

Key Influencers of Innovative Work Behavior in Leading Thai Property Developers

Thanatchaporn Jaruwanakul¹

Received: May 25, 2021. Revised: May 29, 2021. Accepted: June 4, 2021.

Abstract

Purpose: This research paper aims to investigate the key influencers that have significant impact on innovative work behavior among employees of top five leading property developers in Thailand. The conceptual framework proposed causal relationship among Transformational Leadership (TL), Work Engagement (WE), Management Support (MS), Coworkers Support (CS) and Innovative Work Behavior (IWB). **Research design, data and methodology:** The researcher applied quantitative method (n=400), distributing questionnaires to top to middle management employees. The nonprobability sampling includes judgmental sampling in selecting top five property companies, quota sampling in scoping market capitalization and convenience sampling in collecting data and distributing of surveys online and offline. The Structural Equation Model (SEM) and Confirmatory Factor Analysis (CFA) were used for the data analysis including model fit, reliability, and validity of the constructs. **Results:** The results explicated that transformational leadership, work engagement, management support and coworkers support have significant impact on innovative work behavior. Management support presented that strongest impact on innovative work behavior, followed by coworkers support, transformational leadership and work engagement respectively. **Conclusions:** Five hypotheses were proven to fulfil research objectives. Hence, management and human resource teams are suggested to provide assessment to measure level of influencers and people development programs to enhance innovation behavior at the workplace.

Keywords : Transformational Leadership, Work Engagement, Management Support, Coworkers Support, Innovative Work Behavior

JEL Classification Code: E44, F31, F37, G15

1. Introduction

Modern organizations have been driven to source new technology and innovation of product, service, or process for satisfying their customers better or faster. Most companies are expected to develop differentiation and elevate efficacy to leapfrog their businesses into the new market. Innovation can enable businesses to scaleup in a competitive economic climate. Numerous studies have examined innovative work behavior among their work people to produce novel product services or procedures to reduce costs and time and gain the most competitive advantage in the market (Åmo, 2005).

According to Lukes and Stephan (2017), innovative work behavior is composed of the creation, investigation, communication and implementation of ideas that engage with work performance, employees, and the entire

organization. Company structure and management team are required to stimulate innovative behavior at work as it can uplift greater innovation and organizational performance in both the short and long term. Innovation becomes vital to the survival of business which can strengthen competitive capability and sustainability. Innovative behavior development is essential to business as an influencer to achieve company's long-term goals of success (Chatchawan, Trichandhara, & Rinthaisong, 2017).

The fast-changing technology and dynamics of consumer behavior in the digital age have shaped the new way of doing things for many businesses. Organizations foster the novel leadership style that can transform the business. The transformational leadership has gained wide attention and was believed to response faster and better to

¹ First Author, PhD Candidate, Innovative Technology Management, Graduate School of Business, Assumption University, Bangkok, Thailand [Postal Address: 592/3 Soi Ramkhamhaeng 24, Khwaeng Hua Mak, Khet Bang Kapi, Bangkok, 10240, Thailand] Email: tjaruwanakul@gmail.com

customer's needs. Many researchers have explored that the transformational leaders can encourage innovative behavior of followers (Elkins & Keller, 2003).

The work engagement incurs cognitive state of mind that links to self-actualization while executing tasks (Schaufeli and Bakker, 2004). Employees who work proactively, can initiate ideas and implement tasks with a greater level of performance. This study considers work engagement as one of a key influential factor that drives innovative behavior among individuals (Donald, Barnes, & Collier, 2013).

The supportive work environment can facilitate creative and innovative behavior at workplace. When employees feel that they get support when needed from their management and coworkers, they tend to perform beyond expectation to find solutions for problems and produce favorable outcomes (Scott & Bruce, 1994). Management support and coworkers support can be considered as influential factors that has impact on innovative behavior in this study.

The property sector in Thailand represents gross domestic product (GDP) of 6%. There are three main types of property market in Thailand which are residential, commercial, and industrial market. In 2020 to 2021, the market prediction is expected to grow slowly with the critical change and new supply in Bangkok. However, the government have been pushed the infrastructure investment under Thailand 4.0 scheme along the mass transit lines as well as commercial and industrial properties e.g. The Eastern Economic Corridor (EEC) Development Plan (Bangkok Post, 2020).

The innovative work behavior can prosper the organization innovation (Cingoz & Akdogan, 2011). Yanapat (2019) mentioned that the world trend is changing rapidly, especially in the real estate era in the 4.0 era, because new technology is emerging and changing 10X faster, results in the change of consumer behavior. Property and Technology (Proptech) which refers to technology related to real estate has been driving the Thai economy. Overview of "Real Estate 4.0" in the Thai real estate market has four parts. 1. Construction technology. 2. Home management systems 3. Online Residential Trading Systems and 4. Investing in Startups or innovative business that emerging technology which may be linked to services in housing, living and building new services. Therefore, the researcher views property sector as a main driver of the Thai economy and aims to investigate the key influencers that have significant impact on innovative work behavior among employees in the top five Thai leading property developers (Pupatwibul, Patamatamkul, Danchaivijit & Collet, 2019).

2. Literature Review

2.1. Innovative Work Behavior

The definition of innovative work behavior is that it is

a capability of individuals to originate beneficial ideas including new product, service, procedure and execute it into action that produces useful outcomes (Chung & Li, 2018). It is the layers of processes that individuals encounter problems and find solutions. The solutions can be the new way of working or the emergence of innovation (Afsar, Badir, Saeed, & Hafeez, 2017).

Innovative work behavior is a behavioral output in relations to idea origination, enduring and implementation. It is an intentional act to create innovation and solutions at work. There are three types of innovative work behavior that individuals express while performing work including idea creating, idea enhancement and idea realization (Janssen, 2004).

Miller and Miller (2019) described that the work knowledge and skills can facilitate intrinsic motivation as well as innovative behavior. It acquires a certain level of innate motivation that can be provoked when facing problems. When workers search for solutions and perform creatively at work, they presented innovative behavior. As a result, they devote effort and time to build and exercise assigned tasks (Dansereau, Graen, & Haga, 1975).

According to Pundt, Martins and Nerdinger (2010), organizational innovation is mandatory for business strategy. It is a vital factor of company's accomplishment and can exploit business opportunities. Innovation leverage organization to differentiate and better satisfy customers with its new product and service ranges. Consequently, the successful organizations require innovative employees who can create and implement novel ideas which can enhance to innovation performance (Cingoz & Akdogan, 2011).

2.2. Transformational Leadership

Downton first introduced transformational leadership in 1973. Burns and Bass have lengthened this concept in 1978 and 1985. The model of transformational leadership has been developed with its success measurement. Transformational leaders engage team and subordinates by increasing importance of one another to greater degrees of motivation and work ethic (Brown & Dodd, 1999; Burns, 1978, Pieterse, Knippenberg, Schippers, & Stam, 2010; Williams, Raffo, & Clark, 2018).

Avolio and Bass (1988) indicated that four 'I's' concept are used to explain the characteristics of transformational leadership which includes individualized consideration, intellectual stimulation, inspirational motivation and idealized influence. For further explanation, *individualized consideration* refers to the connectivity with individuals to understand each people's needs to map out strengths and fulfil personal goals. *Intellectual stimulation* can be derived when an individual faces challenges and explores solutions to solve problems. *Inspirational motivation* is the communication of vision and flow of knowledge that can arouse followers to perform with their full potential. *Idealized influence* is defined as a role model leader who engages followers to

achieve their goals (Bass, Avolio & Goodheim, 1987).

Transformational leaders can influence innovative behavior by stimulating employees to accomplish organizational goals (Majumdar & Ray, 2011), driving individuals' learning and helping them to network for support for their idea execution (Kahai, Sosik, & Avolio, 2003). Henceforth, employees' ideas creation, promotion and implementation were affected by transformational leaders who inspires them. Transformational leadership offers intellectual stimulation, builds strong bonds among co-workers, engages them with organizational core values, fertilizes intrinsic motivation and contemplates their needs for self-development and recognition (Afsar & Badir, 2014). Many studies have examined the casual relationship between transformational leadership and innovative behavior and proposed the assumption that transformational leadership significantly impacts innovative behavior at work, as demonstrated by the following hypothesis.

H1: Transformational leadership has significant impact on innovative behavior.

2.3. Work Engagement

Work engagement refers to an intrinsic motivation, a positive attitude and a fulfilling state of mind towards work performance (Schaufeli, Bakker, & Salanova, 2006). It engages physical, cognitive and emotional features (Kahn, 1990). Work engagement is conceptualized in three aspects including vigor, dedication and absorption. These three aspects correlate with job satisfaction in the level of cognitive and emotion to implementing tasks and are explained further in following sections (Agarwal, 2014).

Vigor refers to employee's positive force, mental resilience, and effort to get work done, which can be identified as work motivation (Schaufeli & Salanova, 2011). Vigor is conceptualized by high degrees of energy, willingness to devote to one's job and resilience when facing problems (Bakker, Schaufeli, Leiter, & Taris, 2008; Griffin, Parker, & Neal, 2008; Welch, 2011).

Dedication is described as the eagerness, affection and pride to executing job (Sahoo & Sahu, 2009). The dedication is the degree of work engagement, enthusiasm, inspiration, recognition, and challenge from individual's work (Sawang, 2012). It presents an affective element and strong commitment which involves the cognitive state of mind (Salanova & Schaufeli, 2008).

Absorption indicates to the total concentration, full ownership and deep immersion while performing work. Absorption illustrates the flow concept of experience state with full focus, total obsession and the capability to stay focus and not be distracted while working. (Bakker & Demerouti, 2009)

According to Montani, Vandenberghe, Khedhaouria, and Courcy (2020), work engagement can provide the positive energy that arouse innovative behavior. The three

proven dimensions; vigor, dedication and absorption, resides in the relationship between work engagement and innovative behavior. Firstly, the vigor aspects can leverage employees to consider alternatives of solutions (Barsade, 2002), create new ideas to produce innovation (De Dreu, Baas, & Nijstad., 2008) and considerate variety of approaches to deploy new technology and innovation (Hunter, Cassidy, & Ligon, 2012). Secondly, the positive impact of dedication can facilitate flexible ideas, which supports creative resolutions, application, and individual results (Wegener & Petty, 1997). Thirdly, employees with absorption attributes can fully immerse in their job and are capable to focus on tasks and work more efficiently with attentional resources (Chang, Hsu, Liou, & Tsai, 2013). Supporting these arguments, this research discovered significant impact of work engagement on innovative work behavior (Agarwal, Datta, Blake-Beard, & Bhargava, 2012) per a hypothesis below.

H2: Work engagement has significant impact on innovative behavior.

2.4. Management Support

According to Ismail, Majid, Jibrin-Bida, and Joarder, (2019), the support of management is an influencer on various organizational attributes. It is perceived as support from the company that releases creativity among employees at workplace. Thus, it generates technological advancement and the development of innovation (Tsai & Ghoshal, 1998). The management support can be posited as the perceived organizational value that is provided for employees' well-being (Achour, Khalil, Ahmad, Nor & Yusoff, 2017). The relationship between employees and their line managers can be shaped as the work environment that boosts job satisfaction and innovative work behavior. The literatures of managerial practice indicated that environment at work can facilitate work people to engage and satisfy with their job as well as behave innovatively (Janssen & Van Yperen, 2004).

House (2003) indicated that supervisors and managerial support encompass with four psychosocial dimensions which are mental support (trust, affect, concern and listening), review support (feedback and appraisal), informational support (advice, directive knowledge) and physical support (help when needed, finance, labor, time and work environment). Management support promotes individuals to engage and execute their knowledge and expertise to offer solutions for better improvement of any job's facets. The solution can associate with task, product, work atmosphere or organizational structure. The compensation is considered as a part of an organizational support. Performance appraisal can be provided as the managerial support scheme to evaluate job-based performances and employee's capabilities (Koshy & Suguna, 2014). The management support and the relationship with line managers has been revealed as significant influence to

drive innovative behavior (Attiq, Wahid, Javaid, Kanwal, & Shah, 2017). The study of Hoon Song, Kolb, Hee, and Kyoung (2012) reported the impact of management support was an important predecessor for innovative and unrestricted behavior. Accordingly, this research hypothesizes the following.

H3: Management Support has significant impact on innovative behavior.

2.7. Coworkers Support

Coworkers support is identified as the work environment where individuals are working and interacting with each other to implementing daily jobs in the same firm (Schneider, 1987). The work environment that is supportive can provoke individuals to exchange ideas and skills and grants them to work openly, proactively and constructively (Prieto & Perez-Santana, 2014). In addition, strong collaboration among coworkers can raise the creativity of employees (Zhou & George, 2001). Coworkers support in the context of job environment can be implied as willingness to assist, support and respect each individual to accomplish personal, team and company's objectives. Furthermore, it is the mitigation and intimidation of work environment. The coworkers support can enhance the effective communication because it minimizes the concern about others' reactions that can be expressed as potential threat. It facilitates collaboration and initiative which effects an organizational learning and job performance (Janz & Prasarnphanich, 2003). Many researchers reported the significance of coworkers that has influence on employees and organizational performance (Ng & Sorensen, 2008). The support from coworkers is implied as an essential and beneficial resources for an employee's work more efficiency and contribute to organizational performance (Lee, Yoo, & Yun, 2015).

The interactions between coworkers can lead to idea generation. Coworkers promote the creative behavior at workplace (Farr & Ford, 1990). Employees are anticipated to exchange knowledge and ensure the flow of information within the same company, which incurs mutual trust and psychological safety to exchanging expertise and ideas openly. This environment setting builds a good opportunity to generate new way of doing things. Coworkers support can be presented as a supportive work atmosphere aspects that can be a conditional predecessors of innovative work behavior by enhancing individuals' feedback about their involvement in workplace. Employees who work with strong coordinating, socializing and supporting firm, are most likely to be innovative at the work (Madjar, 2005). Furthermore, the perception of supportive work environment among coworkers has reached consideration of innovative work behavior in prior research (Parker, Williams & Turner, 2006). Hence, the following

hypothesis is derived.

H4: Coworkers support has significant impact on innovative behavior.

3. Research Methods and Materials

3.1. Research Framework

The conceptual framework is developed from studying previous research frameworks. It is adapted from three theoretical models. Firstly, Zheng, Wu, Xie and Li (2019), studied the effect of transformational leadership (TL) on innovative work behavior (IWB). Secondly, the study of Tsai (2018) verified that work engagement (WE) has positive impact on innovative behavior of workers. The third research was explored from Prieto & Perez-Santana (2014) who conducted the research of innovative work behavior with the two subset of work environment variables: management support (MS) and coworkers support (CS). The conceptual framework of this study is proposed in Figure 1.

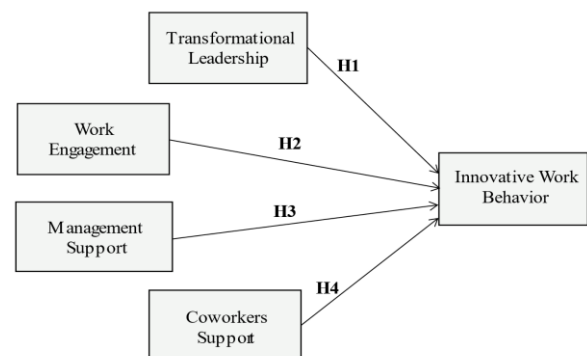


Figure 1: Conceptual Framework

This research aims to investigate the key influencers of innovative work behavior (IWB) towards various variables which are transformational leadership (TL), work engagement (WE), management support (MS) and coworkers support (CS) among employees in the middle management level and over in the top five property companies by market capitalization in Thailand. Additionally, the study examines the causal relationship between each variable to disclose these factors influencing innovative behavior.

3.2. Methodology

The researcher applied nonprobability sampling for quantitative approach with questionnaire that was distributed online and paper-based to the target group of employees in middle to top management who have been working in the top five largest public listed property

developers by market capitalization from the Stock Exchange of Thailand. The data has been collected and analyzed for key influences that have significant impact on innovative behavior among employees. The survey has three parts. First, the screening questions is used to identify the characteristics of respondents. Secondly, a 5-point Likert scale was used to measure five proposed variables, ranging from strong disagreement (1) to strong agreement (5) for the analysis of all four hypotheses. Lastly, demographic questions are gender, age, and educational background. For pilot testing, the expert rating of index of item– objective congruence (IOC) and pilot test for 50 respondents has been tested.

Cronbach's Alpha approach was tested for validity and reliability. After the reliability test, the questionnaire was distributed to target respondents which resulted in 400 accepted responses. The researcher analyzed the collected data through SPSS AMOS 26.0. Then, Confirmatory Factor Analysis (CFA) was used to test the convergence accuracy, and validation. The model fits measurement was calculated with the overall test with given data to ensure the validity and reliability of the model. Lastly, the researcher applied the Structural Equation Model (SEM) to examine the effect of variables.

3.3. Population and Sample Size

The target population in this paper are middle to top-level employees who have been working in the five largest public listed property developers in Thailand by market capitalization (Sinha, Priyadarshi, & Kumar, 2016). The sample size for Structural Equation Models suggested at least 200 respondents (Kline, 2011) should participate in the study. The survey was given to 500 respondents. After the data screening process, 400 responses were used in this study.

3.4. Sampling Technique

The researcher used nonprobability sampling, using judgmental sampling to select the top five public listed property companies by market capitalization. Then, the quota sampling was applied to use the market capitalization number in total of THB 272,781 Million per shown in Table 1. Afterwards, the researcher employed convenience sampling to distribute the questionnaire online and offline.

Table 1: Population and Sample Size by Company

Company Name	Market Capitalization (THB Million)	Sample Size
Land and Houses	130,252	190
Supalai	44,147	65
Preuksa Real Estate	43,770	65
Quality Houses	31,175	46
AP (Thailand)	23,437	34

Total	272,781	400
--------------	----------------	------------

Source: Stock Exchange of Thailand (2020)

The data has been collected approximately nine months from February to October 2020. The screening data process has been conducted to ensure the right target group who are employees positioned in middle to top management level of top five largest property developers by market capitalization. The online version was circulated via social networks including LinkedIn, Facebook, Line Chat Application and Email. The respondents were encouraged to share the survey link to their coworkers. The paper-based survey was given offline through human resource departments or directly to employees.

4. Results and Discussion

4.1. Demographic Information

The profile of demographic targets 400 participants and is concluded on Table 2. Male respondents represent 54.7%, and female respondents account 45.3%. For age group, the biggest segment in this research were 31-40 years old, representing 53.0% of respondents, followed by 27.0% of 41-50 years old, 16.3% of less than 30 years old and 3.7 % of over 50 years old. In terms of educational background of respondents, the major group was Bachelor's degree of 86.5% whereas Master's degree accounted 9.7%, below Bachelor's degree of 2.5% and Doctorate's degree of 1.3% respectively.

Table 2: Demographic Profile

Demographic and Behavior Data (N=400)		Frequency	Percentage
Gender	Male	219	54.7%
	Female	181	45.3%
Age	Less than 30 years old	65	16.3%
	31-40 years old	212	53.0%
	41-50 years old	108	27.0%
	More than 50 years old	15	3.7%
Education	Below Bachelor's degree	10	2.5%
	Bachelor's degree	346	86.5%
	Master's degree	39	9.7%
	Doctorate's degree	5	1.3%

Source: Created by the author

4.2. Confirmatory Factor Analysis (CFA)

Confirmatory Factor Analysis (CFA) was conducted in this study. All items in each variable are significant and represent factor loading to test discriminant validity. The significance of factor loading of each item and acceptable values indicate the goodness of fit (Hair, Black, Babin, Anderson, & Tatham, 2006). Factor loadings show the greater value than 0.30 and p-value of lower than 0.05. The construct reliability is greater than the cut-off points of 0.7 and the average variance extracted was greater than the cut-off point of 0.5 (Fornell and Larcker, 1981) in

Table 3. All estimates are significant.

The square root of average variance extracted is determined that all the correlations are greater than the corresponding correlation values for that variable as of Table 4. In addition, GFI, AGFI, NFI, CFI, TLI and RMSEA are used as indicators for model fit in CFA testing. The convergent validity and discriminant validity were

verified as the value of this study shown in Table 5.1 are greater than acceptable values. Therefore, the convergent validity and discriminant validity is ensured. Moreover, these model measurement results consoled discriminant validity and a validation to measure the validity of subsequent structural model estimation.

Table 3: Confirmatory Factor Analysis Result, Composite Reliability (CR) and Average Variance Extracted (AVE)

Variables	Source of Questionnaire (Measurement Indicator)	No. of Item	Cronbach's Alpha	Factors Loading	CR	AVE
Transformational Leadership (TL)	Zheng <i>et al.</i> (2019)	7	0.951	0.639– 0.937	0.943	0.707
Work Engagement (WE)	Tsai (2018)	6	0.918	0.713 – 0.920	0.916	0.649
Management Support (MS)	Prieto & Perez-Santana (2014)	5	0.906	0.723 – 0.901	0.910	0.672
Coworkers Support (CS)	Prieto & Perez-Santana (2014)	6	0.909	0.573 – 0.892	0.907	0.623
Innovative Behavior (IWB)	Chung & Li (2018)	5	0.922	0.701 – 0.914	0.920	0.700

Note: CR = Composite Reliability, AVE = Average Variance Extracted
Source: Created by the author

Table 4: Discriminant Validity

Variable	Factor Correlations				
	TL	WE	MS	CS	IWB
TL	0.841				
WE	0.549	0.806			
MS	0.862	0.612	0.820		
CS	0.465	0.589	0.582	0.789	
IWB	0.418	0.583	0.442	0.672	0.837

Note: The diagonally listed value is the AVE square roots of the variables
Source: Created by the author

	1998)	
AGFI	≥ 0.80 (Filippini, Forza, and Vinelli, 1998)	0.813
NFI	≥ 0.90 (Arbuckle, 1995)	0.914
CFI	≥ 0.90 (Hair <i>et al.</i> , 2006)	0.938
TLI	≥ 0.90 (Hair <i>et al.</i> , 2006)	0.921
RMSEA	< 0.08 (Hu & Bentler, 1999)	0.077

Source: Created by the author

Table 5.1: Goodness of Fit for Confirmatory Factor Analysis (CFA)

Index	Acceptable Values	Values
CMIN/DF	< 5.00 (Bentler & Bonett, 1980)	3.339
GFI	≥ 0.80 (Greenspoon & Saklofske, 1998)	0.862
AGFI	≥ 0.80 (Filippini, Forza, & Vinelli, 1998)	0.813
NFI	≥ 0.90 (Arbuckle, 1995)	0.914
CFI	≥ 0.90 (Hair <i>et al.</i> , 2006)	0.938
TLI	≥ 0.90 (Hair <i>et al.</i> , 2006)	0.921
RMSEA	< 0.08 (Hu & Bentler, 1999)	0.077

Remark: CMIN/DF = The ratio of the chi-square value to degree of freedom, GFI = goodness-of-fit index, AGFI = adjusted goodness-of-fit index, NFI = normalized fit index, IFI = Incremental Fit Indices, CFI = comparative fit index, TLI = Tucker Lewis index, and RMSEA = root mean square error of approximation
Source: Created by the author

Table 5.2: Goodness of Fit for Structural Equation Model (SEM)

Index	Acceptable Values	Values
CMIN/DF	< 5.00 (Bentler & Bonett, 1980)	3.344
GFI	≥ 0.80 (Greenspoon & Saklofske, 1998)	0.863

4.3. Structural Equation Model (SEM)

According to Hair, Black, Babin and Anderson (2010), Structural Equation Modeling (SEM) validates the casual relationship among variables in a proposed model and encompasses measurement inaccuracy in the structure coefficient. The goodness of fit indices for Structural Equation Model (SEM) is measured as demonstrated in Table 5.2. The model fit measurement should not be over 3 for Chi-square/degrees-of-freedom (CMIN/DF) ratio and GFI and CFI should be higher than 0.8 as recommended by Greenspoon and Saklofske (1998). The calculation in SEMs and adjusting the model by using SPSS AMOS version 26, the results of fit index were presented good fit which are CMIN/DF = 3.344, GFI = 0.863, AGFI = 0.813, NFI = 0.914, CFI = 0.938, TLI = 0.921 and RMSEA = 0.077, according to the acceptable values are mentioned in Table 5.2

4.4. Research Hypothesis Testing Result

The research model is calculated as significance of each variable from its regression weights and R² variances. The result from Table 6 postulated that all hypotheses were supported with a significance at $p = 0.05$. Management support has the strongest influence on innovative behavior which resulted 0.584, whereas coworkers support ($\beta = 0.558$), transformational

leadership ($\beta = 0.530$), and work engagement ($\beta = 0.333$) respectively. The model demonstrated the variance of innovative work behavior as illustrated in Table 6.

Table 6: Hypothesis Result of the Structural Model

Hypotheses	Paths	Standardized Path Coefficients (β)	S.E.	T-Value	Tests Result
H1	IWB <--- TL	0.530	0.092	3.352*	Supported
H2	IWB <--- WE	0.333	0.049	5.594*	Supported
H3	IWB <--- MS	0.584	0.160	3.276*	Supported
H4	IWB <--- CS	0.558	0.062	8.179*	Supported

Note: * $p < 0.05$

Source: Created by the author

The result from Table 6 can be refined that:

H1 has proven that transformational leadership is one of the key drivers of innovative work behavior, revealing the standard coefficient value of 0.530 in the structural pathway. Zheng *et al.* (2019) confirmed that transformational leadership can enhance followers' innovative work behavior. However, the appropriate level of transformational leadership must be deployed to drive employees to work creatively and innovatively at the workplace. In terms of H2, the analysis outcome supported the hypothesis of the significant influence of work engagement on employee innovative behavior, representing the standard coefficient value of 0.333. Per the study of Tsai (2018), the discussion implied that work engagement among individuals can drive the behavior of employees to generate ideas and initiate innovation performance at work. H3 has postulated the significant impact of management support on innovative work behavior, resulting the standard coefficient value of 0.584. Additionally, the managerial and supervisor support can facilitate as the feedback and care for employee's wellbeing which means it encourages employees to perform at the best of their ability. The result number supported the previous literatures that management support showed the highest significant impact on innovative work behavior in this study. Finally, coworkers support on innovative behavior demonstrated the value of 0.558 on standard coefficient which reinforced the significant impact of H4. To support this statement, the coworkers support influence significantly on innovative behaviors at work as employee is comfortable and open for discussion in the friendly atmosphere to perform task. (Prieto & Perez-Santana, 2014).

5. Conclusions and Recommendation

5.1. Conclusion

This research paper focuses on examination of the

significant influence of employees' innovative work behavior in top five leading property developers in Thailand. The hypotheses were proposed as the conceptual framework to investigate how transformational leadership, work engagement, management support and coworkers support have significantly impact on innovative work behavior. The questionnaires were developed and given to the target sample of employees, titled in middle management to over who have been working in the top five largest public listed property companies by market capitalization from the Stock Exchange of Thailand. The data analysis was taken to explore the influencers that affect innovative behavior of work people in the specific industry within geographical region. Confirmatory Factor Analysis (CFA) were carried out to measure and test for validity and reliability of the conceptual model. Hence, the influential factors that have impact on innovative work behavior were analyzed by the application of Structural Equation Model (SEM).

The research described the findings as follows. First, management support results the strongest significant impact on innovative work behavior among work people. The previous literature of Prieto and Perez-Santana (2014) confirmed the relationship of supervisor support and employee innovative work behaviors. The degree of perceived support among management and employees can enhance their innovative behavior and company's values. Second, the coworkers support shows as the second rank of influencer score on employee innovative behavior. This supports the statement of supportive work environment where the employee feels open and happy to perform work and they can ensure the flow of information and idea exchange for innovation performance. Third, transformational leadership has been proven to having significant impact on innovative work behavior across organizations. Mumford, Scott, Gaddis and Strange (2002) supported the result of analysis that transformed leaders can communicate vision and direction more efficiently to their followers, understand their requirements to perform

best potential and provide challenge for career growth tends to motivate for the behavior of innovative. Last, Attridge, (2009) posited that work engagement has a significant impact on innovative work when there are an establishment and expression of enthusiasm, strong commitment and persistence to accomplish work (vigor), the eagerness, love and pride about the job (dedication) and total focus, full obsession and deep immersion in performing task (absorption). It can be concluded that there is a positive relationship between innovative work behavior and these three mentioned aspects of work engagement. In summary, the objectives of the study are fulfilled that management support, coworkers support, transformational leadership and work engagement are key influencers of innovative work behavior among top-middle management employees in the top five leading property companies in Thailand.

5.2. Recommendation

The researcher discovered key influencers of employee innovative work behavior in the top five Thai property companies which are transformational leadership, work engagement, management support and coworkers support. Thus, the recommendations are to develop and boost these aspects across the entire organization to generate innovation performance. For literatures and practical implications, management and people in concerned are required to consider to promoting initiatives and empowering leadership program to enhance innovative behavior at work. As people is the most crucial jigsaw of organizational success, knowledge workers are needed to be inspired and developed to emerge ideas and solutions with effective communication strategy. The company needs to develop process and job design with agile structure (Tsai, 2018). Likewise, an appropriate degree of transformational leadership is required to be promoted to leverage innovative work behavior within the company (Zheng *et al.*, 2019). As a result, training programs are suggested to uplift employees' expertise and mindset. Besides, human resources department can strategize for people development and empower them to work innovatively. Employee engagement and team building are recommended (Prieto & Perez-Santana, 2014). The people manager needs to ensure a fair assessment and a supervision of relationships among work people due to many successful global companies like Google, Facebook, Apple etc. invest effort and time for their work environment and become billion companies within short period of time. People is power to drive innovation and the future of company. To sum up, the study result can benefit to management and human resources function to scale and optimize employee performance to achieve organizational success.

5.3. Limitation and Further Study

The limitation of the study is that the population and

sample used specifically employees in the middle to top level of management in the five largest public listed property developers by the market capitalization value from the Stock Exchange of Thailand. There is a possibility for the different analysis results when investigating different company's size, industry, culture or countries. Further research can be the study of other constructs that potentially influences innovative work behavior such as perceived organizational support, team learning, transactional leadership, job autonomy, team learning etc. In addition, the future study can be extended innovative behavior can affect innovation performance in terms of new product, service or process are created by such behavior. can could provide greater financial and non-financial return for organizations.

References

- Achour, M., Khalil, S., Ahmad, B., Nor, M., & Yusoff, M. (2017). Management and supervisory support as a moderator of work-family demands and women's well-being: A case study of Muslim female academicians in Malaysia. *Humanomics*, 33(3), 335-356. <https://doi.org/10.1108/H-02-2017-0024>.
- Afsar, B., & Badir, Y. (2014). Transformational leadership and innovative work behavior. *Industrial Management & Data Systems*, 114(8), 1270-1300. <https://doi.org/10.1108/IMDS-05-2014-0152>.
- Afsar, B., Badir, Y., Saeed, B., & Hafeez, S. (2017). Transformational and transactional leadership and employee's entrepreneurial behavior in knowledge-intensive industries. *The International Journal of Human Resource Management*, 28(2), 307-332.
- Agarwal, U. (2014). Examining the impact of social exchange relationships on innovative work behavior: role of work engagement. *Team Performance Management*, 20(3/4), 102-120.
- Agarwal, U. A., Datta, S., Blake-Beard, S., & Bhargava, S. (2012). Linking LMX, innovative work behavior and turnover intentions. *Career Development International*, 17(3), 208-230. <https://doi.org/10.1108/13620431211241063>.
- Åmo, B. W. (2005). *Employee innovation behavior* [Unpublished doctoral dissertation]. Bodø Regional University.
- Arbuckle, J. J. (1995). *AMOS user's guide*. SmallWaters.
- Attiq, S., Wahid, S., Javaid, N., Kanwal, M., & Shah, H. (2017). The Impact of Employees' Core Self-Evaluation Personality Trait, Management Support, Co-worker Support on Job Satisfaction, and Innovative Work Behavior. *Pakistan Journal of Psychological Research*, 32(1), 247-271.
- Attridge, M. (2009). Measuring and managing employee work engagement: a review of the research and business literature. *Journal of Workplace Behavioral Health*, 24(4), 383-398.
- Avolio, B., & Bass, B. M. (1988). Transformational leadership, charisma and beyond. In J. G. Hunt, H. P. Baliga, H. P. Dachler & C. A. Schriesheim (Eds.), *Emerging Leadership Vistas*. Lexington Books.
- Bakker, A. B., & Demerouti, E. (2009). The crossover of work engagement between working couples A closer look at the role of empathy. *Journal of Managerial Psychology* 24(3), 220-236. <https://doi.org/10.1108/02683940910939313>.

- Bakker, A. B., Schaufeli, W., & Leiter, M. & Taris, T. (2008). Work engagement: An emerging concept in occupational health psychology. *Work and Stress*, 22. <https://doi.org/10.1080/02678370802393649>.
- Bangkok Post Public Company Limited. (2020, April 1). Real estate prices set to drop before recovery *Bangkok Post Thailand*. <https://www.bangkokpost.com/property/1890690/real-estate-prices-set-to-drop-before-recovery>
- Barsade, S. G. (2002). The ripple effect: Emotional contagion and its influence on group behavior. *Administrative Science Quarterly*, 47(4), 644–675.
- Bass, B. M. (1985). *Leadership and Performance Beyond Expectations*. Free Press.
- Bass, B. M., Avolio, B. J., & Goodheim, L. (1987). Biography and the assessment of transformational leadership at the world-class level. *Journal of Management*, 13(1), 7-19.
- Bentler, P. M., & Bonett, D. G. (1980). Significance tests and goodness of fit in the analysis of covariance structures. *Psychological Bulletin*, 88(3), 588–606.
- Brown, F. W., & Dodd, N. G. (1999). Rally the troops or make the trains run on time: the relative importance and interaction of contingent reward and transformational leadership. *Leadership & Organization Development Journal*, 20(6), 291-299.
- Burns, J. M. (1978). *Leadership*. Harper and Row.
- Chang, H. T., Hsu, H. M., Liou, J. W., & Tsai, C. T. (2013). Psychological contracts and innovative behavior: A moderated path analysis of work engagement and job resources. *Journal of Applied Social Psychology*, 43(10), 2120–2135.
- Chatchawan, R., Trichandhara, K., & Rinthaisong, I. (2017). Factors Affecting Innovative Work Behavior of Employees in Local Administrative Organizations in the South of Thailand. *International Journal Social Sciences and Management* 4(3), 154-157. <https://doi.org/10.3126/ijssm.v4i3.17755>.
- Chung, D. S., & Li, J. M. (2018). Curvilinear effect of transformational leadership on innovative behavior among R&D teams in South Korea Moderating role of team learning. *Journal of Organizational Change Management*. <https://doi.org/10.1108/JOCM-01-2017-0017>.
- Cingoz, A., & Akdogan, A. (2011). An empirical examination of performance image outcome expectations as determinants of innovative behavior in the workplace. *Procedia Social and Behavioral Sciences*, 24, 847-853.
- Dansereau, F., Graen, G. B., & Haga, W. (1975). A vertical dyad linkage approach to leadership in formal organizations. *Organizational Behavior and Human Performance*, 13, 46-78.
- De Dreu, C. K. W., Baas, M., & Nijstad, B. A. (2008). Hedonic tone and activation level in the mood creativity link: Toward a dual pathway to creativity model. *Journal of Personality and Social Psychology* 94(5), 739–756.
- Donald, C., Barnes, D. C., & Collier, J. E. (2013). Investigating work engagement in the service environment. *Journal of Services Marketing*, 27(6), 485–499. <https://doi.org/10.1108/JSM-01-2012-0021>.
- Downton, J. V. (1973). *Rebel leadership: Commitment and charisma in the revolutionary process*. Free Press.
- Elkins, T., & Keller, R. T. (2003). Leadership in research and development organizations: a literature review and conceptual framework. *The Leadership Quarterly*, 14(4), 587-606.
- Farr, J. L., & Ford, C. M. (1990). Individual innovation. In M. A. West & J. L. Farr. (Eds.). *Innovation and Creativity at Work: Psychological and Organizational Strategies* (pp. 63-80). Wiley.
- Filippini, R., Forza, C., Vinelli, A. (1998). Trade-off and compatibility between performance: Definitions and empirical evidence. *International Journal of Production Research*, 36 (12), 3379-3406.
- Fornell, C. G., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39–50.
- Greenspoon, P. J., & Saklofske, D. H. (1998). Confirmatory factor analysis of the multidimensional Students' Life Satisfaction Scale. *Personality and Individual Differences*, 25(5), 965–971. [https://doi.org/10.1016/S0191-8869\(98\)00115-9](https://doi.org/10.1016/S0191-8869(98)00115-9).
- Griffin, M. A., Parker, S. K. & Neal, A. (2008). Is behavioral engagement a distinct and useful construct? *Industrial and Organizational Psychology*, 1(1), 48-51.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate Data Analysis: A Global Perspective* (7th ed.). Pearson Education.
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & L.Tatham, R. (2006). *Multivariate Data Analysis*. Pearson International Edition.
- Hoon Song, J., Kolb, J. A., Hee, U., & Kyoung, K. H. (2012). Role of transformational leadership in effective organizational knowledge creation practices: Mediating effects of employees' work engagement. *Human Resource Development Quarterly*, 23(1), 65-101.
- House, J. S. (2003). *Job Stress and Social Support*. Addison-Wesley.
- Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6(1), 1–55.
- Hunter, S. T., Cassidy, S. E., & Ligon, G. S. (2012). Planning for innovation: A process-oriented perspective. In Mumford, M. D. (Ed.), *Handbook of Organizational Creativity*. Elsevier.
- Ismail, A. I., Majid, A. H. A., Jibrin-Bida, M., & Joarder, M. H. R. (2019). Moderating Effect of Management Support on the Relationship Between HR Practices and Employee Performance in Nigeria. *Global Business Review*. <https://doi.org/10.1177/0972150918811487>.
- Janssen, O. (2004). How fairness perceptions make innovative behavior more or less stressful. *Journal of Organizational Behavior*, 25(2), 201-215.
- Janssen, O., & Van Yperen, N. W. (2004). Employees' goal orientations, the quality of leader member exchange, and the outcomes of job performance and job satisfaction. *Academy of Management Journal*, 47(3), 368-384.
- Janz, B. D., & Prasarnphanich, P. (2003). Understanding the antecedents of effective knowledge management: the importance of a knowledge-centered culture. *Decision Sciences*, 34(2), 351-384.
- Kahai, S. S., Sosik, J. J., & Avolio, B. J. (2003). Effects of leadership style, anonymity, and rewards on creativity-relevant processes and outcomes in an electronic meeting system context. *The Leadership Quarterly*, 14(4), 499-524.
- Kahn, W. A. (1990). Psychological conditions of personal engagement and disengagement at work. *Academy of Management Journal*, 33(4), 692-724.
- Kline, R. B. (2011). *Principles and practice of structural equation modeling* (3rd ed.). Guilford Press.

- Koshy, E. R., & Suguna, P. (2014). Performance appraisal in the contemporary world. *International Journal of Advance Research in Computer Science and Management Studies*, 2(9), 1-9.
- Lee, S., Yoo, Y. & Yun, S. (2015). Sharing my knowledge? An interactional perspective. *Journal of Managerial Psychology*, 30(8), 986-1002. <https://doi.org/10.1108/JMP-11-2013-0355>.
- Lukes, M., & Stephan, U. (2017). Measuring employee innovation: A review of existing scales and the development of the innovative behavior and innovation support inventories across cultures. *International Journal of Entrepreneurial Behavior & Research*, 23(1), 136-158.
- Madjar, N. (2005). The contributions of different groups of individuals to employees' creativity. *Advances in Developing Human Resources*, 7(2), 182-206.
- Majumdar, B. & Ray, A. (2011). Transformational Leadership and Innovative Work Behaviour. *Journal of the Indian Academy of Applied Psychology*, 37(1), 140-148.
- Montani, F., Vandenberghe, C., Khedhaouria, A., & Courcy, F. (2020). Examining the inverted U-shaped relationship between workload and innovative work behavior: The role of work engagement and mindfulness. *Human Relations*, 73(1), 59-93. <https://doi.org/10.1177/0018726718819055>.
- Mumford, M., Scott, G., Gaddis, B., & Strange, J. (2002). Leading creative people: orchestrating expertise and relationships. *Leadership Quarterly*, 13(6), 705-50.
- Ng, T. W., & Sorensen, K. L. (2008). Toward a further understanding of the relationships between perceptions of support and work attitudes: a meta-analysis. *Group and Organization Management*, 33(3), 243-268.
- Parker, S. K., Williams, H. M., & Turner, N. (2006). Modeling the antecedents of proactive behavior at work. *Journal of Applied Psychology*, 91(3), 636-652.
- Pieterse, A., Knippenberg, V., Schippers, M., & Stam, D. (2010). Transformational and transactional leadership and innovative behavior: the moderating role of psychological empowerment. *Journal of Organizational Behavior*, 31(4), 609-623.
- Prieto, I. M., & Perez-Santana, M. P. (2014) Managing innovative work behavior: the role of human resource practices. *Personnel Review*, 43(2), 184-208.
- Pundt, A., Martins, E., & Nerdinger, F. W. (2010). Innovative behavior and the reciprocal exchange between employees and organizations. *German Journal of Human Resource Management: Zeitschrift für Personalforschung*, 24(2), 173-193.
- Pupatwibul, P., Patamatamkul, P., Danchaivijit, P., & Collet, F. (2019). Thailand Hotel Market Research. *Jones Lang LaSalle*. <http://market.sec.or.th/public/ipos/IPOSGetFile.aspx?TransID=250826&TransFileSeq=58>
- Sahoo, C. K., & Sahu, G. (2009). Effective employee engagement: the mantra of achieving organizational excellence. *Management and Labour Studies*, 34(1), 73-84.
- Salanova, M., & Schaufeli, W. B. (2008). A cross-national study of work engagement as a mediator between job resources and proactive behavior. *International Journal of Human Resource Management*, 19(1), 116-131.
- Sawang, S. (2012). Is there an inverted U-shaped relationship between job demands and work engagement: The moderating role of social support? *International Journal of Manpower*, 33(2), 178-186. <https://doi.org/10.1108/01437721211225426>.
- Schaufeli, W. B., & Bakker, A. B. (2004). Job demands, job resources, and their relationship with burnout and engagement: a multi-sample study. *Journal of Organizational Behavior*, 25(3), 293-315.
- Schaufeli, W. B., & Salanova, M. (2011). Work engagement: on how to better catch a slippery concept. *European Journal of Work & Organizational Psychology*, 20(1), 39-46.
- Schaufeli, W. B., Bakker, A. B., & Salanova, M. (2006). The measurement of work engagement with a short questionnaire: a cross-national study. *Educational and Psychological Measurement*, 66(4), 701-16.
- Schneider, B. (1987). The people make the place. *Personnel Psychology*, 40(3), 437-453.
- Scott, S., & Bruce, B. (1994). Determinants of innovative behavior: a path model of individual innovation in the workplace. *Academy of Management Journal*, 37(3), 580-607.
- Sinha, S., Priyadarshi, P., & Kumar, P. (2016). Organizational culture, innovative behavior and work-related attitude Role of psychological empowerment. *Journal of Workplace Learning*, 28(8), 519-535. <https://doi.org/10.1108/JWL-06-2016-0055>.
- Stock Exchange of Thailand. (2020). *List of Real Estate Companies*. <https://www.set.or.th/set/mainpage.do?language=en&country=US>
- Tsai, S. (2018). Innovative behavior of knowledge workers and social exchange attributes of financial incentive: implications for knowledge management. *Journal of Knowledge Management*, 22(8), 1712-1735. <https://doi.org/10.1108/JKM-07-2017-0293>.
- Tsai, W., & Ghoshal, S. (1998). Social capital and value creation: the role of intrafirm networks. *Academy of Management Journal*, 41(4), 464-476.
- Wegener, D. T. & Petty, R. E. (1997). The flexible correction model: The role of naive theories of bias in bias correction. In M. P. Zanna, (Ed.). In *Advances in Experimental Social Psychology* (pp. 141-208). Erlbaum.
- Welch, M. (2011). The evolution of the employee engagement concept: communication implications. *Corporate Communications: An International Journal*, 16(4), 328-346.
- Williams, R., Raffo, D. M., & Clark, L. A. (2018). Charisma as an attribute of transformational leaders: what about credibility? *Journal of Management Development*, 37(6), 512-524. <https://doi.org/10.1108/JMD-03-2018-0088>.
- Yanapat, T. (2019, December 9). The 4.0 era of real estate creates innovation to meet people's lifestyles. *Forbes Thailand*. <https://forbesthailand.com/commentaries/special-report/%E0%B8%AD%E0%B8%AA%E0%B8%B1%E0%B8%87%E0%B8%AB%E0%B8%B2%E0%B8%AF-%E0%B8%A2%E0%B8%B8%E0%B8%84-4-0-%E0%B8%AA%E0%B8%A3%E0%B9%89%E0%B8%B2%E0%B8%87%E0%B8%99%E0%B8%A7%E0%B8%B1%E0%B8%95%E0%B8%81%E0%B8%A3.html>
- Zheng, J., Wu, J., Xie, H., & Li, H. (2019). Leadership, organizational culture, and innovative behaviour in construction projects: The perspective of behavior-value congruence. *International Journal of Managing Projects in Business* 12(4), 888-918.
- Zhou, J., & George, J. M. (2001). When job dissatisfaction leads to creativity: encouraging the expression of voice. *Academy of Management Journal*, 44(4), 682-696.