employee engagement

A shortened version of the Utrecht work engagement scale–9 (UWES-9) developed by Schaufeli et al. [9] was used to measure employee engagement (0 = never to 7 = always). Sample items include "At my work, I feel bursting with energy" and "I get carried away when I am working". The scale's reliability was 0.91.

3.5. Career commitment

Blau's (1988) 7-item scale was adopted. Sample items are "Rate the timeline by which this team's project was completed" and "I

Table 1
Descriptive statistics and correlations.

	M	SD	ICC [1]	ICC [2]	1	2	3	4	5	6	7	8	9	10
Time 1 variables														
1 Work engagement	6.10	0.82	–	–	0.10**	0.07*	−0.16*	0.09**	−0.12**	(0.91)				
2 Relationship conflict	2.25	0.89	0.13	0.46	−0.01	−0.09	−0.12**	−0.07*	0.10**	−0.27**	(0.94)			
3 Task conflict	3.21	0.76	0.18	0.55	0.07*	0.05	−0.07*	0.04	−0.06	0.23**	−0.44**	(0.87)		
Time 2 variables														
4 Role innovation	2.68	0.76	–	–	0.04	0.03	−0.03	0.11*	0.14*	0.19**	0.41**	−0.36***	(0.84)	
5 Career commitment	3.53	0.68	–	–	−0.06	0.01	0.21**	−0.07*	−0.11*	0.20**	0.21*	−0.40**	0.22***	(0.89)

N (Leaders) = 196; N (subordinates) = 873.
Alpha coefficients are in parentheses on the diagonal in bold.
*p < .05; **p < .01; ***p < 0.001 (two-tailed tests).

like this career too well to give up". Respondents rated this measure based on a 5-point Likert-type scale from 1 ("strongly agree") to 5 ("strongly disagree"). Cronbach's alpha was 0.81.

3.6. Control variable

Research highlights the importance of a control variable as an influence on individual behavior [37]. Therefore, we measured five demographic variables – job category, organizational tenure, gender, age, and education.

3.7. Preliminary analysis

The study data include leaders' self-assessments of their behavior and assessments of subordinates' behavior, as well as subordinates' assessments of their leaders' behavior. Thus, all variables applied in the theoretical model were collected through self-reported employee surveys to obtain a large number of observations. Before the analyses, basic assumptions of multivariate data analysis, such as normality and linearity were tested. Data from the two samples showed approximately normal distributions. The literature suggests self-reported surveys can result in common method bias [38]. Hence, several procedural remedies suggested by Podsakoff et al. [38] to control and address common method bias were included.

The study used several methods to control common method bias [38]. First, data were collected with a temporal separation, i.e., two sets of questionnaires were distributed with a three-month time lag [38]. Second, we obtained answers from leaders and subordinates working in diverse organizational departments – stores, bundling, cutting, fabric, sampling, production, quality, and packing – as this has been suggested as an excellent strategy to prevent common method bias [39]. Third, the questionnaires consisted of different scales [38]. Fourth, we assured the participants of the confidentiality of the returned questionnaires and that they would not be shared within their departments [38]. Finally, we compared the mean and standard deviation and ran a confirmatory factor analysis on all 31 underlying items from the four variables.

3.8. Endogeneity

Our study used a non-experimental design, so the threat of endogeneity could be a concern and may arise from measurement error, simultaneity, or omitted variables [2]. We addressed this concern in two ways. First, we collected the data from multiple respondents to minimize the measurement error that might threaten the validity of the relationship between the measures. We collected data from matching leader-subordinate teams. According to Rindfleisch et al. [40], separating independent and dependent variables is a useful strategy to reduce common method bias. Thus far, we have reduced the potential threat of endogeneity that may occur through measurement error. Second, we addressed the issue of simultaneity as follows. When two variables simultaneously affect each other, simultaneity occurs [2]. Based on the literature, we highlight work engagement as an influence of career commitment. That is, the path of the relationship goes from work engagement to career commitment. In other words, a level of engagement is a necessary condition for career commitment to occur. Therefore, we are confident that the trajectory of the link is not vice versa at the same time and, theoretically, simultaneity is not an issue in this study.

3.9. Analytic strategies

Table 1 presents the study variables' means, standard deviations, and correlations. The analyses were conducted at the team level (N = 196 teams). Task and relationship conflicts are team-level constructs that measure the shared perception among team members concerning the degree to which the team comes across conflict situations. We justify the appropriateness of aggregating individual responses to the team level by assessing interrater agreement by computing rwg(j). The mean rwg(j) values of 0.76 and 0.79, respectively, were well above the conventionally acceptable value of 0.70 [41], suggesting a high level of agreement among individual members regarding conflicts within a team.

Furthermore, we conducted a one-way ANOVA and the result showed a significant between-group variance in task and relationship conflict ratings (F = 1.83, p < 0.001, F = 1.96, p < 0.001). We then calculated the interclass correlation (ICC1) and the reliability of the group mean (ICC2) to test between-group variance and within-group agreement.

In addition, all hypotheses in the measurement model were tested through structural equation modeling (SEM) using Mplus 8 [42]. The structural equation modeling approach allows simultaneous estimation of multiple indirect paths and provides model fit indices [41]. The analyses were run using a single-level option implemented in the software and maximum likelihood estimation with robust standard errors (MLR). A comparison of the model fit between the proposed and four alternative models was then conducted. Next, the path estimates for testing each hypothesis were obtained in the theoretical model. Then, Hayes' [43] PROCESS Model 7 was used for the moderation and mediation analysis. Finally, the indirect relationships were replicated using a Monte Carlo simulation [44].

3.10. Findings

This study aimed to examine work engagement by investigating how it is moderated by team-level conflict (*task and relationship*) and mediated by role innovation. The findings supported the mediating role of role innovation between employee engagement and career commitment. Furthermore, moderator analyses demonstrated that task and relationship conflict moderated the relationship between engagement and commitment. The results will now be explained in greater detail.

3.11. Confirmatory factor analysis

To examine whether our measurement model captured distinctive constructs as expected, we first conducted confirmatory factor analyses (CFAs) using Mplus 8 with the default setting [42]. The results of the CFAs are presented in Table 2. As expected, the five-factor measurement model (i.e., work engagement, relationship conflict, task conflict, role innovation, and career commitment) had a good model fit, with a chi-square of 1087.358 (df = 340, p < 0.01), CFI = 0.92, TLI = 0.91, RMSEA = 0.06, and SRMR = 0.04.

We further compared the measurement model with several alternative measurement models. As shown in Table 2, the five-factor model fits better than the other models, indicating that the measures used in our study captured distinct constructs as anticipated.

3.12. Model estimation

Fig. 2 presents the test results of the final measurement model. As expected, work engagement was positively related to role innovation (β = 0.40, p < 0.01) and career commitment (β = 0.26, p < 0.01), supporting Hypotheses 1 and 2, respectively. Hypothesis 3 was supported, indicating a positive relationship between role innovation and career commitment (β = 0.21, p < 0.001). Hypothesis 4, the mediation role of role innovation between work engagement and career commitment, was tested under the mediated and moderated indirect paths section.

3.13. The role of task conflict

Hypothesis 5a proposes that task conflict moderates the relationship between work engagement and career commitment. First, the interaction effect of task conflict and work engagement on career commitment was significant (β = 0.24, p < .01), while controlling for relationship conflict. Hence, there was initial support for Hypothesis 5a. We then followed the procedures recommended by Cohen et al. [45] by estimating the model at two values of task conflict, 1 SD above and below the mean to further the interaction. Fig. 3 shows the interaction plot on the moderating effect of task conflict between work engagement and career commitment. The relationship between work engagement and role innovation is stronger when task conflict is higher. Following the same procedure, we tested Hypothesis 5b (task conflict strengthens the positive relationship between work engagement and role innovation). As predicted, the interaction effect was significant (β = 0.31, p < .01). Fig. 4 presents the interaction plot on the moderating effect of task conflict between work engagement and role innovation. Considering Hypothesis 5c, when the interaction was entered into the model, role innovation continued to predict career commitment but the interaction was not significant (β = 0.11, p = 0.352). Thus, Hypothesis 5c was not supported.

3.14. The role of relationship conflict

The role of relationship conflict was tested the same way as task conflict. We examined whether direct paths between work engagement and (a) career commitment and (b) role innovation are moderated by relationship conflict, controlling for task conflict. The results show that the moderating effects of relationship conflict were non-significant, with β = 0.06, p = 0.047 for career commitment and β = - 0.04, p = 0.039 for role innovation. Therefore, Hypotheses 6a-b were not supported. Hypothesis 6c, the moderation role of the relationship between role innovation and career commitment, was tested next. When an interaction was entered into the model, role innovation continued to be a significant predictor of career commitment, and the interaction effect was significant and negative (β = −0.17, p < .01). Fig. 5 shows the interaction plot on the moderating effect of relationship conflict between role innovation where role innovation is positively related to career commitment, and this relationship is more robust when teams have low levels of relationship conflict. Table 3 presents the path analytic test results of the supporting hypotheses.

3.15. The mediated and moderated indirect paths

Hypotheses 4, 7a, and 7b were tested next. The test results of the indirect paths are presented in Table 4. We first obtained 95% confidence intervals for the unstandardized indirect relationships using 10,000 Monte Carlo replications [42,44]. An indirect effect is significant when the confidence intervals do not contain zero. Our study results showed that the indirect relationships of work engagement on career commitment via role innovation were significant: 0.19 (95% CI: 0.03, 0.07), supporting Hypothesis 4. Further,

Table 2
Results of confirmatory factor analysis of the measurement models.

Model	χ^2	df	CFI	TLI	RMSEA	SRMR
Hypothesized model	1087.36	340	0.94	0.94	0.06	0.04
Alternative model 1 (combined employee engagement and relationship conflict)	1236.09	345	0.87	0.84	0.11	0.08
Alternative model 2 (combined role innovation and career commitment)	1917.21	345	0.89	0.88	0.10	0.09
Alternative model 3 (combined engagement and task conflict, and combined role innovation and career commitment)	1635.15	345	0.88	0.86	0.08	0.06
Alternative model 4 (combined all items into one factor)	2195.88	345	0.84	0.83	0.09	0.11

Note. CFI = comparative fit index; TLI = Tucker Lewis index; RMSEA = root mean square error of approximation; SRMR = standardized root mean square residual.
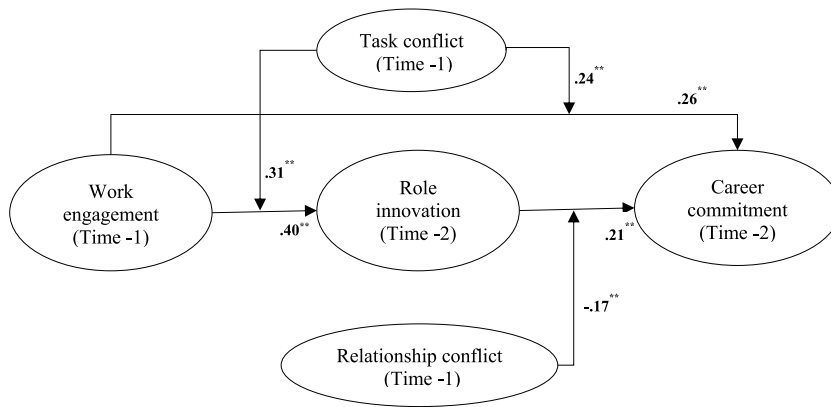
Fig. 2. Results of the final measurement model.
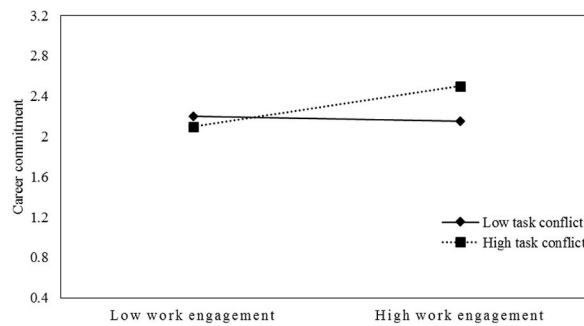*$p < .05$; **$p < .01$; ***$p < 0.001$ (two-tailed tests).

Fig. 3. The moderating effect of task conflict between work engagement and career commitment.
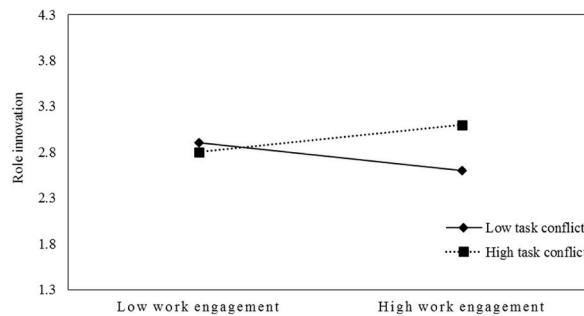

Fig. 4. The moderating effect of task conflict between work engagement and role innovation.

we obtained indirect relationships at high and low task and relationship conflict conditions. As can be seen in Table 4, the indirect effect of work engagement → role innovation → career commitment was significantly greater when task conflict was high than when it was low. Similarly, the indirect effect of work engagement → role innovation → career commitment was greater when relationship conflict was high. The results support Hypotheses 7a-b.

4. Discussion

In organizational behavior, understanding the multifaceted dynamics within teams remains both a challenge and a necessity. Our study embarks on an insightful exploration, bridging the nuanced links between role innovation, task and relationship conflicts, work engagement, and the overarching theme of career commitment in team settings. Employing a two-phase data collection approach, we unearthed compelling insights. We found that proactive work engagement does not merely foster role innovation among employees; it also bolsters their determination to anchor themselves firmly to a specific career trajectory.

Intriguingly, this connection was intensified in scenarios with reduced team task conflict, revealing heightened negative precursors
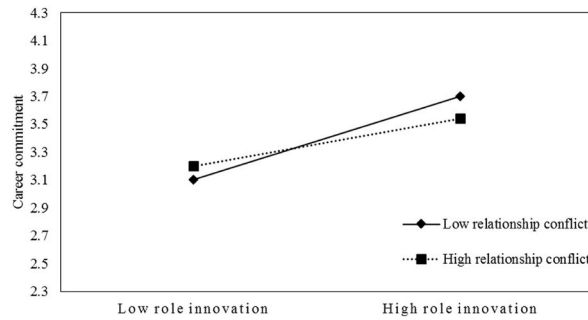
Fig. 5. The moderating effect of relationship conflict between role innovation and career commitment.

Table 3
Path analytic modeling results.

Path	Model 1	Model 2
	β (SE)	β (SE)
Work engagement → Role innovation	0.18* (0.06)	0.40** (0.06)
Work engagement → Career commitment	0.16* (0.13)	0.26** (0.12)
Role innovation → Career commitment	0.18***(0.06)	0.21***(0.06)
Task conflict → Role innovation	0.26** (0.12)	0.27** (0.11)
Work engagement × Task conflict → Role innovation		0.31**(0.08)
Relationship conflict → Career commitment	−0.12* (0.05)	−0.19* (0.05)
Role innovation × Relationship conflict → Career commitment		−0.17**(0.05)
Task conflict → Career commitment	0.18* (0.06)	0.20* (0.06)
Work engagement × Task conflict → Career commitment		0.24** (0.09)
$R^2_{\text{Role Innovation}}$	0.24**	0.31***
$R^2_{\text{Career Commitment}}$	0.72***	0.73***

Note: Reported values are standardized path estimates. Model 1 is the main-effect only model. Model 2 is the hypothesized moderated mediation model (final model). Both models are fully saturated.
*$P < 0.05$ **$P < 0.01$ ***$P < 0.001$.

Table 4
Summary of moderated indirect relationships.

Hypothesis	Indirect paths	Indirect relationships (95% confidence interval)
H3	Work engagement → role innovation → career commitment	0.19 (95% CI; 0.03, 0.07)
H6a	- When relationship conflict is high	0.03 (95% CI; 0.01, 0.05)
	Work engagement → role innovation → career commitment	
	- When relationship conflict is low	0.04 (95% CI; 0.03, 0.08)
	Work engagement → role innovation → career commitment	
	Difference between indirect relationships at low vs. high relationship conflict	0.02 (95% CI; 0.01, 0.04)
H6b	- When task conflict is high	0.06 (95% CI; 0.01, 0.10)
	Work engagement → role innovation → career commitment	
	- When task conflict is low	0.03 (95% CI; 0.001, 0.05)
	Work engagement → role innovation → career commitment	
	Difference between indirect relationships at low vs. high task conflict	1.2 (95% CI; 0.003, 0.07)

of work engagement on both role innovation and career commitment. This finding not only offers a fresh perspective on the dynamics of team conflicts but also stands in stark contrast to prevailing academic thought. As we delved deeper into the nature and impact of team conflicts, our study underscored the divergent influences of task and relationship conflicts. Task conflict, for instance, emerged as a pivotal moderator, subtly yet profoundly influencing the connections between work engagement, career commitment, and role innovation. In juxtaposition, relationship conflict took a backseat, resonating with De Dreu's [29] findings, as it was found to be less consequential, especially when it came to team innovation.

Our research, while firmly grounded in empirical data, also pioneers significant theoretical advancements. It rejuvenates Fredrickson's [33] trailblazing Broaden and Build theory by intricately mapping the associations between work engagement, task conflict, career commitment, and role innovation. This nuanced exploration illuminates the profound impacts of task disagreements within teams, especially in the context of their interactions and engagements. Furthermore, we posit an intriguing notion: that high work engagement might not consistently herald positive outcomes. Instead, the landscape is complex, with the mechanics of work engagement sculpting innovative behaviors in employees in a variety of ways.

In summation, our study serves as both a beacon and a challenge. It does not just augment the current knowledge base; it

encourages a reappraisal, broadening, and deepening of the academic discourse on work engagement. This exploration invites readers and fellow researchers to approach these constructs with renewed curiosity, armed with insights that are both profound and refreshing.

4.1. Managerial implications

The findings of our research shed light on the intricate dynamics within organizations, and offer actionable insights for corporate management. For instance, employee engagement can be deeply affected by both task and relationship conflicts. These conflicts do not just strain the working environment, but they also have tangible negative consequences on the business's performance and productivity. Our findings imply that it is of utmost importance for top-tier management and HR departments to be acutely aware of the detrimental effects that heightened team conflict can lead to. Policies and regulations should not only discourage these conflicting behaviors but should also have measures in place to address and mitigate them when they arise.

Given that innovative behaviors of employees are particularly vulnerable to task conflicts, it is imperative for organizations to foster an environment where teamwork and harmony prevail. Any potential triggers for disputes and disagreements need to be identified and rectified to ensure team members maintain healthy relationships. There is a correlation between a content workforce and increased innovation. When employees are content, they are more likely to think outside the box, bring in fresh perspectives, and drive innovative initiatives. To cultivate this innovative spirit, organizations need to invest in resources that bolster employee well-being. Initiatives could include employee wellness programs that focus on mental and emotional health, and dedicated teams or tools to identify and manage stressors, particularly those arising from task or relationship conflicts.

Our research underscores an intriguing point: even low levels of conflict, which might be dismissed as negligible, have the potential to escalate and cause harm over time. There's a pressing need for organizations to address even minor skirmishes before they snowball into larger issues. Additionally, our results reinforce that it is beneficial for organizations to set up training modules dedicated to conflict resolution. By equipping employees with skills to handle disagreements productively, organizations can foster a climate of innovation and reinforce commitment. Drawing from studies by Saks [12], it is evident that employees thrive in environments where they feel valued. Simple gestures like recognizing team contributions, committing to responsible corporate practices like CSR and sustainable HRM, and providing employees with autonomy go a long way in building a sense of belonging and engagement. Finally, for organizations to harness the full potential of their workforce and steer clear of the pitfalls of conflict, a multifaceted approach that combines policymaking, training, and a culture of appreciation is essential.

4.2. Theoretical implications

The sphere of work engagement, role innovation, and their intersections with organizational commitment has been the focus of scholarly investigations for some time. Notable research includes studies by Geldenhuys et al. [46], who investigated the linkages between work engagement, autonomy, and various forms of commitment. Despite these contributions, there remains an avenue to explore the nuanced effects of role innovation and task and relationship conflicts in this context. Our study makes six notable contributions to the prevailing theoretical paradigms.

First, while previous research has taken a fragmented approach, our findings offer a holistic understanding by integrating work engagement, employees' role innovation, task and relationship conflicts, and career commitment. Second, our research not only underscores the importance of work engagement but also amplifies its role in boosting employees' career commitment. By probing the mediating relationships of role innovation and the moderating roles of both task and relationship conflicts, we provide a multidimensional view of how work engagement manifests in the workplace. Third, a pivotal insight from our study is that work engagement is not just about being involved in one's role. Engaged employees, equipped with the right resources, tend to be more innovative. They are not just participants; they are pioneers, constantly reshaping their roles, adapting to challenges, and thereby being more productive at a faster pace.

Fourth, the mediating role of innovation sheds light on an intriguing dynamic – even employees who are not completely engaged tend to leverage available resources innovatively, suggesting that the drive for innovation can stem from various engagement levels.

Fifth, one of the standing contributions of our study is emphasizing the criticality of work engagement, especially in high team conflict scenarios. Engaged employees appear to maintain, if not bolster, their career commitment even when faced with task or relationship conflicts. Sixth, our study bridges some existing gaps by highlighting the influence of task and relationship conflicts on an employee's commitment trajectory. By understanding these dynamics, we provide fresh insights into the antecedents that shape an individual's commitment to their career. In essence, our research not only adds layers of understanding to the existing body of knowledge but also carves out new directions for future investigations in the realm of work engagement and its multifaceted interplay with role innovation and conflicts.

4.3. Limitations

Although we have tried to avoid common method bias, our study has limitations. First, our survey was conducted in Sri Lanka, limiting our findings' generalizability to other cultural contexts. To address this issue, future studies could examine a broader Asian context to see if our established relationships can also be applied in a cross-cultural context. In the same way, studies should be carried out by private and public entities in varied industries, offering comparative data for a richer analysis.

4.4. Directions for future research

Our study outlined several promising directions for future research on work engagement and career commitment. First, the increasingly harmful effect of team conflict outlined in our study sets insightful directions for future research on conflict. To fully understand task and relationship conflicts, we encourage researchers to consider both leader behaviors and the overall leader-subordinate relationship. Second, the mediating effect of role innovation suggests that other explanatory study variables link work engagement to career commitment. Future research could expand our existing knowledge by investigating other possible mediators. For example, engaged employees being unfairly treated could lead them to be less enthusiastic and affect their performance. Third, researchers have outlined the multifaceted nature of commitment. It would be fruitful for future research to extend our model with various commitment forms.

5. Conclusion

This study has researched the intricate relationships that shape the dynamics of team-level engagement and career commitment. Through a nuanced exploration of how these dynamics interact with team-level conflict and are influenced by role innovation, we have uncovered significant insights. The findings unequivocally endorse the pivotal role of role innovation as a mediating factor between employee engagement and career commitment. Moreover, our research has illuminated the moderating influence of task and relationship conflicts on the interplay between engagement and commitment.

In a broader context, our study underscores the paramount importance of work engagement in driving organizational sustainability and triumph. It serves as a catalyst for nurturing long-term employee loyalty to the organization. Drawing on the foundational principles of the Broaden and Build theory, our research delves into the transformation of engaged employees into innovators, demonstrating how they interact with team conflicts to influence their dedication to career commitment.

This inquiry has not only deepened our understanding of the correlations between engagement, commitment, conflict, and innovation but has also unveiled a crucial insight regarding the intensity of task conflict among team members. This intensity corresponds to the depth of their interactions, shedding new light on the complexities of team dynamics. By extending the realms of the Broaden and Build theory, our study reiterates the pivotal significance of task conflict intensity within teams.

Moreover, the revelation that low levels of conflict can detrimentally impact subordinates provides a fresh perspective on managerial implications. This finding underscores the critical role of conflict management in fostering a positive and thriving work environment.

In summation, this research journey has illuminated the intricate interplay of engagement, conflict, and innovation within teams, emphasizing their profound impact on career commitment. These findings not only enrich our theoretical understanding but also empower organizations and managers to shape environments that foster engagement, navigate conflicts, and propel innovation, all of which are pivotal for sustained success and growth.

CRediT authorship contribution statement

Buddhika Mudannayake: Writing – original draft, Visualization, Validation, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Ramudu Bhanugopan:** Visualization, Validation, Supervision, Project administration, Methodology. **Jane Frances Maley:** Writing – review & editing.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.heliyon.2024.e27259.

Appendix 1
Characteristics of the respondents.

Demographics	Leaders		Subordinates	
	Frequency	Percentage	Frequency	Percentage
Gender				
Female	115	58.7	665	76.2
Male	81	41.3	208	23.8
Total	**196**	**100.0**	**873**	**100.0**
Age				
18−21	18	9.2	202	23.1

Appendix 1 (*continued*)

Demographics	Leaders		Subordinates	
	Frequency	Percentage	Frequency	Percentage
22−25	57	29.1	236	27.0
26−30	43	21.9	148	17.0
31−35	50	25.5	114	13.1
36−45	26	13.3	136	15.6
46−55	1	0.5	36	4.1
Over 55	1	0.5	1	0.1
Total	**196**	**100.0**	**873**	**100.0**
Highest level of education attained				
Junior high (year 10 or equivalent)	82	41.8	553	63.3
Senior high (year 12 or equivalent)	72	37.2	236	27.0
Technical/trade qualification	14	7.1	31	3.6
Diploma qualification	12	6.1	18	2.1
Bachelor degree	10	5.1	10	1.1
Master degree	2	1.0	0	0.0
Other	3	1.5	25	2.9
Total	**196**	**100.0**	**873**	**100.0**
Job category				
Production	82	41.8	561	64.3
Quality	34	17.3	52	6.0
Stores	25	12.8	61	7.0
Cutting	18	9.2	47	5.4
Packing	14	7.1	62	7.1
Sampling	10	5.1	35	4.0
Bundling	7	3.6	32	3.7
Fabric	6	3.1	23	2.6
Total	**196**	**100.0**	**873**	**100.0**
Tenure with current organization				
1 month to 1 year	56	28.6	314	36.0
1−3 years	61	31.1	223	25.5
3−5 years	41	20.9	178	20.4
5−10 years	22	11.2	125	14.3
More than 10 years	16	8.2	33	3.8
Total	**196**	**100.0**	**873**	**100.0**

Appendix 2
Questionnaire

Work Engagement *How do you feel about your work?*	Never	Almost Never	Rarely	Sometimes	Often	Very Often	Always
a) At my work, I feel bursting with energy	0	1	2	3	4	5	6
b) At my job, I feel strong and vigorous	0	1	2	3	4	5	6
c) I am enthusiastic about my job	0	1	2	3	4	5	6
d) My job inspires me	0	1	2	3	4	5	6
e) When I get up in the morning, I feel like going to work	0	1	2	3	4	5	6
f) I feel happy when I am working intensely	0	1	2	3	4	5	6
g) I am proud of the work that I do	0	1	2	3	4	5	6
h) I am immersed in my work	0	1	2	3	4	5	6
i) I get carried away when I am working	0	1	2	3	4	5	6

Role Innovation	I do the job much the same as other people have done	I do the job somewhat differently than others have done it	I do the job very differently than others have done it	I do the job completely differently than the others have done it
a) Setting work targets/objectives	1	2	3	4
b) Deciding the methods used to achieve work targets/objectives	1	2	3	4
c) Deciding the order in which different parts of the job are done	1	2	3	4
d) Choosing whom you deal with in order to carry out your work duties	1	2	3	4
e) Initiating new procedures or information systems	1	2	3	4
f) Developing innovative ways of accomplishing targets/objectives	1	2	3	4

Appendix 2 (*continued*)

Career commitment	Strongly agree	Agree	Unsure	Disagree	Strongly disagree
Career commitment	Strongly agree	Agree	Unsure	Disagree	Strongly disagree
a) I like this career too well to give up	1	2	3	4	5
b) If I could go into a different profession which paid the same, I would probably like it – (R)	1	2	3	4	5
c) If I could do it all over again, I would not choose to work in this profession – (R)	1	2	3	4	5
d) I definitely want a career for myself in this profession	1	2	3	4	5
e) If I had all the money I needed without working, I would probably still continue to work in this profession	1	2	3	4	5
f) I am disappointed that I ever entered this profession – (R)	1	2	3	4	5
g) This is the ideal profession for a life's work	1	2	3	4	5
Team Conflict Relationship conflict	None	Minor	Neutral	Moderate	A great deal
a) How much anger was there among the members of the group?	1	2	3	4	5
b) How much personal friction was there in the group during decisions?	1	2	3	4	5
c) How much tension was there in the group during decisions?	1	2	3	4	5
Task conflict	None	Minor	Neutral	Moderate	A great deal
a) How many disagreements over different ideas were there?	1	2	3	4	5
b) How many differences about the content of decisions did the group have to work through?	1	2	3	4	5
c) How many differences of opinion were there within the group?	1	2	3	4	5

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