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The Impact of Transformational Leadership on Employee Knowledge Sharing at Small and Medium-Sized Enterprises in Danang City

Abstract: In today's competitive and dynamic economy, knowledge is considered one of the critical strategic resources that help organizations build sustainable competitive advantages. How to effectively exploit knowledge resources and promote knowledge sharing has received more recognition from researchers in recent years because leadership is the key to improving knowledge-sharing behavior in the organization, and the vital role of leadership is expressed in the organization's knowledge-sharing process. In fact, in Danang City, Vietnam, many administrators at small and medium-sized enterprises have focused on developing a transformational leadership style to increase employee knowledge sharing and retain customers from project to project. However, organizations have not highly appreciated the significance of promoting the role of transformational leadership style and mediating factors to increase employee knowledge sharing. The study's objective is to measure the impact of the relationship of transformational leadership style on knowledge sharing and the intermediary role of psychological empowerment, organizational commitment, and organizational citizenship behavior of employees at small and medium-sized enterprises in Danang City, by using data from 425 survey samples at small and medium-sized enterprises in Danang City in April 2024 and analyzing the data using SPSS 24.0 software. The proposed research model includes four factors: Transformational leadership style is the independent variable; the intermediate variables are psychological empowerment, organizational commitment, and organizational citizenship behavior; and the dependent variable is knowledge sharing. This study uses Structural Equation Modeling (SEM) to establish a scientific basis for the impact relationship of transformational leadership style on knowledge sharing - the mediating role of psychological empowerment, organizational commitment, and organizational citizenship behavior of employees. Based on that, the planning management policies are developed to promote the role of transformational leadership style and intermediary factors to increase employee knowledge sharing.

Keywords: Transformational leadership style, Knowledge sharing, Psychological empowerment, Organizational commitment, Organizational citizenship behavior, Small and medium-sized enterprises.

I.   INTRODUCTION

Today, knowledge is considered a critical strategic resource (Drucker, 1993), and many organizations have viewed knowledge management as a core strategy to enhance their competitive advantage (Lawson, 2003). In knowledge management, sharing knowledge between employees and departments in the organization is necessary, helping to improve the productivity and efficiency of each employee and each department. Some previous studies recognize that promoting knowledge sharing is challenging but crucial for the success of a business (Davenport & Prusak, 1998) because it promotes the flow of knowledge within the organization and benefits the entire organization (Syed-Ikhsan & Rowland, 2004). In today's organizational work environment, difficulties in sharing knowledge are relatively common, and individuals are less inclined to share their knowledge (Ho et al., 2009). According to Davenport and Prusak (1998), knowledge-sharing behavior is often unnatural because individuals perceive their knowledge as valuable, and sharing knowledge with others is limited by natural tendencies to keep the information to themselves. Therefore, the unwillingness to share knowledge with other colleagues creates problems for organizational survival (Lin, 2007a). How to exploit knowledge resources effectively and promote knowledge sharing has recently received more recognition from researchers (Zhang & Jiang, 2015). Researchers advocate that leadership is the key to improving knowledge-sharing behavior in organizations, and recent studies have confirmed the critical role of leadership in the organizational knowledge-sharing process (Srivastava et al., 2006; Singh, 2008). In particular, transformational leadership is defined as a process by which leaders inspire their employees to perform at a higher level than expected and potentially beyond the employee's own interest toward a shared vision (Bass, 1999). Transformational leadership stimulates employees to become problem solvers and creators and motivates them to share the same vision of a more innovative organization to overcome their challenges (Bhatt, 2000; Parent et al., 2000; Mitchell & Nicholas, 2006). Researchers found that transformational leadership positively impacts employees' knowledge sharing (Bass & Avolio, 2000; Garcia Morales et al., 2008). According to Howell and Avolio (1993), transformational leadership enhances innovation and knowledge sharing within the organization, unlike transactional leadership. Many administrators in these businesses have focused on developing a transformational leadership style to increase employee knowledge sharing and retain customers from project to project. However, these businesses have not highly appreciated and promoted the role of transformational

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leadership style and intermediary factors to increase employee knowledge sharing. Most of the departments at these businesses are related to meeting customers directly and handling situations; training programs are only limited to sharing learning materials and existing processes, while practical experiences in handling specific situations are rarely shared. Furthermore, leaders only contribute to guiding employees to use available documents and tools, not exploiting employees' hidden knowledge sources to share and turn them into the company's knowledge assets. As a result, the level of creativity and innovation of most employees at small and medium-sized enterprises in Danang City has not met business requirements in the current context.

Danang City has had strong economic growth, according to information from the Danang City Statistics Office (2023). Danang City has a reasonable growth rate, and the production situation of businesses is increasingly stable. The Gross Regional Domestic Product (GRDP) in 2023 increased by 13.2% (exceeding the resolution target), making it one of the country's localities with high growth rates. GRDP per capita in 2023 reached 107.8 million VND, up 3.4% compared to the previous year. Small and medium-sized enterprises in Danang City, Vietnam, accounting for the majority (>95%) of all types of operating businesses, will be the driving force for the development of the whole economy, and studying the factors that affect knowledge-sharing at small and medium-sized enterprises is very meaningful. However, there is relatively little research on developing transformational leadership styles to increase employee knowledge sharing at small and medium enterprises in Danang City. A few previous studies (Pham et al., 2014) on knowledge sharing in Vietnamese businesses also show that leadership style plays a relatively important role, so more research on this topic is needed. Therefore, in this study, the author will aim to analyze the impact of transformational leadership style on employee knowledge sharing at small and medium-sized enterprises in Danang City, thereby proposing several policy implications for increasing employee knowledge sharing in these enterprises through the development of transformational leadership, psychological empowerment, organizational commitment, and organizational citizenship behavior.

II.   THEORETICAL BASIS AND LITERATURE REVIEW

A.   *Theoretical basis*

1)   *Transformational leadership style*

Burns (1978), established two concepts: "transformational leadership" and "transactional leadership"," in which transformational leadership is a process in which "leaders and employees help each other to progress to a higher level of morale and motivation, and this approach has created significant change in employees and organizations"." It redesigns perceptions and values and changes expectations and aspirations for employees. By 1985, Bass extended Burns's (1978) work by explaining the psychological mechanisms underlying transformational and transactional leadership; Bass also used the term "transformational" instead of "transforming". Bass added to Burns's (1978) original concepts to help explain how transformational leadership can be measured and how it impacts organizational motivation and performance. According to Bass (1999), transformational leadership is defined as a process by which leaders inspire their employees to perform at a higher level than expected and potentially beyond their self-gain and towards a shared vision. The elements of transformational leadership are creating a strategic vision, communicating the vision, modeling the vision, and building member commitment to the vision. Accordingly, transformational leaders impact employees through four aspects:

Idealized Influence: Transformational leaders have high ethical standards and values and adhere to a code of ethics, provide a vision and mission to employees, which employees, therefore, respect and admire (Northouse, 2004). By providing idealized influence, the leader is an ideal model for followers to follow. This is achieved through sharing a clear vision and explaining to employees how to achieve the vision. (Bass, 1985)

Inspirational Motivation: Another key aspect of transformational leadership, is about leaders who go beyond expectations to increase the motivation levels of employees. They do this by inspiring and motivating employees to come up with new ideas or goals due to changing business requirements. The vision aspects of leadership are supported by communication skills that make the vision understandable, precise, powerful, and compelling. This approach encourages employees to invest more effort in their work, fostering optimism about the future and belief in their abilities.

Intellectual Stimulation is a hallmark of transformational leadership. It involves leaders who stimulate employees' abilities to think about previous problems in novel ways and from new perspectives. This is achieved by challenging assumptions, taking risks, and attracting employees' ideas. Leaders with this style foster creativity in their employees, nurture and develop independent thinkers. For such a leader, learning is a value, and unexpected situations are seen as opportunities to learn. This approach encourages employees to ask questions, think deeply

about things, and find better ways to perform their tasks. It also empowers subordinates to contribute to the decision-making process, fostering a culture of creativity and innovation (Nwagbara, 2010).

Individualized Consideration: Transformational leaders use personal attention through active listening, mentoring, and necessary feedback to solve employees' personal and professional problems. Leaders listen to employees' needs and concerns to demonstrate empathy and support, keep communication open, challenge employees, and respect each person's contributions to the team. Therefore, employees have a will and desire for self-development and are intrinsically motivated for their tasks (Bass & Riggio, 2006).

Thus, in this study, the transformational leadership style is ideally influenced by ethical standards, individualized attention, intellectual stimulation, and employee motivation, causing changes in individuals and organizations. Accordingly, employees can build trust, admiration, loyalty, and respect for the leader, and because of the leader's qualities, they are willing to work harder than initially expected. Transformational leader employees have a strong sense of organizational goals, believe in their own abilities, are creative, and put in more effort to complete tasks that exceed their own benefits and towards a shared vision of the organization.

2) Knowledge sharing

Van Den Hooff et al. (2012) argue that knowledge sharing is a two-way process in which individuals exchange their knowledge and jointly create new knowledge. Davenport (1997) defines knowledge sharing as voluntary and distinguishes it from reporting. Reporting involves exchanging information based on several available templates, while knowledge sharing is an unconscious action of individuals participating in knowledge exchange even though it is not required. Knowledge sharing implies a relationship between at least two parties: one that owns knowledge and one that acquires knowledge (Hendriks, 1999). Knowledge sharing is considered first-generation knowledge management and is included in the organization's business strategy (Vorakulpipat & Rezgui, 2008). Knowledge sharing is seen as an indispensable part of organizations because knowledge created in organizations requires transferring and sharing that knowledge to make it meaningful (Cao & Xiang, 2012). Furthermore, knowledge sharing is considered vital as it provides organizations with many benefits, some of which include improving organizational performance (Iyer & Ravindran, 2009), enhancing absorptive and innovative capabilities leading to sustainable competitive advantage (Cao & Xiang, 2012), improving customer service quality, reducing turnover production cycle, improving collaboration between departments and alliance partners (Zhenzhong Ma et al., 2008). Knowledge sharing is important because it links individuals and organizations by moving individuals' knowledge to the organizational level, where it is converted into economic and competitive value for the organization (Hendriks, 1999). Cohen and Levinthal (1990) proposed that interactions between individuals with diverse and different knowledge enhance an organization's ability to innovate further than any one individual can achieve. The knowledge-sharing process is divided into knowledge provision and acquisition (Van den Hooff & De Ridder, 2004), reflecting individual willingness and initiative in communicating or providing intellectual capital, skills, and information to colleagues when they request it, indicating individuals' skills and knowledge acquisition from colleagues to find out what their peers know. This classification is valuable because it reflects two different behaviors toward knowledge-sharing activities of individuals. After all, the individual's attitude toward knowledge-sharing activities is the determining factor in the success of the knowledge-sharing process (Bock et al., 2005).

In this study, knowledge sharing is considered an effective way of managing knowledge in organizations where individuals exchange knowledge and create new knowledge. Based on the characteristics and classification of knowledge, the knowledge-sharing process is thoroughly researched and is included in organizations' business strategies to promote its importance in increasing organizational performance and encourage employees to practice knowledge acquisition and sharing, enhancing the organization's innovation capabilities and sustainable competitive advantage.

3) Small and medium-sized enterprises

Small and medium-sized enterprises are business establishments registered according to the law, divided into three levels: micro, small, and medium, according to the size of total capital or average number of employees per year (Decree No. 56/2009/ND-CP). In this study, to facilitate the survey, the authors chose to classify according to the number of employees of the World Bank, where small and medium-sized enterprises are enterprises with 300 full-time employees or fewer.

Small and medium-sized enterprises, due to their small scale, exhibit the following unique characteristics: (1) flexibility, (2) limited resources, (3) a lack of standardized processes and style management family, and (4) short life cycle. In Vietnam, many studies have shown that these enterprises account for a large proportion of the total number of enterprises (>95%), making a significant contribution to increasing GDP (>40% of total GDP), creating

new jobs, contributing to hunger eradication and poverty reduction (> 1 million new jobs/year), and have the ability to innovate, thereby helping the economy become much dynamic.

B. Literature review

The topic of transformational leadership style and knowledge sharing has several related articles. Han and colleagues (2015) studied "The Mediating Effect of Organizational Commitment and Employee Empowerment: How transformational leadership affects employees' knowledge sharing intention." The study aims to examine the direct and indirect effects of transformational leadership style on knowledge sharing through two mediating variables: Psychological Empowerment and Organizational Commitment. The study was conducted with a sample of 426 full-time employees in Korea to test the proposed hypotheses. According to the study's results, transformational leadership style has a direct positive impact on psychological empowerment and organizational commitment, which positively influences employee knowledge sharing. Research also shows that transformational leadership style only indirectly affects employee knowledge sharing. In 2016, Han and his colleagues researched "Transformational Leadership Style and Knowledge Sharing, the Mediating Role of Employee Empowerment, Organizational Commitment, and Organizational Citizenship Behavior." The study aims to empirically examine the role of transformational leaders in employee knowledge sharing through the mediating role of personal influences, especially psychological empowerment, commitment to the organization, and organizational citizenship behavior. In particular, transformational leadership indirectly impacts employee knowledge sharing through the intermediary mechanisms of psychological empowerment, organizational commitment, and organizational citizenship behavior. Data were collected by randomly distributing survey questionnaires to employees from five large companies in Korea. Companies were selected because they have knowledge management systems and knowledge-sharing skills are emphasized and developed within the company. The survey was conducted within one month with 600 employees from different levels; the number of valid questionnaires obtained was 395. Research shows that transformational leadership directly and positively impacts psychological empowerment, organizational commitment, and organizational citizenship behavior (OCB). Furthermore, the study also showed that OCB is the main mediating variable in the positive relationship between transformational leadership style and knowledge sharing. At the same time, organizational commitment does not significantly influence knowledge sharing. The findings of this study have shown the importance of the mediating role, especially OCB, in predicting employees' knowledge-sharing intention. In addition, the study also showed a significant difference in knowledge sharing between men and women. Accordingly, male employees are more likely to share knowledge than female employees (accounting for 67.6%). The limitation of the study is that the generalizability of the sample is not high because of the non-probability sampling method and the cross-sectional study over time.

Luu (2017) researched "Knowledge Sharing in Public Organizations: The Role of Leadership and Organizational Citizenship Behavior." The study evaluates how leadership influences OCB, thereby contributing to knowledge sharing among employees in public organizations. The study also provides insight into the moderating mechanism of entrepreneurial orientation (EO) for the relationship between knowledge sharing and organizational citizenship behavior. The research model was tested on data from 562 employees and 197 department managers in public electricity, telephone, and water organizations in the Vietnamese context. In studies on the relationship between leadership and OCB, transformational leadership has received the most outstanding scholarly attention (Carter et al., 2014; Nasra & Heilbrunn, 2015); however, in this study, the author focused on transformational leadership change to public leadership to address the personal development of employees (Van Dierendonck, 2011). The research model focuses on the mediating role of OCB in the relationship between public leadership and knowledge sharing in public organizations and evaluates the contribution of public leadership to knowledge sharing. Research shows that OCB mediates the positive relationship between public leadership and knowledge sharing. EO was also found to enhance the link between knowledge-sharing and OCB. The limitation of the study is that it has not shown the causality between the relationship between public leadership, OCB, and knowledge sharing. Further research should integrate organizational factors, collaborative climate, and success in knowledge-sharing research (Sveiby & Simons, 2002). The practical implications of this research model are significant for managers in public organizations in the Vietnamese context's electricity, telephone, and water sectors. Sung and Baek-Kyoo (2011) conducted the study "Knowledge Sharing: The Effects of Organizational Learning Culture, Organizational Commitment, and Organizational Citizenship Behavior." The purpose of the study is to investigate culture (organizational learning culture), psychology (organizational commitment), and behavior (organizational citizenship behavior) on employees' knowledge-sharing intention. Research data were collected from 452 workers

in the Korean private sector. Research shows that organizational learning culture positively impacts organizational commitment, citizenship behavior, and knowledge-sharing intention. Organizational citizenship behavior mediates the relationship between organizational commitment and knowledge-sharing intention. This study integrates cultural, psychological, and behavioral aspects of employee knowledge sharing, contributing to understanding the nature of knowledge sharing in organizations. In addition, this study also shows that organizational learning culture is not only directly related to knowledge-sharing intention but also associated with organizational commitment and that OCB creates conditions for enhancing knowledge-sharing intention. The strong relationship between OCB and knowledge-sharing intention demonstrates that employees are willing to share their knowledge voluntarily with others without any pressure or apparent benefit. A limitation of the study is that data was collected from voluntary participants, so the research results need to be more generalizable. In addition, the study used a cross-sectional survey method, so it cannot show the cause-and-effect relationship between variables. The study sample was limited to a group with similar demographic characteristics: private sector employees in the Korean cultural environment. Avolio and colleagues (2004) conducted the study: "Transformational Leadership and Organizational Commitment: The Mediating Role of Psychological Empowerment and the Moderating Role of Structural Distance." Using a sample of 520 nursing staff working at a large public hospital in Singapore, the study examined the mediating role of psychological empowerment in influencing the relationship between transformational leadership and employee commitment to the organization. The study also examined how structural distance (direct and indirect leadership) between leaders and staff moderates the relationship between transformational leadership and organizational commitment. Research shows that psychological empowerment mediates the relationship between transformational leadership and organizational commitment. These findings contribute to investigating how leaders can help organizational members share their existing and potential knowledge, thereby increasing organizational competitiveness. The limitation of the study is that it was a cross-sectional survey, so it could not show a cause-and-effect relationship. Future research should conduct a longitudinal survey or experimental research. Research using a self-reported survey may result in a general bias and introduce spurious variance due to measurement error. Finally, the study sample was from the Korean private company environment, where national culture and leadership may differ from previous studies focusing on other geographic locations. Future research should make comparisons across different cultures and countries. Jayarathna (2017) researched: "Transformational Leadership Style, Psychological Empowerment, and Organizational Citizenship Behavior." This study aimed to investigate how transformational leadership and psychological empowerment are related to employees' voluntary commitment beyond their roles and responsibilities. Here, voluntary employee commitment is defined as organizational citizenship behavior demonstrated by employees. The study used samples from 130 employees of a garment manufacturing organization in Sri Lanka. Research results show that transformational leadership style positively impacts psychological empowerment and organizational citizenship behavior, in which psychological empowerment plays a mediating role in regulating the relationship between leadership style and organizational citizenship behavior.

In summary, through the review of the above studies, studies on transformational leadership style and knowledge sharing exist quite a lot. However, research on the influence of transformational leadership style on knowledge sharing in Vietnamese businesses in general and small and medium-sized enterprises in Danang City, in particular, has not received the attention of many authors in the world as well as in Vietnam. Therefore, the author's research on the influence of transformational leadership style on employee knowledge sharing at small and medium-sized enterprises in Danang City needs to be carried out to fill the gap on the one hand. On the other hand, the research gap proposes management implications for increasing employees' knowledge sharing at small and medium-sized enterprises in Danang City by developing transformational leadership style, psychological empowerment, organizational commitment, and organizational citizenship behavior.

III. RESEARCH DESIGN

A. Model and research hypotheses

Based on previous studies, the article proposes the following research hypotheses:

Hypothesis 1: The relationship between transformational leadership style and psychological empowerment

Transformational leadership, a component of Bass and Avolio's (1997) leadership theory, continues to receive scholarly attention. Transformational leadership is a process by which leaders motivate their followers to exceed their initial expectations and transcend personal interests to achieve collective goals (Bass, 1985; Howell & Avolio, 1993). According to research by Avolio and colleagues (2014), Dust et al. (2014), Kark et al. (2003), and Pieterse and colleagues (2010) all believe that there is a close connection between transformational leadership style and

psychological empowerment. According to Seibert and colleagues (2011), transformational leadership has a positive relationship with psychological empowerment, and future research is recommended to examine the mediating effect of psychological empowerment and leadership style. Empirical studies by Bass and Steidlmeier (1999) and Epitropaki and Martin (2005) also showed a direct impact of transformational leadership style on employers' psychological empowerment (Han et al., 2015). Bass and Steidlmeier (1999) theoretically emphasized the impact of transformational leadership on empowerment, especially through inspirational motivation. Epitropaki and Martin (2005) also note that transformational leaders can empower their employees to believe that the individual is being valued as a valuable asset to the organization. Overall, studies show that transformational leadership positively impacts psychological empowerment, with empowered employees seeing themselves as more capable and responding by increasing their commitment to the organization. Organization, thereby impacting their work and organization in a more meaningful way. From the above arguments, the author proposes the hypothesis: H1: Transformational leadership style positively influences psychological empowerment.

Hypothesis 2: The relationship between transformational leadership style and organizational commitment

Organizational commitment is "the strength of an individual's personal identification and involvement in a particular organization" (Porter et al., 1974). An individual with high organizational commitment tends to believe in the organization's values, adhere to the organization's goals, and is more likely to strive for the organization's good (Burud & Tumolo, 2004). According to recent studies, researchers have begun to investigate the link between organizational commitment and transformational leadership style (Avolio et al., 2004; Ismaila et al., 2011; Joo et al., 2012; Walumbwa & Lawler, 2003; Vigoda- Gadot 2007). Their study showed that employees had higher organizational commitment when they believed their supervisor promoted collective goals, provided intellectual stimulation, and presented a clear vision. Additionally, transformational leaders encourage employees to demonstrate a higher level of commitment to their organization by demonstrating the alignment of organizational goals in terms of individual interests. Furthermore, transformational leadership behaviors encourage employees to find new approaches to solve challenges and remain engaged with their work and organization. These behaviors lead to higher levels of organizational commitment (Joo et al., 2012; Walumbwa & Lawler, 2003). 'Ideally, transformational leaders create an environment where employees are more likely to commit to the organization (Vigoda-Gadot, 2007; Han et al., 2015). Therefore, the author proposes the following hypothesis: H2: Transformational leadership style has a positive influence on organizational commitment

Hypothesis 3: The relationship between transformational leadership style and organizational citizenship behavior

According to Organ (1988), organizational citizenship behavior is an employee's discretionary behavior that goes beyond assigned duties and is not affected by the organization's formal reward system. In other words, organizational citizenship behaviors are behavioral patterns that differ from the technical skills required for the job (Lin & Hsiao, 2014). According to research by Kim (2014) and Piccolo and Colquitt (2006), the transformational leadership style encourages voluntary organizational citizenship behavior and is not directly connected to the organization's reward system but contributes to enhancing organizational efficiency. Researchers found a positive impact of transformational leadership on organizational citizenship behavior, especially related to organizational compliance (Leithwood & Jantzi, 2000) and employee virtue (Kim, 2014). When transformational leaders serve as role models, and pay special attention to the needs of individual employees and the overall goals of the organization, they inspire self-sacrificing behavior that manifests as organizational citizenship behavior (Kim, 2014; Lin & Hsiao, 2014). From these compelling arguments, the author proposes the hypothesis: H3: Transformational leadership style has a positive influence on organizational citizenship behavior.

Hypothesis 4: The relationship between transformational leadership style and knowledge sharing

Transformational leaders proactively mentor employees and encourage personal development to achieve extraordinary feats (Zhu et al., 2009). Through the influence on the employees, transformational leaders can improve their organizational capabilities by influencing employees by creating cultures and supportive systems (Avolio & Yammarino, 2013; Liao & Chuang, 2007). Employees can then demonstrate trust, satisfaction, motivation, organizational commitment, involvement, and appearance that exceed organizational expectations (Bono & Judge, 2003; Podsakoff et al., 1996; Zhu et al., 2009). A growing number of studies report on the active role of leaders in promoting knowledge sharing among employees within organizations (Bryant, 2003; Nguyen & Mohamed, 2011; Srivastava et al., 2006; Xue et al., 2011). When transformational leaders continuously learn from followers and foster an environment of mutual learning, employees are more likely to engage in knowledge-sharing behaviors that meet leaders' expectations and demonstrate transformational leadership behaviors. Studies confirm the effectiveness of transformational leadership behaviors on knowledge sharing at the individual level (Kim, 2012; Lin & Hsiao, 2014) and the organizational level (Li et al., 2014). Kim (2012) examined the relationship between

transformational leadership and knowledge-sharing intentions with 201 government employees in South Korea. The results showed an improvement in knowledge-sharing intention among employees through directly interacting with transformational leadership behaviors, providing individualized attention to employees, and enhancing employees' motivation. A study by Shih, Chiang, and Chen (2012), including 417 R&D managers in Taiwan, showed that transformational leadership is positively related to the knowledge-sharing behavior of R&D workers. More recently, Lin and Hsiao (2014) also found a positive relationship between transformational leadership and employees' knowledge-sharing intention (Han et al., 2015). The author proposes the hypothesis from the above arguments: H4: Transformational leadership style positively influences knowledge sharing.

Hypothesis 5: The relationship between psychological empowerment and organizational commitment

According to Liden et al. (2000), empowering individuals can lead to higher job satisfaction, organizational commitment, and job performance. Some researchers have also suggested that empowered employees have higher levels of organizational commitment, as empowered employees tend to be highly focused, motivated, and resilient (Avolio et al., 2004; Kraemer et al., 1999; Spreitzer, 1995). Empowering employees with conditions such as opportunities for self-determination, challenge, and responsibility, makes employees appreciate what they have. In turn, such appraisal leads to employees' feelings of significance, competence, self-determination, and impact (Liden et al., 2000). Therefore, they are likely to reciprocate by being more committed to an organization (Avolio et al., 2004; Eisenberger et al., 1990). Therefore, it is likely that the more empowered employees are, the more committed they are to the organization. Seibert and Liden (1999) also found that self-determination and impact were positively related to organizational commitment. In particular, competence is an intrinsic work motivation (Bandura, 1977); individuals who feel competent to perform job tasks also increase their commitment to continuity (Kraemer et al., 1999). Therefore, the author proposes the following hypothesis: H5: Psychological empowerment has a positive influence on organizational commitment

Hypothesis 6: The relationship between organizational commitment and organizational citizenship behavior

A large number of empirical studies show the positive association between organizational citizenship behavior and a variety of individual and organizational level outcomes, including job performance, customer satisfaction, productivity (Podsakoff et al., 2009), organizational commitment (Ng & Feldman, 2011; Liu, 2009), and organizational justice (Ang et al., 2003). Organizational commitment has been studied as an antecedent to organizational citizenship behavior (Organ & Ryan, 1995). Commitment is the emotional component of organizational commitment, described as an employee's psychological attachment to the organization; employees stay with the company because they genuinely feel comfortable working (Meyer & Allen, 1991). Previous research has shown that employee characteristics (e.g., general ethical factors), which Organ and Ryan (1995) consider as employee satisfaction, organizational commitment, perceptions of fairness, and perceived leadership support is one of the key predictors of organizational citizenship behavior (Bateman & Organ, 1983; O'Reilly & Chatman, 1986; Smith et al., 1983). These variables are antecedents of organizational citizenship behavior, and all have a significant relationship with organizational citizenship behaviors. Therefore, variables comparing employee morale are important determinants of organizational citizenship behavior. Additionally, Brief and Motowidlo (1986), in reviewing the literature on extra-role behavior, agree that the components of commitment are predictive of pro-organizational behavior or organizational citizenship behavior. Therefore, the positive association between organizational commitment and OCB is reasonable (Moorman et al., 1993; Organ & Ryan, 1995). Therefore, the author proposes the following hypothesis: H6: Organizational commitment positively influences organizational citizenship behavior.

Hypothesis 7: The relationship between psychological empowerment and knowledge sharing

According to Arnold et al. (2000), Özbebek and Kiliçarslan (2011), Srivastava (2001), and Srivastava et al. (2006), empowered employees are more likely to share their knowledge with others in an organization. This view is supported by Özbebek and Kiliçarslan's (2011) empirical examination of the direct relationship between psychological empowerment and knowledge-sharing behavior using a sample of employees working in the consumer goods sector (Han et al., 2015). Psychological empowerment has received attention in the Human Resources and Management fields because of its positive effects on employees' knowledge-sharing behavior in the workplace. Examples include employee job satisfaction, work engagement, work productivity, task performance, and knowledge-sharing behavior (Dust et al., 2014; Koberg et al., 1999; Lin & Tseng, 2013; Seibert et al., 2011; Spreitzer et al., 1990; Thomas et al., 1990). According to research by Han and colleagues (2015), transformational leadership style has a direct positive impact on psychological empowerment and organizational commitment, thus having a positive influence on employee knowledge sharing. When employees receive psychological empowerment from leaders, they will increase their intention to share knowledge and contribute to the organization.

The study found that psychological empowerment and organizational commitment accounted for 32% of the total variance in employees' knowledge-sharing intentions. From the above arguments, the author proposes the hypothesis: H7: Psychological empowerment has a positive influence on knowledge sharing

Hypothesis 8: The relationship between organizational commitment and knowledge sharing

Findings from studies by Jo and Joo (2011) and Ma and Kim (2005) show that employees with high organizational commitment have high levels of interaction with internal members, thereby increasing their intentions to share knowledge voluntarily. The study by Cabrera et al. (2006) surveyed 372 employees in the information technology and service industry, and confirmed that the higher the level of psychological commitment of employees, the higher their intention to share knowledge (Han et al. 2015). A growing body of research supports the positive relationship between organizational commitment and knowledge sharing (Cabrera et al., 2006; Jo & Joo, 2011). Because of the feeling of solidarity, employees will have a higher emotional attachment to their organization, thereby tending to perceive more similarities (Kramer et al., 1996, cited by Jo et al. Joo, 2011). Individuals more psychologically connected to their organization are more likely to interact with members of the same organization. This alignment leads employees to share knowledge (Jo & Joo, 2011). Cabrera et al. (2006) also found a positive relationship between organizational commitment and knowledge sharing by analyzing 372 employees from a large multinational organization. Cabrera et al. (2006) argue that highly competent employees are likelier to share knowledge because highly involved employees believe that their organization provides quality information and support, encouraging them to share knowledge (Han et al., 2015). From the above arguments, the author proposes the hypothesis: H8: Organizational commitment has a positive influence on knowledge sharing

Hypothesis 9: The relationship between organizational citizenship behavior and knowledge sharing

Yu and Chu (2007) consider knowledge sharing to be a form of organizational citizenship behavior that involves automatic, discretionary, and altruistic behavior that is not required. They concluded that organizational citizenship behavior can create an effective environment for knowledge sharing. Bock and Kim (2002) also view knowledge-sharing behavior as an outcome of organizational citizenship behavior. They found that experienced employees were likely to engage in activities not described in their job descriptions, such as knowledge sharing, without explicit financial incentives because they realized that knowledge sharing would increase the scope and depth of organizational members. Both studies suggest that a deliberate strategy to use organizational citizenship behavior can shape employees' motivation to share knowledge within organizations voluntarily. In a virtual context, sharing knowledge with others without expecting anything in return is an altruistic act. When they share knowledge, they act scientifically as a team member (with civic virtue), accept the risk of no return (meaning sport), and provide information to help others solve problems (being polite). Therefore, knowledge sharing is a typical form of organizational citizenship behavior. From the above arguments, the author proposes the hypothesis: H9: Organizational citizenship behavior has a positive influence on knowledge sharing

Based on the hypotheses proposed by the research, the knowledge-sharing system is also gradually forming at small and medium-sized enterprises in Danang City, and managers have begun to pay attention to employees' knowledge-sharing skills. Therefore, the author proposes a model to study the relationship between transformational leadership style and knowledge sharing - the mediating role of organizational citizenship behavior, organizational commitment, and psychological empowerment in organizations at small and medium-sized enterprises in Danang City based on inheritance from Han et al. (2015) and Han et al. (2016) models. For this reason, the proposed research model is as follows:
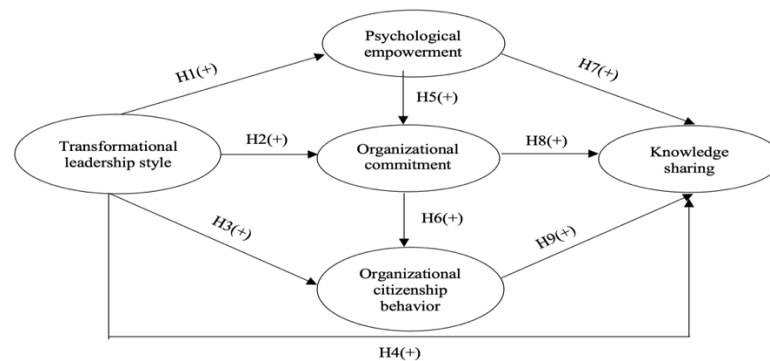
Figure 1. Proposed research model

(Source: Synthesis and recommendations of the author)

B.   Research methods and and data

To ensure the reliability of the research results, the author conducted two steps: preliminary research to adjust the scale and official research. In particular, a mixed research method was used in preliminary research, with a qualitative research method conducted by interviewing experts' opinions after reviewing previous studies to adjust the scale and ask appropriate survey questions. Research experts are executives and managers at small and medium-sized enterprises in Danang City. Conducting quantitative research is conducted according to the following steps: Step 1: Build a questionnaire: All observed variables in the component use a 5-level Likert scale with levels (5): completely agree; (4) agree; (3) neutral; (2) disagree; (1): completely disagree. Step 2: Determine the number of samples needed for the survey: According to Hair et al. (2010), the minimum sample size to be able to analyze EFA is 50, preferably 100, and the observation/measurement ratio is 5:1, preferably 10:1. According to Hair (2009), the minimum sample size in the analysis must be achieved according to the formula $n = 5 \times m$ (where n is the minimum sample size; m is the number of observed variables). The author used 28 questions in the research model, so the minimum sample size is 28 x 5 = 140 samples. Besides, for multivariate regression analysis, Tabachnick et al. (2007) pointed out that the number of samples must be at least $n \geqslant 8 \times p + 50$ (where n is the minimum number of samples and p is the number of independent variables). In this article, the model has 04 independent variables with 28 observed variables, so the minimum number of samples must be 82. Notably, this study uses the Structural Equation Modeling method (SEM); the research model has a total number of parameters to estimate 65 (Sample moments – Degrees of Freedom = 406 – 341). Therefore, if calculated according to Bollen's (1989) rule of 5 observations/parameters to be estimated, the minimum sample size is 330 (65 x5). However, in order to achieve the determined sample size, after filtering out samples that do not meet the requirements or there is a basis for determining that the sample information is unreliable and, in return, many questionnaires are not responded to, according to the experience of many studies, the author decided to issue 660 questionnaires for interview (330 x200%). The research sample was selected according to convenience sampling by interviewing employees working at 06 small and medium-sized enterprises in Danang City. Step 3: Submit the survey: The survey was collected by convenience sampling through an online questionnaire in April 2024. The subjects surveyed were employees working at small and medium-sized enterprises in Danang City. Step 4: Collect feedback: From 660 questionnaires distributed, the study received 528 questionnaires (reaching a rate of 80.01%). After eliminating the questionnaires that did not meet the requirements, the remaining number of questionnaires that met the requirements was 425 (reaching a rate of 80.49% of the questionnaires recovered). Step 5: Process data using SPSS 20.0 analysis tool: Data is collected, synthesized, checked, and coded. The author specifically coded the questionnaire in Table 2 of this study.

The author cleaned the data and analyzed the results by analyzing the reliability and validity of the data and the value of Cronbach's Alpha and EFA scales. Preliminary analysis results show that the author's proposed research model is maintained; the scale of research concepts includes 28 observed variables. Results of trial interviews with 20 leaders and employees had no other opinions on the content and form of the observed variables. Therefore, the scale and test interview questionnaire were used for the official research phase.

IV.   DATA ANALYSIS

A.   Sample description

This study uses the Structural Equation Modeling (SEM) method; the research model has a total number of parameters to estimate of 65 (Sample moments – Degrees of Freedom = 406 – 341). Therefore, if calculated according to Bollen's (1989) rule of 5 observations/parameters to be estimated, the minimum sample size is 330 (65 x5). However, to achieve the determined sample size, after filtering out samples that do not meet the requirements, or there is a basis for determining that the sample information is unreliable and, in return, many questionnaires are not responded to, according to the experience of many studies, the author the author decided to issue 660 questionnaires for interview (330*200%), by conducting face-to-face and online surveys in April 2024. The authors present the main information about the study sample in Table 1 below.

Table 1. Sample information

Demographic characteristics		Address	Frequency	Percent
Small and medium-sized enterprises in Danang City	Danang Beach Tourism Service Company Limited	K91/2 3/2 Street, Thuan Phuoc Ward, Hai Chau District, Danang	169	20,5
	Minh Tam Consultancy Service Company Limited	K19/2B Co Giang, Phuoc Ninh Ward, Hai Chau District, Danang	109	14,6
	DANASTAR Company Limited	3 Duong Ba Cung Street, Hoa Xuan Ward, Cam Le District, Danang	136	17,9
	PA9 Trading and construction company limited	27 Central Region 12, Hoa Hai Ward, Ngu Hanh Son District, Danang	140	16,0
	DHT Digial Technology And Communications Company Limited	23 Ly Nhat Quang, Nai Hien Dong Ward, Son Tra District, Danang	119	14,1
	NANO Marketing company limited	K35/30 Thai Thi Boi, Chinh Gian Ward, Thanh Khe District, Danang	105	16,9
Total			**425**	**100**
Gender	Female		167	46,4
	Male		228	53,6
	Total		**425**	**100**
Age	18 – 35		180	42,4
	36 – 50		199	46,8
	Above 50		46	10,8
	Total		**425**	**100**
Level of education	Below college		80	18,8
	College, university		261	61.4
	Postgraduate		84	19,8
	Total		**425**	**100**
Working position	Director, vice director		48	11,3
	Managers, deputy managers		59	13,9
	Experts		88	20,7
	Staff		166	39,1
	Workers		64	15,1
	Total		**425**	**100**
Seniority	Under 5 years		60	14,1
	From 5 years - < 10 years		133	31,3
	From 10 years - < 20 years		179	42,1
	>= 20 years		53	12,5
	Total		**425**	**100**

(Source: Data analysis of the research)

B. Data analysis

Based on the focus group discussion results, the author calibrated the theoretical model and scale used for the trial interview phase with 20 leaders and employees to evaluate the completeness of the content and form of the statements (questions) and the ability to provide information of respondents, from here adjusted into a questionnaire used for the official research phase. Results of trial interviews with 20 leaders and employees had no other opinions on the content and form of the observed variables. Therefore, the scale and test interview questionnaire were used for the official research phase. Specifically, the research model proposed by the author is maintained. The scale of research concepts includes 28 observed variables.

Table 2. Scale for measuring the influencing factors of transformational leadership style on employee knowledge sharing

Source	Claims	Code
Transformational leadership style		
Dai and collegues (2013)	Supervisors take the time to understand employees' needs	TL1
Dai and collegues (2013)	Superiors often provide encouragement and support for employees to complete tasks	TL2
Dai and collegues (2013)	Superiors often encourage employees to challenge	TL3
Dai and collegues (2013)	Supervisors encourage employees to think about problems from a new perspective.	TL4
Dai and collegues (2013)	Superiors are a source of inspiration that motivates employees to strive to complete tasks.	TL5
Dai and collegues (2013)	Superiors know how to motivate employees to strive to achieve company goals.	TL6
Knowledge sharing		
Xiao and collegues (2017)	Employees often share work reports and documents with colleagues	KS1
Bock and collegues (2005)	Employees always guide colleagues on how to use working methods	KS2
Xiao and collegues (2017)	Employees regularly share experiences or secrets of success with colleagues	KS3
Bock and collegues (2005)	Employees are willing to provide their knowledge upon request from colleagues	KS4
Xiao and collegues (2017)	Employees strive to share work knowledge effectively with colleagues	KS5
OCB1		
Dai and collegues (2013)	Employees voluntarily comply with company regulations.	OCB1
Dai and collegues (2013)	Employees often pay attention to their colleagues' achievements instead of their shortcomings.	OCB2
Dai and collegues (2013)	Employees are willing to help colleagues solve difficulties at work	OCB3
Ozdemir and Ergun (2015)	Employees try to put aside dissatisfaction to work towards the common interests of the company	OCB4
Ozdemir andErgun (2015)	Employees do not accept behaviors that negatively affect the company's image	OCB5
Dai and collegues (2013)	Employees always strive to learn to improve their professional qualifications and work efficiency	OCB6
Organizational commitment		
Lee and Sun (2012)	Employees feel obligated to work long-term with the company	OC1
Lee and Sun (2012)	Employees' lives are disrupted if they decide to leave the company	OC2
Lee and Sun (2012)	It is tough for employees to leave the company, even if the employee wants to	OC3
Lee and Sun (2012)	Employees want to continue working at the company even though there are many other options	OC4
Lee and Sun (2012)	Employees are happy to spend the rest of their careers with the company	OC5
Psychological empowerment		
Spreitzer (1995)	Work is significant for each emplyee	PE1
Spreitzer (1995)	Employees are confident about their ability to work	PE2
Spreitzer (1995)	Employees have mastered the necessary knowledge and skills to perform their jobs	PE3
Spreitzer (1995)	Employees can decide for themselves how to do their work	PE4
Spreitzer (1995)	Employees can control what happens in their department	PE5
Spreitzer (1995)	Employees have significant influence over what happens in their department	PE6

(Source: Author's synthesis)

1) *Results of Cronbach's Alpha reliability analysis*

The results of evaluating the scales using Cronbach's Alpha show that the scales are reliable (Cronbach's Alpha > 0.6). However, the Corrected Item – Total Correlation coefficient of the variables TL4 (Transformational leadership style scale), PE6 (Psychological Empowerment scale), and OC5 (Organizational Commitment scale) has the Corrected Item – Total Correlation < 0.4; at the same time, if these variables are removed, the Cronbach's Alpha coefficient increases). Therefore, the author decided to eliminate these variables. Results of eliminating variables TL4, PE6, and OC5 show that the scales are reliable (Cronbach's Alpha > 0.6), and the Corrected Item – Total Correlation is satisfactory ($\geqslant$ 0.4) (Table 3).

Table 3: Results of preliminary assessment of scales using Cronbach's Alpha

No.	Scale	Symbol	Observed variable	Cronbach' s Alpha coefficient	Corrected Item – Total Correlation
1	Transformational leadership style	TL	5	0,915	0,696 (TL1)
2	Psychological empowerment	PE	5	0,896	0,564 (PE1)
3	Organizational commitment	OC	4	0,872	0,761 (OC2)
4	Organizational Citizenship Behavior	OCB	6	0,854	0,451 (OCB6)
6	Knowledge sharing	KS	5	0,899	0,715 (KS5)

(Source: Data analysis results)

2) *Results of Cronbach's Alpha and EFA reliability analysis*

EFA results after eliminating variables TL4, PE6, and OC5 using the Principal Axis Factoring extraction method with Promax oblique method show: KMO index = 0.921 with sig value = 0.000, proving that the analyzed data is suitable for EFA; 25 observed variables were extracted into five factors at Eigenvalue = 1.239, and the Extracted Variance reached 64.383%, so the EFA results are appropriate. However, the factor loading weights of variables PE3 and OCB6 did not meet the requirements ($\geqslant$0.50). Therefore, the authors removed these two variables for the second EFA. The second EFA results, after eliminating variables PE3 and OCB6 (Table 4), showed: KMO index = 0.914 with sig value = 0.000, proving that the analyzed data is suitable for EFA; 23 observed variables were extracted into five factors similar to the first EFA at Eigenvalue = 1.228 and the Extracted Variance reached 66.598%, and the factor loading weights all met the requirements (>0.50 and the difference in number $\geqslant$ 0.30). Therefore, the 2nd EFA results are accepted, and the scale of research concepts meets the requirements for CFA in the following content.

Table 4. EFA results of research concept scales

	Component				
	1	2	3	4	5
TL1		0,691			
TL2		0,825			
TL3		0,854			
TL5		0,719			
TL6		0,901			
PE1			0,910		
PE2			0,630		
PE4			0,922		
PE5			0,927		
OC1					0,641
OC2					0,820
OC3					0,742
OC4					0,827
OCB1				0,760	
OCB2				0,816	
OCB3				0,593	
OCB4				0,819	
OCB5				0,611	
KS1	0,750				
KS2	0,835				
KS3	0,787				

KS4	0,798				
KS5	0,825				
Eigenvalue	10,204	2,438	1,712	1,351	1,228
Variance Extracted	42,974	52,163	58,098	62,714	66,598
Cronbach's Alpha	0,899	0,800	0,872	0,862	0,926

(Source: Data analysis results)

3)   Results of testing the scale using CFA

Because the research concepts in the research model are all first-order, CFA model will be used to test the scale model of research concepts. The first CFA model results show that the fit indexes of the scale model (Chi-square/pdf = 4.766; GFI = 0.829; TLI = 0.872; CFI = 0.889; RMSEA = 0.094) still do not meet the requirements.

After eliminating variables TL2, OCB2, and KS5, which have high Modification Index - MI, the second CFA results (Figure 2) show that the basic indexes measuring the model fit (Chisquare/df = 2.449; GFI = 0.915); TLI = 0.953; CFI = 0.961; RMSEA = 0.058) all met the requirements, proving that the scale model of concepts fits the data. The Standardized Regression Weights all meet the standard of greater than 0.5 (the lowest is λKS2= 0.648) and are statistically significant (p < 0.001), proving that the scale of concepts in the research model after eliminating the above-observed variables all achieved convergent validity.
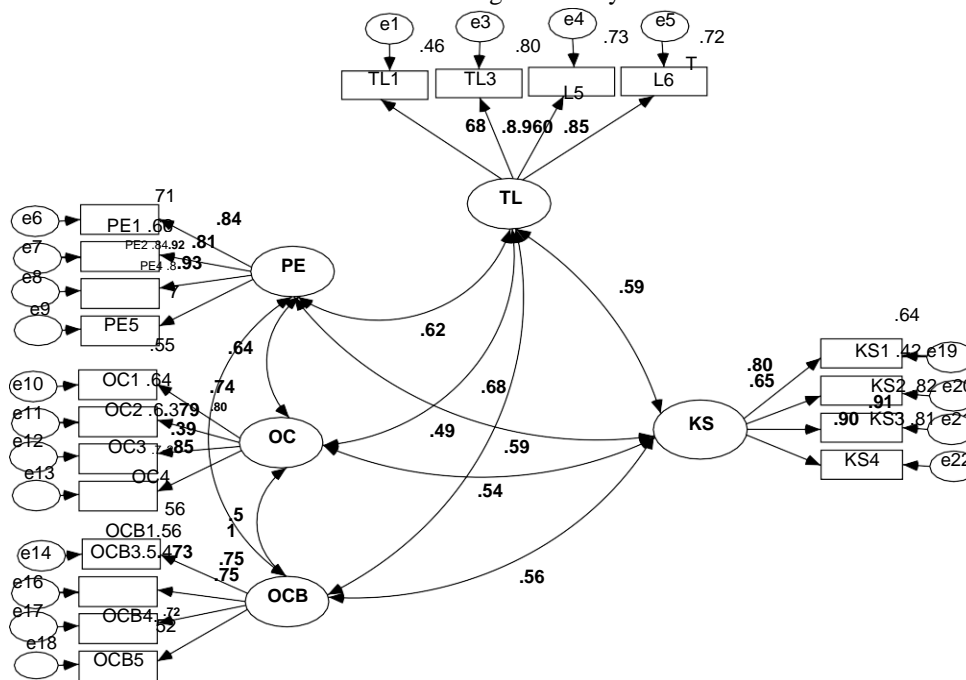
Chisquare= 391.901; df= 160; P= .000; Chisquare/df= 2.449; GFI= .915; TLI= .953; CFI= .961; RMSEA= .058

Figure 2. CFA's results

(Source: Data analysis results)

The correlation coefficient between concepts is less than 1 (the highest is OC ↔TL = 0.679; the lowest is PE↔OCB = 0.392) and is statistically significant (p < 0.001), proving that the concepts in the model achieve discriminant validity. All scales have Composite Reliability with satisfactory Variance Extracted and Cronbach's Alpha coefficient (Table 5), proving that the CFA model's conceptual scale meets the validity and reliability requirements. The MLestimationresults of the error variance of the parameters to be estimated and the concepts in the scale model also show that there is no Heywood case at any error, and the standard errors are < |2,58| (maximum is e1= 1.041). Therefore, the results of the CFA model are accepted.

**Table 5. Results of testing the reliability of the measurement scales**

Notion	Symbol	Observed variable	Reliability			Qualified value
			α	ρc	ρvc	
Transformational leadership	TL	4	0,891	0,889	0,669	Qualified value
Psychological empowerment	PE	4	0,926	0,929	0,796	
Organizational commitment	OC	4	0,872	0,872	0,651	
Organizational Citizenship Behavior	OCB	4	0,826	0,873	0,578	
Knowledge sharing	KS	4	0,887	0,808	0,682	

(Source: Data analysis results)

4) Results of testing the research model

    a) Testing the official theoretical model using SEM

SEM results (Figure 3) show that the basic indices measuring the model fit (Chi-square/pdf = 2.436; GFI = 0.915; TLI = 0.954; CFI = 0.961; RMSEA = 0.058) all meet the requirements, demonstrating that the scale model of concepts is consistent with market data. The estimation results of the Cause-and-Effect relationship between concepts in the theoretical model (Table 6) show that the relationships between concepts in the theoretical model are all statistically significant ($p \leq 0.05$). This demonstrates that "each measure is related to other measures as theoretically expected" (Churchill, 1995). That is, the measurement scales of the concepts in the research model achieve theoretical relevance. Therefore, the research model tested by SEM above is the official theoretical model of this study.
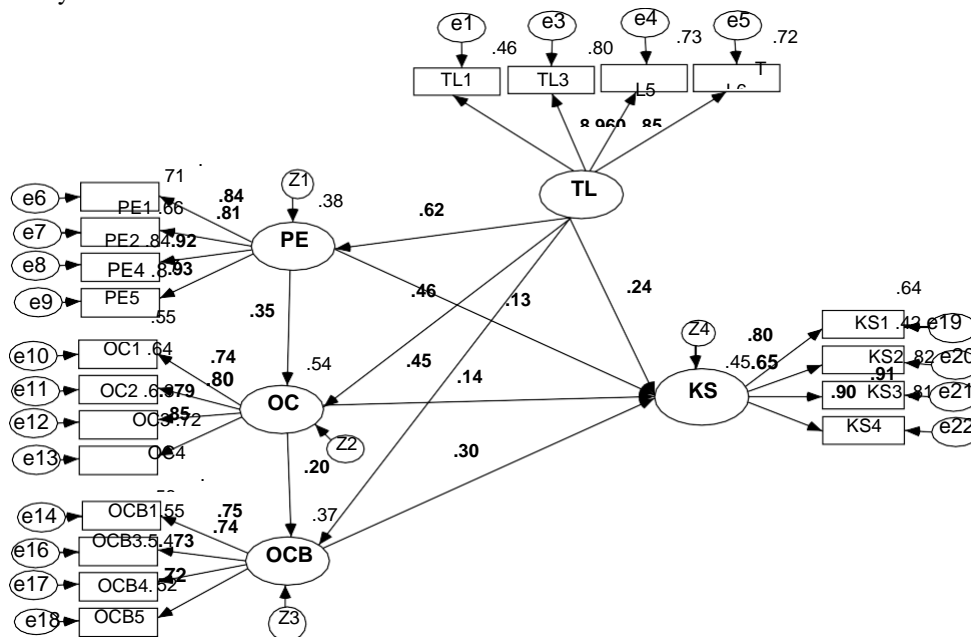
Chisquare= 392.141; df= 161; P= .000; Chisquare/df= 2.436; GFI= .915; TLI= .954; FI= .961; RMSEA= .058

Figure 3. Results of the theoretical model (standardized)

(Source: Data analysis results)

Table 6. Results of testing the Cause-and-Effect relationship

Relationship	Estimate	SE	CR	P
PE <--- TL	0,620	0,051	12,202	***
OC <--- TL	0,463	0,050	7,858	***
OC <--- PE	0,349	0,048	6,185	***
OCB <--- TL	0,451	0,049	6,113	***
OCB<--- OC	0,202	0,056	2,799	0,005
KS<--- PE	0,133	0,053	2,243	0,025
KS<--- OC	0,136	0,073	1,962	0,050
KS<--- TL	0,243	0,064	3,379	***
KS<--- OCB	0,296	0,082	4,861	***

(Source: Data analysis results)

*In which: Estimate: average estimated value; SE: standard error; CR: critical value; P: statistically significant; ***: $p < 0,001$.*

    b) Testing theoretical model using Bootstrap estimation method

The Bootstrap Estimation results performed by repeated sampling with size N = 1,000 (Table 7) show that the bias (Bias) and standard error of bias (SE bias) between Bootstrap and the ML estimation appear. However, the standard deviation of the bias is not statistically significant (SE(Bias) max= 0.06< 0.05), proving that the ML estimation results are reliable.

Table 7. Results of Bootstrap Estimation and ML Estimation

Relationship	ML estimation	Bootstrap estimation			Deviation	
	Estimas	Mean	SE	SE (SE)	Bias	SE(Bias)
PE <--- TL	0,620	0,619	0,047	0,001	-0,001	0,001
OC <--- TL	0,463	0,466	0,067	0,001	0,003	0,002
OC <--- PE	0,349	0,343	0,064	0,001	-0,006	0,003
OCB <--- TL	0,451	0,455	0,084	0,002	0,003	0,003
OCB<--- OC	0,202	0,198	0,085	0,002	-0,004	0,003
KS<--- PE	0,133	0,132	0,077	0,002	-0,001	0,002
KS<--- OC	0,136	0,133	0,089	0,002	-0,003	0,003
KS<--- TL	0,243	0,248	0,113	0,003	0,005	0,004
KS<--- OCB	0,296	0,294	0,068	0,002	-0,003	0,002

(Source: Data analysis results)

In which: Mean: average estimated value; SE: standard error; SE (SE): standard error of standard error; Bias: bias; SE (Bias): standard error of bias

c)   *Research hypothesis testing*

The estimation results of parameters using ML and Bootstrap methods in Tables 6 and 7 show that the relationships between concepts in the official theoretical model (Figure 3) are all positive and statistically significant ($p < 0.05$). It is proved that the following hypotheses in the proposed research model are all accepted.

Hypothesis 1: Transformational leadership style has a positive impact on psychological empowerment

Hypothesis 2: Transformational leadership style has a positive impact on organizational commitment

Hypothesis 3: Transformational leadership style has a positive impact on organizational citizenship behavior

Hypothesis 4: Transformational leadership style has a positive impact on knowledge sharing

Hypothesis 5: Psychological empowerment has a positive impact on organizational commitment

Hypothesis 6: Organizational commitment has a positive impact on organizational citizenship behavior

Hypothesis 7: Psychological empowerment has a positive impact on knowledge sharing

Hypothesis 8: Organizational commitment has a positive impact on knowledge sharing

Hypothesis 9: Organizational citizenship behavior has a positive impact on knowledge sharing

5)   *Testing the differences of the official theoretical model according to employee demographic characteristics*

a)   *Testing the differences based on employees' gender*

According to employee gender, survey data was divided into two gender groups: the male (218 people = 53.6%) and the female (197 people = 46.4%). SEM results of the variable model according to two groups of male and female employees: $\chi2 = 682.002$; df = 322; p = 0.000; $\chi2/df = 2.118$; GFI = 0.861; TLI = 0.929; CFI = 0.940; RMSEA = 0.051.

SEM results of the invariant model according to two groups of male and female employees: $\chi2 = 691,121,285$; df = 330; p = 0.000; $\chi2/df = 2.094$; GFI = 0.860; TLI = 0.931; CFI = 0.940; RMSEA = 0.051 shows that both the variable and partial invariant models of the two groups of male and female employees are consistent with market data. The results of testing the difference in compatibility criteria between the variable and partially invariant models (Table 8) show that the difference between the two models is not statistically significant (p = 0.332 > 0.05). Therefore, the invariant model is chosen and allows us to conclude that at present, no difference has been found in the influence of transformational leadership style on employees' knowledge sharing, the mediating role of psychological empowerment, organizational commitment, and organizational citizenship behavior at small and medium-sized enterprises in Danang City between male and female employees.

Table 8. The differences in compatibility criteria between variable and partially invariant models according to employees' gender

Comparative models	χ2	df	p	NFI	RFI	IFI	TLI
Variable model	682,002	322	0,000	0,893	0,874	0,941	0,929
Partially invariant model	691,121	330	0,000	0,892	0,876	0,941	0,931
Discriminant validity	9,119	8	0,028	0,001	0,002	0,000	0,002

(Source: Data analysis results)

In which: χ2: chi-square; df: Degrees of Freedom; p: statistically significant.

b)   *Testing the differences based on employees' age group*

According to the age group of employees, survey data is divided into three groups: employees aged 18 - 35 (180 people = 42.4%;); group of employees aged 36 - 50 (199 people = 46.8%) and group of employees aged over 50 (46 people = 10.8%).

SEM results of the variable model by employee age group: $\chi 2 = 929.834$; df = 483; p = 0.000; $\chi 2$/df = 1.925; GFI = 0.832; TLI = 0.914; CFI = 0.927; RMSEA = 0.047.

SEM results of the partially invariant model by employee age group: $\chi 2$= 944.602; df = 501; p = 0.000; $\chi 2$/df = 1.885; GFI = 0.829; TLI = 0.918; CFI = 0.928; RMSEA = 0.046.

It shows that both the variable and partially invariant models across employee age groups fit the data.

Table 9. The differences in compatibility criteria between variable and partially invariant models according to employees' age group

Comparative models	$\chi 2$	df	p	NFI	RFI	IFI	TLI
Variable model	929,834	483	0,000	0,862	0,837	0,928	0,914
Partially invariant model	944,602	501	0,000	0,859	0,840	0,929	0,918
Discriminant validity	14,768	18	0,277	0,03	0,003	0,001	0,004

(Source: Data analysis results)

In which: χ2: chi-square; df: Degrees of Freedom; p: statistically significant.

The results of testing the difference in compatibility criteria between the variable and partially invariant models (Table 9) show that the difference between the two models is not statistically significant (p = 0.677 > 0.05). Therefore, the invariant model is chosen, and it allows us to conclude that no difference has been found in the influence of transformational leadership style on employees' knowledge sharing, the mediating role of psychological empowerment, organizational commitment, and organizational citizenship behavior at small and medium-sized enterprises in Danang City among employee groups of different ages.

c)   Testing the differences based on employees' level of education

According to the education level of the employees, the survey data was divided into three groups: the group of employees with less than a college education (80 people = 18.8%); the group of employees with a college - university education n (261 people = 61.4%); the group of employees with post-university education (84 people = 19.8%).

SEM results of the variable model according to employee's educational level: $\chi 2 = 977.690$; df = 483; p = 0.000; $\chi 2$/df = 2.024; GFI = 0.820; TLI = 0.904; CFI = 0.918; RMSEA = 0.049.

SEM results of the partially invariant model according to employee's educational level: $\chi 2 = 997.184$; df = 501; p = 0.000; $\chi 2$/df = 1.990; GFI = 0.818; TLI = 0.907; CFI = 0.918; RMSEA = 0.048.

It shows that both variable and partially invariant models according to employee education level fit the data.

Table 10. The differences in compatibility criteria between variable and partially invariant models according to employees' level of education

Comparative models	$\chi 2$	df	p	NFI	RFI	IFI	TLI
Variable model	977,690	483	0,000	0,853	0,826	0,920	0,904
Partially invariant model	997,184	501	0,000	0,850	0,829	0,919	0,907
Discriminant validity	19,494	18	0,362	0,003	0,003	0,001	0,003

(Source: Data analysis results)

In which: χ2: chi-square; df: Degrees of Freedom; p: statistically significant.

The results of testing the difference in compatibility criteria between the variable and partially invariant models (Table 10) show that the difference between the two models is not statistically significant (p = 0.362> 0.05). Therefore, the invariant model is chosen, allowing us to conclude that, at present, the influence of transformational leadership style on employees' knowledge sharing, the mediating role of psychological empowerment, organizational commitment, and organizational citizenship behavior at small and medium-sized enterprises in Danang City among employee with different educational levels.

d)   Testing differences according to employee's job position

According to the employee's occupational position, the survey data is divided into five occupational position groups: Director and Vice Director (48 people = 11.3%); Manager, Deputy Manager (59 people = 13.9%); Specialists (88 people = 20.7%); Employees (166 people = 39.1%); Workers (64 people = 15.1%).

SEM results of the variable model according to employee's occupational position: $\chi 2 = 1300.636$; df =805; p = 0.000; $\chi 2$/df = 1.616; GFI = 0.773; TLI = 0.905; CFI = 0.920; RMSEA = 0.036.

SEM results of the partially invariant model according to employee's occupational position: χ2 = 1382, 858; df = 841; p = 0.000; χ2/df = 1.644; GFI = 0.764; TLI = 0.901; CFI = 0.912; RMSEA = 0.039.

It shows that both the variable and partially invariant models by employee's occupational position fit the data.

Table 11. The differences in compatibility criteria between variable and partially invariant models according to employees' job positionUsing

Comparative models	χ2	df	p	NFI	RFI	IFI	TLI
Variable model	1300,636	805	0,000	0,817	0,784	0,921	0,905
Partially invariant model	1382,858	841	0,000	0,806	0,780	0,914	0,901
Discriminant validity	82,222	36	0,219	0,011	0,004	0,007	0,004

(Source: Data analysis results)

In which: χ2: chi-square; df: Degrees of Freedom; p: statistically significant.

The results of testing the difference in compatibility criteria between the variable and partially invariant models (Table 11) show that the difference between the two models is not statistically significant (p = 0.788 > 0.05). Therefore, the invariant model is chosen, and it allows us to conclude that, at present, no difference has been found in the influence of transformational leadership style on employees' knowledge sharing, the mediating role of psychological empowerment, organizational commitment, and organizational citizenship behavior at small and medium-sized enterprises in Danang City among employee with different professional positions.

e)   Testing the differences based on employees' seniority

According to employee seniority, survey data is divided into four groups: less than five years (64 people = 14.1%); from 5 - < 10 years (133 people = 31.3%); from 10 - < 20 years (179 people = 42.1%); 20 years or more (52 people = 12.5%).

SEM results of the variable model according to employee's seniority: χ2 = 1.172; df = 644; p = 0.000; χ2/df = 1.821; GFI = 0.765; TLI = 0.876; CFI = 0.895; RMSEA = 0.049.

SEM results of the partially invariant model according to employee's seniority: χ2 = 1,195.452; df = 671; p = 0.000; χ2/df = 1.782; GFI = 0.761; TLI = 0.882; CFI = 0.896; RMSEA = 0.047.

It shows that both variable and partially invariant models according to employees' seniority fit the data.

Table 12. The differences between compatibility criteria between according to employees' seniority

Comparative models	χ2	df	p	NFI	RFI	IFI	TLI
Variable model	1.172,803	644	0,000	0,797	0,761	0,897	0,876
Partially invariant model	1.195,452	671	0,000	0,793	0,766	0,897	0,882
Discriminant validity	22,549	27	0,708	0,004	0,005	0,000	0,006

(Source: Data analysis results)

In which: χ2: chi-square; df: Degrees of Freedom; p: statistically significant.

The results of testing the difference in compatibility criteria between the variable and partially invariant models (Table 12) show that the difference between the two models is not statistically significant (p = 0.708 > 0.05). Therefore, the invariant model is chosen, allowing us to conclude that the influence of transformational leadership style on employees' knowledge sharing, the mediating role of psychological empowerment, organizational commitment, and organizational citizenship behavior at small and medium-sized enterprises in Danang City among groups of employees with different seniority.

Thus, the above test results allow us to conclude that there is no difference in the influence of transformational leadership style on employees' knowledge sharing, the mediating role of psychological empowerment, organizational commitment, and organizational citizenship behavior at small and medium-sized enterprises in Danang City among employee groups with different demographic characteristics.

C.   Discussion of the findings

After the discussion of the above research results with members who participated in focus group discussions in qualitative research, opinions agree on the interpretation of the above research results as follows:

First, theoretically, this study's formal theoretical model is similar to Han et al. (2015) and Han et al. (2016). Accordingly, the transformational leadership style has a direct influence on employees' knowledge sharing and, at the same time, indirectly affects knowledge sharing through psychological empowerment, organizational commitment, and organizational citizenship behavior. The difference between this study's results and Han et al.'s (2015) study is that it shows the impact of transformational leadership style on knowledge sharing indirectly through organizational citizenship behavior factors inherited from the study of Han et al. (2016); at the same time,

the impact of transformational leadership style on knowledge sharing is verified indirectly through the psychological empowerment factor inherited from the research of Han and colleagues (2015).

The direct and indirect impact relationships between transformational leadership style on knowledge sharing through the mediating factors of organizational commitment, as well as the impact relationship between psychological empowerment, organizational commitment, and organizational citizenship behavior, are similar to the studies of Han et al. (2015) and Han et al. (2016); Luu (2017); Sung and Baek-Kyoo (2011); Avolio et al. (2004); Jayarathna (2017).

Second, research has not found any difference in the influence of transformational leadership style on employees' knowledge sharing, the mediating role of psychological empowerment, organizational commitment, and organizational citizenship behavior at small and medium-sized enterprises in Danang City among employee groups with different demographic characteristics.

Theoretically, this has yet to be confirmed in the studies of Han et al. (2015) Han et al. (2016) and many other studies, such as Luu (2017) and Sung and Baek-Kyoo (2011). This issue was also highlighted by participants in qualitative research, emphasizing the personal nature of leadership style, knowledge sharing, psychological empowerment, organizational commitment, and organizational citizenship behavior. However, when considering the interaction between them, the individual elements of these factors can be eliminated, similar to other studies.

In summary, the similarity of the results of this study compared to previous studies shows that the results of the study have a basis for trust.

V. CONCLUSIONS AND POLICY IMPLICATIONS

A. Conclusions

Summary of theory and previous research on the impact relationship between transformational leadership style and knowledge sharing - the mediating role of psychological empowerment, organizational commitment, and organizational citizenship behavior, and at the same time related to the characteristics of the working environment at small and medium-sized enterprises in Danang City, the author proposes a research model: "The effects of transformational leadership style on knowledge sharing of employees at small and medium-sized enterprises in Danang City" based on inheritance from the research model of Han et al. (2015), Han et al (2016) with 09 research hypotheses:

Hypothesis 1: Transformational leadership style has a positive impact on psychological empowerment
Hypothesis 2: Transformational leadership style has a positive impact on organizational commitment
Hypothesis 3: Transformational leadership style has a positive impact on organizational citizenship behavior
Hypothesis 4: Transformational leadership style has a positive impact on knowledge sharing
Hypothesis 5: Psychological empowerment has a positive impact on organizational commitment
Hypothesis 6: Organizational commitment has a positive impact on organizational citizenship behavior
Hypothesis 7: Psychological empowerment has a positive impact on knowledge sharing
Hypothesis 8: Organizational commitment has a positive impact on knowledge sharing
Hypothesis 9: Organizational citizenship behavior has a positive impact on knowledge sharing

The next research process includes two stages: preliminary research and official research. The preliminary research is a qualitative study using focus group discussion techniques (including two groups: one group of leaders who are directors, vice directors, managers, deputy managers, and specialists; one group of employees working for small and medium-sized enterprises in Danang City). The official study is quantitative. Research data was collected by interviewing 425 employees of six leading enterprises representing small and medium-sized enterprises in Danang City using the convenience sampling method.

Results of a preliminary evaluation of the scales (by Cronbach's Alpha coefficient and Exploratory Factor Analysis); testing the scale model, theoretical model, and research hypotheses (by Confirmatory Factor Analysis, Structural Equation Modeling, Bootstrap Test, Multigroup Analysis) shows that, the proposed theoretical model is accepted. That means there is an impact relationship between transformational leadership style, psychological empowerment, organizational commitment, organizational citizenship behavior, and knowledge sharing, and 09 proposed research authors were accepted. In particular, the transformational leadership style directly and indirectly affects knowledge sharing through the mediating role of psychological empowerment, organizational commitment, and organizational citizenship behavior. However, the results of this study did not find any difference in the influence of transformational leadership style on employees' knowledge sharing, the mediating role of psychological empowerment, organizational commitment, and organizational citizenship behavior at small and medium-sized enterprises in Danang City among employee groups with different demographic characteristics.

Thus, with the above results, the author concludes:

First, the theoretical model and hypotheses proposed based on the theoretical summary during the preliminary research stage is accepted. In particular, the new point of this study compared to previous studies is the consolidation of the research model of Han et al. (2015) and Han et al. (2016). It is confirmed that the impact of transformational leadership style on knowledge sharing indirectly through by organizational citizenship behavior factors, compared to Han and colleagues' research (2016); transformational leadership style has an impact on knowledge sharing indirectly through psychological empowerment, compared to Han and colleagues' research (2016) at small and medium-sized enterprises in Danang City.

Second, transformational leadership style has a direct impact on knowledge sharing and an indirect impact on knowledge sharing through intermediary factor: organizational commitment as well as the relationship between organizational commitment, psychological empowerment, and organizational citizenship behavior. In particular, the indirect impact of transformational leadership style on knowledge sharing is higher than the direct impact. This shows that mediating factors (psychological empowerment, organizational commitment, and organizational citizenship behavior) play an important role in relaying the impact of transformational leadership style on the knowledge sharing of employees. Therefore, to promote the role of transformational leadership style in employees' knowledge-sharing efforts at small and medium-sized enterprises in Danang City, it is necessary to increase motivation for psychological empowerment, organizational commitment, and organizational citizenship behavior.

Third, this study allows a single model to explain the impact relationship between transformational leadership style and knowledge sharing - the mediating role of psychological empowerment, organizational commitment, and organizational citizenship behavior at small and medium-sized enterprises in Danang City. Therefore, the results of this study did not find any difference in the impact relationship between these factors according to the demographic characteristics of employees.

B. Policy implications

1) Develop a transformational leadership style

Research results show that transformational leadership style, directly and indirectly, influences knowledge sharing (Beta = 0.521) and is much higher than the influence of psychological empowerment, organizational commitment, and organizational citizenship behavior. The statistical results of the average scale value of this factor show that these values all have relatively high indicators (meaning that employees highly appreciate the transformational leadership style) and are insignificantly different from each other (the lowest is that the superiors are a source of inspiration that motivates employees to strive to complete tasks = 4.94; highest is that superiors take the time to understand employees' needs = 5.22).

This shows that it is necessary to develop an advanced transformational leadership style for managers of small and medium-sized enterprises in Danang City in all four aspects evaluated above, in which it is necessary to pay attention to creating incentives to motivate employees to strive to complete tasks and encourage employees to challenge through work assignment and additional task assignment.

2) Increase psychological empowerment for employees

Research results show that psychological empowerment directly (Beta = 0.133) and indirectly influences knowledge sharing through organizational commitment and organizational citizenship behavior. However, this factor has the weakest influence on employee knowledge sharing. The statistical results of the average scale value of this factor show that these values all have relatively high indicators (meaning psychological empowerment is also highly appreciated by employees) and are insignificantly different (the lowest is work is significant for employees = 4.86; the highest is employees are confident about their ability to work = 5.08).

This shows the need to increase psychological empowerment for low-level managers and employees of small and medium-sized enterprises in Danang City in all four aspects evaluated above. Attention should be paid to the design and assignment of work to ensure that it stimulates interest and motivation for lifelong service staff. At the same time, increasing information sharing and confidence training for employees is necessary.

3) Increase employees' organizational commitment

Research results show that organizational commitment is a factor that directly affects knowledge sharing (Beta = 0.136) and a mediating factor that transitions the influence of transformational leadership style on knowledge sharing ((Beta = 0.063) of employees at small and medium-sized enterprises in Danang City). The statistical results of the average scale value of the organizational commitment scale show that the values of the indicators are highly appreciated (which means the employee's level of commitment to the organization is high), and the difference is insignificant (the lowest is employees feel obligated to work long-term with the company= 5.19; the highest is

Employees who feel they have an obligation to work long term with the company = 5.39). This shows that small and medium-sized enterprises in Danang City must increase employees' organizational commitment on all four aspects of this factor scale.

4)   Reinforce and promote organizational citizenship behavior

Research results show that the organizational citizenship behavior of employees at small and medium-sized enterprises in Danang City is a factor that directly affects knowledge sharing (Beta = 0.296), and is also a mediating factor that transitions the influence of transformational leadership style on knowledge sharing (Beta = 0.133) of employees at small and medium-sized enterprises in Danang City). This shows that employees' organizational citizenship behavior is the most important mediating factor affecting employee knowledge sharing at small and medium-sized enterprises in Danang City. The statistical results of the average value of the employee organizational citizenship behavior scale show that the value of the indicators is highly appreciated (which means a high level of self-awareness of employees promoting their sense of responsibility) to accomplish the common goals of the organization is very high) and the difference is insignificant (the lowest is that employees try to put aside dissatisfaction to work towards the common interests of the company = 5.59; the highest is that employees do not accept behaviors that negatively affect the company's image = 5.84). This shows that small and medium-sized enterprises in Danang City must strengthen and promote the employees' organizational citizenship behavior on all four aspects of this factor scale.

VI.   SPECIAL THANKS TO

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