

Investigating innovative work behaviour mechanism in small- medium enterprises

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Abstract

Purpose – The purpose of this paper was to examine determinants of employee innovative work behaviour in the export SMEs. The general problem in some export SMEs was lack knowledge implementation and employee innovation to provide problem-solving.

Design/methodology/approach – The paper used a quantitative method with questionnaires administered to 177 employees of the exporting SMEs, and the research data were analysed using SmartPLS 3.2.7.

Findings – Transformational leadership was significantly related to organizational commitment, knowledge sharing, and IWB. The result showed that organizational commitment and knowledge sharing as a double mediators the linkage between transformational leadership and innovative work behaviour.

Research limitations – This paper has some limitations, such as the bias effects of using a self-assessment report.

Practical implications – Managers need to understanding the relationship between variables particularly, mediating mechanism to provide insightful informations for enhancing positive leadership performance and capability of innovation

Originality/value – The originality point toward a positive linkage between TL and IWB with mediating mechanism. Therefore, the paper adds to a body of knowledge where IWB was influenced by leaders' style and behaviour and predictors of organizational behaviour.

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Keywords: transformational leadership; organizational commitment; knowledge sharing; innovative work behaviour, mediator

Paper type *Research paper*

1. Introduction

Competitions between SMEs and other large companies require a competitive advantage through business performance (Arsawan, Koval, *et al.*, 2020) and organizational resources (Pauli, 2016). In export SMEs, competitive advantage is determined by productivity and knowledge (Ballestar *et al.*, 2020) internal strengthening of R&D (Davcik *et al.*, 2020), market intelligence and marketing capabilities (Falahat *et al.*, 2020), financial constraints, and innovation (Bodlaj *et al.*, 2020), export performance (Sinkovics *et al.*, 2018) and optimization of leader knowledge (Afsar *et al.*, 2019);(Stoian *et al.*, 2018). However, export SMEs are considered less innovative (Bodlaj *et al.*, 2020) even though empirical evidence shows that innovation improves performance (Prange and Pinho, 2017); (Oura *et al.*, 2016).

In the leadership context, many scholars have examined leadership styles for organizational success and innovative work behaviour (Miller and Miller, 2020). Transformational considered as most popular leadership style (Choi *et al.*, 2016);(Afsar *et al.*, 2019) because it is proven to be an important trigger in building commitment (Saleem *et al.*, 2019); (Mayowa-Adebara and Opeke, 2019), employee efficiency (Preeti *et al.*, 2020), knowledge sharing (Le and Lei, 2017);(Yadav *et al.*, 2019), organizational learning (Park and Kim, 2018), and increasing employee creativity (Mittal and Dhar, 2015). However, the research investigates transformational leadership and innovative work behaviour are still underdeveloped (Choi *et al.*, 2016) although leadership is very important in dealing with environmental dynamics, particularly in SMEs. Furthermore, this leadership style facilitates employees to develop skills through knowledge and innovative behaviour (Arsawan *et al.*, 2018; Knezovic and Drkic, 2020).

This study was conducted to close the research gap, namely; first, previous studies showed that transformational leadership proved as predictor on organizational commitment in large companies (Gillet and Vandenberghe, 2014);(Dunn *et al.*, 2012; Joo *et al.*, 2012). However, the effectiveness of SMEs on transformational leadership is not quite clear. In contrast, the "best practice" approach shows that SMEs are simple organisations (Mintzberg, 1993) so that they do not require transformational leadership. On the other hand, the "best-practice" approach asserts this leadership type has a constructive psychological effect on employees (Jos *et al.*, 2015). When it comes to the best practice approach, this study expects this leadership style constructive impact on organizational commitment.

Second, there is no agreement among different findings regarding the impact of transformational leadership and knowledge sharing (Abukhait *et al.*, 2019; Kianto *et al.*, 2019; Koska, 2013; Masa'deh *et al.*, 2016; Xiao *et al.*, 2017). Meanwhile, a previous study on knowledge sharing also tends to emphasize the discussion on big businesses rather than the small ones like SMEs (Munir and Beh, 2019). Therefore, sharing knowledge requires serious attention, especially in the start-up settings to maintain the SMEs' competitive advantage. Third, the linkage between KS and IWB has not been tested (Radaelli *et al.*, 2014), especially in developing countries (Jain, Sandhu, & Goh, 2015). Compared to western countries, studies on knowledge sharing have not been widely explored in the east (Nguyene *et al.*, 2019). Furthermore, the study conducted by Yadav *et al.* (2019) reported that people are often reluctant to share knowledge. Thus, needed other factors to mediate the relationship (Chunling Zhu, 2017; Koska, 2013; Mura *et al.*, 2013). Consequently, this present study discussed the variables of transformational leadership, organizational commitment, and KS which is believed to influence innovative work behaviour.

Fourth, Indonesian society has a strong power distance culture (Hofstede, 1983), which is characterized by a valid hierarchical social status between leaders and employees. However, previous findings showed that transformational leadership character increases organizational commitment (Saleem *et al.*, 2019);(Hassani, 2019), knowledge sharing (Park and Kim, 2018), and innovative work behaviour (Choi *et al.*, 2016);(Afsar *et al.*, 2019). In the context of these findings, no study examined the relationship between the variables in Indonesian society.

The present study was conducted in SME exports based on several reasons. First, SMEs are a source of work and income for people, especially in developing countries like Indonesia. Also, its exporters create more jobs and make a valuable contribution to the country, thus,

SMEs need to increase employee commitment to maintain long-term competitiveness (Valaei and Rezaei, 2016); (Newman and Sheikh, 2012). Second, export SMEs are required to compete in a dynamic environment and global economy, one of which is through increasing the innovative capacity of SMEs. However, innovative work behaviour models are more widely used in large companies. There is not much research that examines this topic in SMEs context (Stoffers *et al.*, 2019).

Third, there is a need to consider innovation development from the perspective of SME employees. Until now, there is a general perception that the innovation process is in the hands of the entrepreneur (Çakar and Ertürk, 2010; Nolan and Garavan, 2016). Therefore, the existence of transformational leadership allows employees to interact directly with leaders and also think resourcefully (Knezovic and Drkic, 2020). Concerning these three reasons, the following are important questions that require further investigation²

To close this gap, research models are developed to link transformational leadership, organizational commitment, knowledge sharing, and innovative work behaviour. This study attempts to answer the following questions:

- Q1. Does transformational leadership affect organizational commitment, knowledge sharing, innovative work behaviour?
- Q2. Does organizational commitment affect knowledge sharing and innovative work behaviour?
- Q3. Does knowledge sharing affect innovative work behaviour?
- Q4. Does organizational commitment and knowledge sharing as mediator the relationship between transformational leadership and IWB?

This study aims to analyse determinant of innovative work behaviour, as well as to examine the role of organizational commitment and knowledge sharing as the mediating variables. Theoretically, it enriches the literature on organizational behaviour, while strengthening the “best-practice” approach where the transformational leadership theory can be applied to SMEs and fill the gap, particularly in the SMEs Export in Indonesia as developing countries. Practically, the results provided a significant contribution to organizational commitment, knowledge sharing, and innovative work behaviour in the context of developing countries. Therefore, entrepreneurs practice and develop this leadership style to increase employees productivity.

Furthermore, the second section of this study presents the literature review, including the formulation of research hypotheses, while the third describes the method and fourth describes analysis and the last section contains conclusions, implication and suggestions.

2. Literature review and development of hypothesis

2.1 Transformational Leadership

Previous research has revealed that transformational leaders show self-confidence, respect followers, and lead to achieve the strategic plan of the organization (Hassi, 2019). Transformational leadership is a leader who has creative thinking, an innovator, and a motivator (Mayowa-Adebara and Opeke, 2019) who presents an exchange of values, reciprocal growth, and mutually beneficial motives (Afsar *et al.*, 2019) in changing personal orientation to the level of enthusiasm (Alblooshi *et al.*, 2020).

According to Mittal & Dhar (2015) and Khaola & Coldwell (2019), transformational leadership was measured by four dimensions, namely; 1) idealized influence refers powerful, confidence, consistency, respect, role models, and high standards (Choi *et al.*, 2016), 2) inspirational motivation shows leaders can understand employees with an understanding attitude through inspiration, persuasion, and motivation (Afsar and Umrani, 2019), 3) intellectual stimulation refers to problem-solving, work in detail, responsibility, able to face challenges and help to increase the leadership capabilities in the organization (Preeti *et al.*, 2020) and 4) individualized consideration shows leader's capability to understand subordinates, enhance motivation, and support employees (Al Dari *et al.*, 2018); (Hassi, 2019).

The important role of transformational leadership has been tested by researchers such as motivating employees to share knowledge (Yin *et al.*, 2019);(Preeti *et al.*, 2020) and work innovation (Alblooshi *et al.*, 2020). This relationship is since TL is an effective type of leader

(Masa'deh *et al.*, 2016) which leads to valuable relationships, motivation, commitment, and being a leader who has qualities to influence subordinates (Miller and Miller, 2020).

2.2 Organizational Commitment

An extensive research has been carried out to examine the outcomes of organizational commitment for employees and their organisations (Hassi, 2019). Organizational commitment is a measure of an employee's belief in accepting the goals and aspirations of the organization to survive (Nguyen *et al.*, 2019) and is considered an emotional connection about work and willingness to continue to participate in it (Saleem *et al.*, 2019), as well as employee dedication to the achievement of organizational goals by complying with rules, regulations, and goals (Mayowa-Adebara and Opeke, 2019). Thus, the greater the fit between individual and organizational values and goals, the higher the commitment to the organization (Rita *et al.*, 2018) because it is related to how much the individual feels that his values and goals match those of the organization (Nguyen *et al.*, 2019).

According to Hakimian *et al.* (2016) managers must generate or maintain employee commitment, both attitude and behavior because it plays an important role in overcoming knowledge management difficulties that contribute to organizational development (Marques *et al.*, 2019). Organizational commitment consists of three types, namely affective, continuation, and normative commitment. Affective commitment refers to the desire for an employee's emotional attachment (Lombardi *et al.*, 2019); Continuous commitment is an attachment to the organization due to satisfaction of needs (Ouakouak and Ouedraogo, 2019), whereas normative commitment reflects loyalty or moral obligation that employees feel towards their organization (Razzaq *et al.*, 2019). Building and maintaining OC in small organizations is more significant compared to large ones because OC is a crucial factor in predicting profitable work behavior (Curado and Vieira, 2019).

2.3 Knowledge Sharing

Knowledge is an exclusive organizational resource (Yadav *et al.*, 2019), and is considered as one of the main assets that need to be well managed, must be shared to beneficial (Arsawan, Rajiani, *et al.*, 2020), recognized and investigated as a source of competitive advantage (Soniewicki and Paliszkiewicz, 2019). Knowledge sharing continues to receive attention from academics and businesses because of its relevance to organizational performance and innovative practices (Abukhait *et al.*, 2019). However, the transformation of knowledge into innovative behavior is a major challenge for innovation management because knowledge sharing has a several qualifications in stimulating innovative behavior (Pian *et al.*, 2019).

Knowledge sharing is the process of disseminating ideas and information among employee (Al Dari *et al.*, 2018);(Arain *et al.*, 2019) to exchange experiences, knowledge, and skills (Anser *et al.*, 2020) through sharing information both formal and informal (Bencsik *et al.*, 2019) by helping each other create new ideas and develop skills (Munir and Beh, 2019), take advantage of the knowledge possessed by colleagues (Afsar *et al.*, 2019) and have implications for the innovative ability of organizations (Elrehail *et al.*, 2018) which is influenced by trust and communication (Marques *et al.*, 2019). On the other hand, several scholar define knowledge sharing as transformation of knowledge and diffusion within organization (Xiao *et al.*, 2017).

2.4 Innovative Work Behaviour

Various studies reveal that IWB is considered as organizational success factor (Kmieciak, 2020). IWB is a concept that includes problem identification, generating ideas (Pian *et al.*, 2019) forming new concepts to solve problems (Anser *et al.*, 2020), disseminating and implementing ideas (Arain *et al.*, 2019) to improve performance and gain benefit from performance (Vandavasi *et al.*, 2020) in building sustainability and competitive advantage (Rao Jada *et al.*, 2019). Innovative behaviour refers to the several process including initiation, enhancement, and new ideas implementation to create of better products, services, processes, or methods (Abukhait *et al.*, 2019). Innovative work behavior refers to an

employee's capability to generate new and potential ideas that are useful into work practices. Therefore, IWB can be explain as employee findings, recommendation, and execution of these ideas on job tasks that are beneficial to organizational performance (Afsar *et al.*, 2019).

2.5 Hypothesis development

Transformational leaders are creative thinkers, innovators, and motivators that present mutual exchanges of values, growth, and motives (Afsar *et al.*, 2019; Mayowa-Adebara and Opeke, 2019). Transformational leadership is measured using idealized influence (Al Dari *et al.*, 2018), inspirational motivation (Hassi, 2019), intellectual stimulation (Khaola and Coldwell, 2019), and individual consideration (Mittal and Dhar, 2015). Also, it creates a conducive environment for subordinates in achieving the organizational vision, mission, and goals (Hassi, 2019; Mohammadi and Boroumand, 2016). In an SME setting, simple organizational structures allow managers to interact directly with employees. This condition promotes emotional attachment and subordinate involvement in the organisation (Curado and Vieira, 2019; Khaola and Coldwell, 2019). Therefore, transformational leadership is an important predictor of organizational commitment and the achievement of goals (Mayowa-Adebara and Opeke, 2019; Peachey *et al.*, 2014; Saleem *et al.*, 2019). From the descriptions above, a hypothesis is formulated as follows:

H1: Transformational leadership has a positive influence on organizational commitment.

Knowledge is an important asset in creating unique values (Soniewicki and Paliszkievicz, 2019). Theoretically, transformational leadership is an important contributor in motivating employees to exchange knowledge (Yin, Ma, Yu, Jia, & Liao, 2019; Petrova *et al.*, 2020) and create work innovations (Alblooshi *et al.*, 2020; Soniewicki and Paliszkievicz, 2019). In the context of SMEs, managers motivate employees to share their knowledge about problem-solving, increasing opportunities, and labor productivity (Al Dari *et al.*, 2018) and less formal environment (Marlow *et al.*, 2010). Furthermore, transformational leaders inspire and provide physical and intellectual infrastructure to achieve progress (Yadav *et al.*, 2019). Therefore, its leadership has a positive impact on knowledge sharing (Yin *et al.*, 2019). From the above descriptions, a hypothesis is formulated as follows:

H2: Transformational leadership has a positive influence on knowledge sharing.

Generally, SMEs have limited resources since leaders and employees are expected to possess creative ideas on business development. Since transformational leadership follows a values-based style (Brown and Treviño, 2006), this character is to inspire people to think creatively and come up with innovative solutions. However, the absence of bureaucratic processes makes it easier for leaders to set challenging goals, introduce new work practices, and facilitate employees towards innovative thinking (Amankwaa *et al.*, 2019; Elrehail *et al.*, 2018). From the above descriptions, a hypothesis is formulated as follows:

H3: Transformational leadership has a positive influence on innovative work behaviour.

Organizational commitment is a psychological condition that binds employees to continue in the organization. According to the "Three-Component Model" (Meyer *et al.*, 1993; Meyer and Allen, 1991), organizational commitment accumulates three main components: affective, continuity, and normative. The higher the values of individual applicability and goals, the higher the commitment to the organization (Rita *et al.*, 2018). Besides, Ouakouak & Ouedraogo (2019) reported that organisation commitment influences the willingness of employees to give and receive knowledge as an important cultural part of sharing. When employees believe that knowledge sharing brings benefits to the development of SMEs, they feel a moral obligation to share knowledge and participate in the achievement of organizational goals (Lombardi *et al.*, 2019; Mayowa-Adebara and Opeke, 2019; Nguyen *et al.*, 2019; Saleem *et al.*, 2019). However, the fear that they will incur costs when leaving SMEs leads them to share their knowledge with other colleagues. From the above descriptions, a hypothesis is formulated as follows:

H4: Organizational commitment has a positive influence on knowledge sharing.

Innovative work behaviour includes various combinations of new concepts to overcome problems and improve performance (Anser *et al.*, 2020). It refers to the complexity from finding until implement ideas to the creation of new methods, processes, products, services (Abukhait *et al.*, 2019; Baklanova, Petrova, Koval, 2020). Furthermore, innovative work behaviour describes the ability of individuals to generate original and potential ideas implemented in the practical world. Also, it defines employees' perspectives, advice, and ideas implementations on the job task which are beneficial to the work performance (Afsar *et al.*, 2019). Commitment plays an important role in building innovative behaviour through strong affiliations (Amankwaa *et al.*, 2019). Meanwhile, employees committed to the organisation tend to create innovations to meet the customers' needs (Nguyen *et al.*, 2019). Considering SMEs have few resources (Petrakis *et al.*, 2015), employees provide innovative thoughts and solutions as a moral responsibility and obligation to SMEs (Lewicka and Krot, 2015; Meyer and Allen, 1991). There is an employee's commitment to keeping a career in SMEs while implementation of ideas in achieving long-term success (Arain *et al.*, 2019; Rao Jada *et al.*, 2019). From the above descriptions, a hypothesis is formulated as follows:

H5: Organizational commitment has a positive influence on innovative work behaviour.

Knowledge is an exclusive organizational resource (Yadav *et al.*, 2019), is one of the main assets that are recognized and investigated for competitive advantage (Soniewicki and Paliszkievicz, 2019). This is relevant to organizational performance and innovative practices which eventually receive great attention from academicians and business actors (Abukhait *et al.*, 2019). The ability to transfer and use knowledge encourages individuals to solve problems and face new challenges (Phung *et al.*, 2019). Based on the individual perspective, knowledge transfer is greatly important as an effort to achieve insight, innovation, productivity, and performance (Arsawan *et al.*, 2018). Besides, active employee empowerment creates and promotes knowledge sharing among employees leading to innovative behaviour in the workplace (Rao Jada *et al.*, 2019). Therefore, knowledge sharing is a powerful instrument in stimulating critical thinking and translating ideas into innovations (Asurakkody and Kim, 2020; Mura *et al.*, 2013). Also, knowledge sharing increases innovation, creativity, and performance in an organisation (Bencsik *et al.*, 2019; Elrehail *et al.*, 2018; Mohammadi and Boroumand, 2016) because knowledge sharing is considered a source of innovation for organizations (Usmanova *et al.*, 2020). From the descriptions, a hypothesis is formulated as follows:

H6: Knowledge sharing has a positive influence on innovative work behaviour.

In this study, we argue that is important to know how transformational leaders in influence employee's intention to share knowledge (Yadav *et al.*, 2019) in achieving performance and to understand the mechanisms used by transformational leaders to facilitate organizational commitment to creating knowledge sharing. Given the important role of transformational leaders in shaping employee commitment (Saleem *et al.*, 2019); (Mohammadi and Boroumand, 2016), the role of transformational leadership is expected to impact employee behavior to knowledge sharing intention through increasing employee perspectives of their commitment to organization. This means that the important role of organizational commitment as a mediating variable is very important for leaders to influence subordinates in sharing knowledge (Chunling Zhu, 2017; Koska, 2013; Mura *et al.*, 2013). Leaders who can instill trust, maintenance comfortable conditions for expressing opinions, and qualified ideas will increase the intention to share knowledge as a part of the opinion expressed. From the descriptions, a hypothesis is formulated as follows:

H7: organizational commitment partially mediates the relationship between transformational leadership and knowledge sharing.

This study tries to reveal the role of organizational commitment as a mediating variable of TL and IWB. Although several experts have discussed the impact of OC on IWB, few of them have examined the role of OC as a mediating variable. Although some experts have discussed

the impact of OC on IWB, however, they have not examined the role of OC as a mediating variable.

To provide theoretical support for this mode of mediation, we refer to previous research that demonstrated an indirect linkage between TL and IWB. Peachey *et al.* (2014) argue that transformational leadership affects employee organizational commitment, which in turn determines IWB (Hakimian *et al.*, 2016). Likewise, Pian *et al.* (2019) found TL to be an IWB antecedent whereas (Marques *et al.*, 2014) found the strategic role of OC in building employee IWB. Because of these arguments, our study proposes that the relationship between TL and IWB is mediated by employee commitment. The leader's capability to increase commitment is an important factor for the formation of the IWB, not only to increase innovation but also to encourage performance (Arsawan, Koval, *et al.*, 2020). From the descriptions, a hypothesis is formulated as follows:

H8: organizational commitment partially mediates the relationship between transformational leadership and innovative work behaviour.

KS indicates an employee performs a share of knowledge activities in an organization (Phung *et al.*, 2019), the other hand, IWB indicate employee behaves to arrange, promote and implement new quality perspective in teamwork or even organization (Akhavan *et al.*, 2015). Previous research has produced relevant evidence for the linkage between KS and IWB. Research investigating how employee KS affects their IWB in organizations shows that employees who intend to share knowledge are more involved in process of innovation in a comprehensive way (Radaelli *et al.*, 2014). To be able to increase employee IWB, TL must be able to be an example by motivating and increasing participation in sharing ideas, ideas, and knowledge with employees (Dwivedi *et al.*, 2020). Knowledge sharing that is oriented towards organizational success has a positive impact on increasing innovative behavior (Pian *et al.*, 2019). So increasing IWB can be achieved with a quality leadership pattern (Miller and Miller, 2020) through a share of knowledge (Choi *et al.*, 2016). From the descriptions, a hypothesis is formulated as follows:

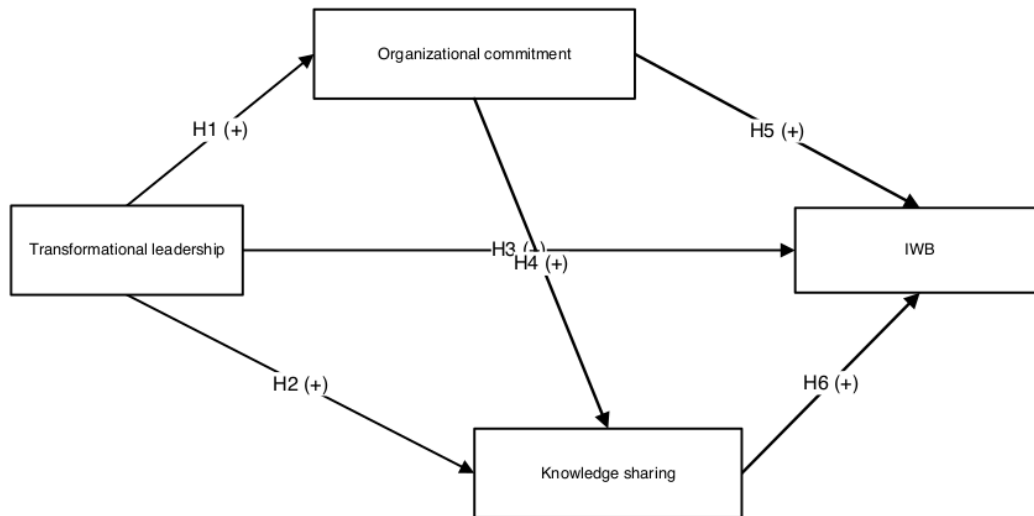
H9: knowledge sharing partially mediates the relationship between transformational leadership and innovative work behaviour.

Various empirical studies have investigated organizational efforts to increase the role of employees to share knowledge (Lombardi *et al.*, 2019).

Employees who share their knowledge are active in the learning process, continuous improvement, and change management (Mura *et al.*, 2013), especially in building IWB (Phung *et al.*, 2019). To be willing to share knowledge, employees must have trust and commitment to share ideas/knowledge (Curado and Vieira, 2019) and knowledge utilization (Ouakouak and Ouedraogo, 2019). OC increases employee engagement as a trigger for knowledge donating (Yadav *et al.*, 2019) which in turn can expand employee innovation visions, innovation opportunities identification, arrange and implement innovative ideas (Pian *et al.*, 2019). From the descriptions, a hypothesis is formulated as follows:

H10: knowledge sharing partially mediates the relationship between organizational commitment and innovative work behaviour.

Insert figure 1



3. Methodology

3.1 Data collection and demographics

The data were obtained from the questionnaires distributed to the full-time employees, and the respondents were individuals working in the functional sections (cargo, sales, human resources, operations, and administrations) throughout Bali-Indonesia. They were selected using a convenience sampling method, and the export SMEs were located in nine main cities in Bali covering Denpasar, Badung, Gianyar, Tabanan, Klungkung, Bangli, Negara, and Karangasem. There are six specialized fields for export SMEs include fashion designers and manufacturers, furniture and interior design, spa and aroma products, specialty products, accessories and jewelry, and services. This research has several considerations, first, export SMEs are required to innovate and adapt to foreign markets, second, knowledge is a source of innovation and third, export SMEs need adaptation to the environmental uncertainty.

During the surveys, a drop-off and pick-up approach were used to obtain a higher response rate. Furthermore, the export SMEs' managers were asked to provide approval of distributing questionnaires to their employees. The respondents were not required to write their names for anonymity. A total of 205 employees participated in this research, and at the end of the survey, 177 questionnaires (response rate was 86.3 percent) were collected from July 3rd to October 7th, 2020. The questionnaire consisted of two parts, where the first contained information about the respondent's profile, such as gender, age, education level, years of experiences, and department (see Table 1). The second part contained statement items related to the main variables.

Insert Table 1

Table 1. Respondent's profile

Criteria	Data	Frequency	Percentage
Gender	Male	119	67.12
	Female	58	32.88
Age	21-30	32	17.97
	31-40	74	41.69
	41-50	48	27.46
	51-60	23	12.88
Educational level	Bachelor	162	91.53
	Master	15	7.79

<i>Experiences</i>	<5 years	39	22.03
	6-10 years	97	54.92
	>10 years or more	41	23.05
<i>Department</i>	Cargo	27	15.25
	Sales	40	22.89
	Operations	58	32.86
	Human resources	32	17.94
	Administration	20	11.06

3.2 Measurement

Four main variables are involved in the hypothesis testing (see Appendix) namely: transformational leadership, organizational commitment, knowledge sharing, and innovative work behavior. To assess these main variables, this study applied a seven-point Likert scale (1 strongly disagrees to 7 strongly agrees).

Transformational leadership measured by four dimensions with 20-items adapted from Afsar *et al.* (2019); (Podsakoff *et al.*, 1996) were used, namely;

- (1) idealized influence refers to strength, confidence, belief, consistency, and ideas, has respect, as role models, and maintains high qualifications (Choi *et al.*, 2016)
- (2) inspirational motivation refers to understand subordinates through revelation, persuading, and high intention of motivation (Afsar and Umrani, 2019),
- (3) intellectual stimulation refers to problem-solving, work in detail, responsibility, be able to face challenges, and improve leadership capabilities (Preeti *et al.*, 2020)
- (4) individualized consideration shows a leader's capability to understand, stimulate motivation, courage, and support subordinates (Al Dari *et al.*, 2018); (Hassi, 2019).

To assess organizational commitment, three dimensions with 16 items adapted from Sang *et al.* (2019) were used, namely:

- (1) Affective commitment refers to the employee's emotional feeling, identification, and contribution to the company.
- (2) Continuous commitment shows the personal cognition of the disadvantage associated when leaving the company.
- (3) Normative commitment refers to perceived employee's responsibility to stay longer in the company.

To assess knowledge sharing, two dimensions with 10 items adapted from Sang *et al.* (2019) were used, namely:

- (1) Explicit is how to change new knowledge from another employee, and create new knowledge, whether individuals, teams, and organizations
- (2) Tacit or more precisely the knowledge creation mechanism is the primary model that is often used is the SECI model that focuses primarily on the tacit knowledge exchange (Nonaka and Takeuchi, 1995).

Innovative work behavior measured by three dimensions with 9 items adapted from Vandavasi *et al.* (2020) were used, namely;

- (1) idea generation is a set of free-flowing process for identified and shaped through a improvement into a new set of informations.
- (2) idea promotion refers to set of process to created an concept and looking for support, colleagues, and also money to analysing the concept
- (3) realization refers to the cultivation of suffice information and lead time to perform new concept

4. Data analysis and findings

4.1 Measurement of outer model

The first analysis conducted was to examine the data quality using the outer model measurement covering convergent validity, discriminant validity, and composite reliability. Convergent validity was used to measure the construct's indicators (Hårdle, 2011) that indicated by the outer loading factor values of above 0.60 (see Table 2).

Second, the discriminant validity test was used to measure the indicator's validity by comparing the value of the square root coefficient of variance extracted ($\sqrt{\text{AVE}}$) with other constructs in which the AVE value is greater than 0.50. The results of the analysis showed that the value of outer loading was above 0.60, and the value of AVE was above 0.50.

The $\sqrt{\text{AVE}}$ value of TL was 0.830 which was greater than the correlation coefficient between other variables 0.643 (OC), 0.691 (KS), and 0.760 (IWB). The $\sqrt{\text{AVE}}$ value of OC was 0.947 greater than the correlation coefficient between other variables 0.738 (KS) and 0.642 (IWB). The $\sqrt{\text{AVE}}$ value of KS was 0.944 greater than the correlation coefficient between other variables 0.844 (IWB). According to Fornell and Larcker (1981), the analysis shows that all indicators representing the dimensions of the construct had good discriminant validity

Insert Table 2

Table 2. AVE, $\sqrt{\text{AVE}}$, and correlation of the constructs

Variables	AVE	$\sqrt{\text{AVE}}$	Correlation Coefficient*			
			TL	OC	KS	IWB
Transformational leadership	0.690	0.830	1.000			
Organizational commitment	0.896	0.946	0.643	1.000		
Knowledge sharing	0.893	0.944	0.691	0.738	1.000	
Innovative work behaviour	0.878	0.937	0.760	0.642	0.844	1.000

Insert Table 3

Table 3. Instruments reliability test

Constructs		Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
	Dimensions				
Transformational leadership	TL		1.000		
	Idealized infl	0.834	0.884	0.881	0.601
	Inspirational motv	0.871	0.884	0.913	0.727
	Intellectual stiml.	0.827	0.857	0.884	0.660
	Individualized cons.	0.896	0.889	0.928	0.767
Organizational commitment	OC		1.000		
	Affective	0.918	0.918	0.948	0.859
	Continuous	0.926	0.933	0.952	0.871
	Normative	0.977	0.977	0.984	0.956
Knowledge sharing	KS		1.000		
	Explicit	0.908	0.908	0.956	0.916
	Tacit	0.906	0.910	0.954	0.913
Innovative work behaviour	IWB		1.000		
	Idea generation	0.709	0.739	0.871	0.772
	Idea promotion	0.926	0.926	0.964	0.931
	Realization	0.826	0.837	0.919	0.851

Meanwhile, the third step was calculating the value between indicators of the construct with composite reliability measurement (Chin, 1998) that showed by Cronbach's alpha was greater than 0.70. The results showed that the values of composite reliability ranged from 0.871 to

0.984 (greater than 0.70) and the Cronbach's Alpha value was between 0.709 - 0.977 (greater than 0.70) (see Table 3). These obtained values showed that the variable dimensions were reliable and according to MacKenzie *et al.* (2011) and Singleton and Straits (2010) this study was considered free from random error problems.

4.2 Measurement of Inner model

After meeting the outer model criteria, the next step was examining the inner model. First, using R² analysis to test the feasibility of the research model and showed the relationship between independent and dependent variables. According to Hardle (2011), the R² values of 0.67, 0.33, and 0.19 were classified into a robust, moderate, and weak model respectively (Chin, 1998) (see Table 4).

Table 4. R² and R² Adjusted

Constructs	R ²	R ² Adjusted
Organizational commitment	0.776	0.774
Knowledge sharing	0.751	0.746
Innovative work behaviour	0.824	0.819
Average	0.783	0.779

Table 4 showed that the R² values of the three models were greater than 0.67. Therefore, it can be concluded that the study model is relatively strong (Chin, 1998). Furthermore, the average value (0.783) showed that the linkage between constructs was 78.3 percent, and another 21.7 percent explained by other variables that were not included in the study. According to Hair *et al.* (2013), the distribution of the adjusted R² values showed that the study model was possibly expanded by including the other construct in the future.

The second stage was measuring the predictive ability of the research framework through the quadratic predictive relevance (Q²). According to Stone (1974), the closer to 1, the better the model's predictive will be. The value of Q² was calculated with the formula:

$$Q^2 = 1 - [(1-R^2Y1) (1-R^2Y2) (1-R^2Y3)]$$

$$Q^2 = 1 - [(1-0.776) (1-0.751) (1-0.824)]$$

$$Q^2 = 1 - [(0.224) (0.249) (0.176)]$$

$$Q^2 = 1 - 0.0098$$

$$Q^2 = 0.9902 \text{ (Q}^2 \text{ is very good)}$$

From the calculation above, the Q² value was 0.9902 that can be concluded this research framework had very good observation capability. Thus, this model might explain the linkage between constructs by 99.02% and 0.98% remaining was error factor.

The third stage was to validate the overall framework by calculating the Goodness of Fit (GoF):

$$GoF = \sqrt{com \times R^2}$$

$$GoF = \sqrt{0.685 \times 0.783}$$

$$GoF = 0.648$$

Based on the results of the GoF calculation above, showed a greatly fit predictive model equal to 0.648. This figure showed that the model's overall measurement accuracy was very good. According to Hårdle (2011), this study model was categorized into GoF Large with a value 0.648 greater than 0.36

Insert Table 5

Table 5. Analysis of Effect Size

Variables	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	p-Values
TL and KS	0.103	0.133	0.087	1.181	0.238
TL and IWB	0.747	0.792	0.130	5.759	0.000
TL and IWB	0.263	0.289	0.123	2.141	0.033
OC and IWB	0.188	0.208	0.104	1.810	0.071
Average	0.325				

Notes: TL: transformational leadership; OC: organizational commitment; KS: knowledge sharing; IWB: innovative work behaviour

The fourth stage was examining the effect size (f^2) purposed at providing detailed prediction between exogenous and endogenous variables (Cohen *et al.*, 1998). According to Hårdle (2011) and Chin (1998) there were three classification for effect size (f^2) namely; weak (range 0.02-0.15), moderate (range 0.15 - 0.35), and strong (range > 0.35). Based on the results of the analysis presented in Table 5 the mean value of the original sample was 0.325, it can be predicted that the pattern of mediation relationships that are moderate (Cohen *et al.*, 1998).

4.3 Hypotheses testing

After examining the inner and outer models, the final test was to investigate the hypothesis conducted through two stages: examining the direct and indirect effects of exogenous variables on endogenous. In the path coefficient, as shown in Table 6, the direct relationship between variables was presented in the original sample.

Insert Table 6

Table 6. The direct relationship between variable

Relationship Variable	Original Sample (O)	Sample Mean	Standard Deviation (STDEV)	T Statistics (O/STDEV)	p-Values	Supported?
Tranf.L → Org.Com	0.327	0.310	0.093	3.482	0.000	Yes
Tranf. L → Know. Sha	0.570	0.585	0.059	9.560	0.001	Yes
Tranf. L → Innov.WB	0.303	0.298	0.129	2.306	0.005	Yes
Org.Com → Know. Sha	0.250	0.246	0.103	1.757	0.078	No
Org.Com → Innov.WB	0.272	0.275	0.109	2.466	0.003	Yes
Know.Sha → Innov.WB	0.591	0.596	0.101	5.888	0.000	Yes

Notes: Tranf.L: transformational leadership; Org.Com: organizational commitment; Know. Sha: knowledge sharing; Innov.WB: innovative work behaviour

Table 6 shows information that the relationship between TL and OC is positively significant with path coefficient 0.327 with a t-statistic of 3.482 greater than 1.96 that's mean hypothesis 1 was accepted. These results confirmed that transformational leadership had an important role in building employees organizational commitment, and it supported the previous studies (Hassi, 2019; Jain, Duggal, & Ansari, 2019; Khaola & Coldwell, 2019; Mayowa-Adebara & Opeke, 2019; Mohammadi & Boroumand, 2016; Park & Kim, 2018; Peachey *et al.*, 2014; Saleem *et al.*, 2019).

The testing results showed that the relationship between TL and KS was positively significant with path coefficient 0.570 and t-statistics of 9.560 greater than 1.96 and hypothesis 2 was accepted. Also, the results of the analysis supported the previous studies, stating that shared knowledge helps in solving problems (Afsar *et al.*, 2019), increasing opportunities (Al Dari *et al.*, 2018), and labour productivity (Yin *et al.*, 2019). However, these results were in contradiction with the findings obtained by Masa'deh *et al.*, (2016), where transformational leadership was unable to encourage knowledge-sharing practices.

The relationship between TL and IWB was positively significant indicated by path coefficient 0.303 with the t-statistics of 2.306 greater than 1.96 and hypothesis 3 was accepted. This result also supported few previous studies (Afsar and Umrani, 2019); (Amankwaa *et al.*, 2019) that illuminate innovative behaviour promoted by leaders who implement transformational leadership dimensions (Afsar *et al.*, 2019); (Choi *et al.*, 2016) by develops a creative work environment (Mittal and Dhar, 2015). The present study also findings new theoretical lenses on the implementation of TL in Asian, particularly Indonesian society, and, add the body of knowledge in the areas of leadership studies and organizational behaviour.

The relationship between OC and KS was positively insignificant by path coefficient 0.250 with the t-statistics of 1.757 greater than 1.96 and hypothesis 4 was rejected. The result of this test supported the study conducted by Mohammadi & Boroumand (2016) that OC did not influence KS. In contrast, the study conducted by Lombardi *et al.* (2019) was not supported. Therefore, employees felt that they did not have any obligation to share knowledge since no trust was given or feeling afraid of competing with the other colleague (Arsawan, Rajiani, *et al.*, 2020) and become the reason for doing knowledge hiding.

Furth²more, the relationship between OC and IWB was positively significant. This²was reported by the path coefficient of 0.272 with the t-statistics of 2.466 greater than 1.96, therefore hypothesis 5 was accepted. The results were supported the previous studies, where organizational commitment strengthened innovative work behaviour (Amankwaa *et al.*, 2019; Hakimian *et al.*, 2016; Marques *et al.*, 2014; Nguyen *et al.*, 2019).

The relations²p between KS and IWB was positively significant and hypothesis 6 was accepted. This is indicated by the path coefficient of 0.591 with the t-statistics of 5.888 greater than 1.96. The result supported previous studies (Anser *et al.*, 2020; Asurakkody and Kim, 2020; Munir and Beh, 2019; Mura *et al.*, 2013; Phung *et al.*, 2019; Rao Jada *et al.*, 2019; Wang *et al.*, 2017). However, the present study contradicts research from Usmanova *et al.* (2020) that concluded knowledge sharing practices had not a determinant of IWB (see Figure 2).

After examining the direct relationship among constructs, the next step was investigating the mediating mechanism using Variance Accounted For (VAF).

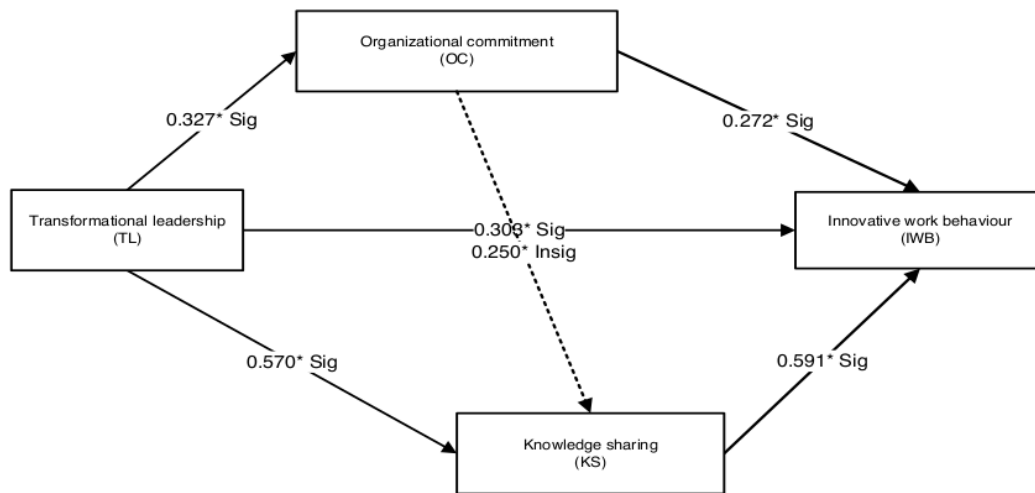
Insert Table 7

Table 7. The indirect relationship between variable

Indirect model	Original Sample (O)	T Statistics (IO/STDEVI)	t-Table	VAF (%)	Mediation?
Tranf.L → Org.Com	0.327	3.482	> 1.96	0.057	No mediation
Org.Com → Know. Sha	0.250	1.757	< 1.96		
Tranf.L → Know. Sha	0.570	9.560	> 1.96		
Tranf.L → Org.Com	0.327	3.482	> 1.96	0.326	Partial mediation
Org.Com → Innov.WB	0.272	2.466	> 1.96		
Tranf.L → Innov.WB	0.303	2.306	> 1.96		
Tranf.L → KS	0.570	9.560	> 1.96	0.525	Partial mediation
Know. Sha → Innov.WB	0.591	5.888	> 1.96		
Tranf.L → Innov.WB	0.303	2.306	> 1.96		
Org.Com → Know. Sha	0.250	1.757	< 1.96	0.147	No mediation
Know. Sha → IWB	0.591	5.888	> 1.96		
Org.Com → Innov.WB	0.272	2.466	> 1.96		

Notes: Tranf.L: transformational leadership; Org.Com: organizational commitment; Know. Sha: knowledge sharing; Innov.WB: innovative work behaviour

Insert Figure 2



After examining the direct relationship among variables, the next stage is to investigate the mediation mechanism in the structural equation modeling (SEM). In our research framework, four mediation pathways are tested. The method used is Variance Accounted For (VAF) (Hair *et al.*, 2016); (Hair *et al.*, 2014) with three classifications namely; no mediation (VAF <0.20), partial mediation (VAF range 0.20–0.80), and full mediation (VAF> 0.80). To measure the mediation mechanism, a non-parametric bootstrap was used¹ which two mediating variables (i.e: organizational commitment and knowledge sharing) should absorb direct effects of independent and dependent factors.

To justify the variable position as a mediator, we calculated the size of the indirect and total coefficient to obtain variance accounted for (VAF). There are four mediation pathways tested in our study (see Table 7), firstly, we concluded that OC does not mediate the relationship between TL and KS where the VAF value was 0.057 (5,7%) so that hypothesis 7 was rejected. Secondly, we conclude that OC as partial mediator the linkage between TL and IWB with a VAF value of 0.326 (32.6%), thus, hypothesis 8 was accepted. Third, knowledge sharing as partial mediator the linkage between TL and IWB with a VAF value of 0.525 (52.5%) thus, hypothesis 9 was also accepted. At the same time, we also examine KS did not mediate the linkage between OC and IWB with a VAF value of 0.147 (14.7%), which means that hypothesis 10 was rejected.

5. Conclusion

In today's competitive environment, export SMEs must increase productivity (Ballestar *et al.*, 2020); (Falk and de Lemos, 2019), export performance (Love *et al.*, 2016); (Oura *et al.*, 2016), and even internationalization (Falihat *et al.*, 2020) to increase growth (Bodlaj *et al.*, 2020) to strengthen market position (Davicik *et al.*, 2020) and achieve sustainable competitive advantage (Arsawan, Koval, *et al.*, 2020).

To achieve this objective, it is necessary to make innovations at the individual and organizational levels such as product, market, and management innovation. Especially at the individual level, innovation behaviour is influenced by the role of quality leadership (Miller and Miller, 2020), that is transformational leadership (Choi *et al.*, 2016); (Afsar *et al.*, 2019) in building employee commitment (Saleem *et al.*, 2019); (Hassi, 2019) and stimulate sharing knowledge among employee and teamwork (Xiao *et al.*, 2017). As our findings, it shows that transformational leadership has two important roles. On the one hand, build and improve employee organizational commitment and build knowledge sharing behavior to support IWB. On the other hand, TL is a trigger in the mediation relationship between OC and IWB and KS and IWB because leaders stimulate how employees are more committed and increase knowledge, and in the end, lead to innovative work behavior.

5.1 Academic implications

Although several studies examining the determinant that influence IWBs, the present study have begun to examine mechanisms among variables. The aims of the study to investigating how transformational leadership relates to IWB through commitment and knowledge sharing. The present study has several theoretical contributions that can enrich transformational leadership and IWBs literature.

First, the present study, enriching the existing transformational leadership and IWBs literature. Although previous studies revealed a significant relationship between TL and OC (Saleem *et al.*, 2019);(Peachey *et al.*, 2014), TL and KS (Xiao *et al.*, 2017);(Park and Kim, 2018) and TL and IWBs (Afsar and Umrani, 2019); (Amankwaa *et al.*, 2019) but no one has systematically analyzed and developed the second-order construct through exploring comprehensive research framework. The findings of our study can enhance the role of transformational leadership widely.

Second, our research investigates the mechanisms of TL affecting IWB. Previous studies (see Chunling Zhu (2017); Koska (2013); Mura *et al.* (2013) suggest and consider intervention and process variables (mediation mechanism) that influence the relationship between transformational leadership and IWB. To fill the gap above, we proposed organizational commitment and knowledge sharing as mediators, the relationship between transformational leadership and IWB. The result showed this study supports the proposed framework. Thus, this finding is an important supplement to enhance the literature on the dynamic relationship between transformational leadership and IWB.

Third, the present study enhancing the literature of TL and IWB by exploring the mediating mechanisms through several stages. Although many scholars examining the impact of TL on IWB (Afsar *et al.*, 2019); (Amankwaa *et al.*, 2019) but the empirical study that examined the mediating pattern is still rare. The present study proved bridging the previous research gap by revealing when, how, and why TL might be associated with IWB. The mediation model tries to investigate and clarify the mechanisms underlying the observed relationships between variables. The mediation effect analysis found that OC and KS as double mediators in the relationship between TL and IWB. Thus, our study reveals the pathways to how TL increases employee commitment and stimulates knowledge sharing practices among employees which ultimately increase IWB.

Fourth, answering the research gap from Radaelli *et al.* (2014) that revealed the relationship between KS and IWB has not been tested, especially in developing countries (Jain *et al.*, 2015) and only focus explored in western countries (Nguyen *et al.*, 2019), based on our findings that KS is a crucial determinant of IWB, especially in the SMEs sector in Indonesia as a developing country. By implementing the four dimensions of TL, it is proven to have a significant effect in increasing KS behaviour among employees so that it has an impact on increasing IWB.

5.2 Managerial implication

Based on research findings, we suggest several managerial implications for managers and employee insights. First, managers must develop transformational leadership skills to produce innovative work behavior and are oriented towards problem-solving (Galeazzo and Furlan, 2019), supporting employees, inspiring, and providing physical and intellectual infrastructure for success (Yadav *et al.*, 2019).

Second, managers can create strategic comprehensive planning and relevant decisions about what types of knowledge initiatives to share within the organization (Soniewicki and Paliszkiewicz, 2019) to develop other innovation capabilities (Alblooshi *et al.*, 2020) because TL has a great vision, encourage intellectual activity, maintenance a conducive work climate and finally, impact on innovative behavior.

Third, based on our finding that KS as mediator the relationship between TL and IWB, that is indicating that managers need to make a great effort to facilitate knowledge sharing behaviour to be innovative in completing their work. This can be done with rewards for employees who are willing to share knowledge, build group learning communities, training and development programs, and apprentice among employees (Choi *et al.*, 2016).

Fourth, this study also revealed that OC as mediator the relationship between TL and IWB, meaning that manager needs to try to increase organizational commitment so that employees become more innovative at work. This can be done by giving a high commitment to the completion of work and following rules that are aligned with organizational goals. From employee perspectives, sharing ideas can be a strategic pathway to enrich knowledge quality by absorbing added values in the form of ability, competency, skills, and trust (Bencsik *et al.*, 2019).

5.3 Research limitations and future research

This study has several limitations, first, the sample is limited to companies in Indonesia. The replication of this study in other countries, such as other developing countries on different continents, where state capitalism is increasingly distorting liberal markets, may offer mixed findings with interesting results. A larger sample size might also be fruitful.

Second, this study concentrates on transformational leadership, organizational commitment, and knowledge sharing as determinants of IWB. Other potential determinants, such as another leadership style (i.e: transactional, spiritual, and servant), creativity, trust, and quality of knowledge should be considered to reduce barriers to knowledge sharing in improving IWB in future studies. As we discussed earlier, technological advances as one of the drivers of the IWB can be used as a moderating variable to strengthen the IWB to increase productivity in dealing with changes in export market demand.

Third, although the present study has responded to calls on further systematic research on the role of transformational leadership towards IWB by following a causality approach (Choi *et al.*, 2016), due to using self-assessment reports, it is still susceptible to bias effects, for that reason, further research important to conducting a longitudinal study.

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